

Centro de Investigación y Docencia en Educación (CIDE)

# Maestría en Educación: a tres décadas del punto de partida

Jesús Irán Barrantes León  
Mariela Vargas Barrantes  
Juan Pablo Zúñiga Vargas  
(Editores)

30

Aniversario



# Maestría en Educación



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Centro de Investigación y Docencia en Educación (CIDE)  
Universidad Nacional, Costa Rica  
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## Prefacio

El presente libro reúne una colección de trabajos finales de graduación de personas estudiantes graduadas de la Maestría en Educación (ME) de la División de Educología (DED) del Centro de Investigación y Docencia en Educación (CIDE) de la Universidad Nacional (UNA) de Costa Rica y conmemora su trigésimo aniversario, para el cual se ha elegido el lema "30 años, muchas voces". Los textos aquí presentados son producto del recorrido formativo desarrollado a lo largo de cinco módulos, en los que el estudiantado transita desde la fundamentación teórica hasta la aplicación práctica, pasando por la investigación, la reflexión crítica y la proyección profesional. En sus páginas, se reflejan sus ideales y el producto del enriquecimiento académico y profesional que, con pensamiento crítico y creatividad, aportan a los debates que hoy marcan el camino hacia una educación de calidad, y que proyectan caminos para el futuro.

Los ensayos contenidos en esta compilación son expresión de ese legado y, al mismo tiempo, un signo de renovación. Cada uno constituye una aportación al pensamiento pedagógico y confirma que la ME es un espacio donde las voces de distintas generaciones se encuentran para dialogar, cuestionar y mirar con visión prospectiva la educación del futuro. Estas nuevas contribuciones se suman a muchas otras voces anteriores, igualmente relevantes, que han quedado plasmadas en los números previos de la Revista Ensayos Pedagógicos. En conjunto, conforman una colección de miradas, reflexiones críticas y propuestas concretas y contextualizadas que dan cuenta de la riqueza y continuidad del diálogo académico sostenido a lo largo de estas tres décadas.

*Rita Arguedas Víquez*  
Coordinadora  
Maestría en Educación

*Silvia Saborío Taylor*  
Docente  
Maestría en Educación



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Nos encontramos profundamente agradecidos con todas las personas que creyeron en la compilación de este libro electrónico y contribuyeron con sus escritos. Le agradecemos además a Rita Arguedas Víquez, coordinadora de la Maestría en Educación con énfasis en Pedagogía Universitaria de la Universidad Nacional, Costa Rica, por su apoyo y motivación para escribir este libro.



## Sobre los editores

**Jesús Irán Barrantes León** es formador de docentes de enseñanza en la División de Educología, en la Escuela de Ciencias Naturales, en la Escuela de Historia y en el programa de Maestría en Educación con énfasis en Pedagogía Universitaria de la Universidad Nacional, Costa Rica. Dentro de sus funciones también está ser tutor de los Trabajos Finales de Graduación, profesor de los talleres de investigación y colaborador en las Comisiones de Trabajos finales de Graduación. Es Bachiller en Ciencias de la Educación de la UNED, Magíster en Educación con Énfasis en Docencia Universitaria, Universidad Nacional. <https://orcid.org/0000-0001-6020-5508>

**Mariela Vargas Barrantes** es docente de inglés en la Universidad Nacional, Costa Rica. Posee un Bachillerato en la Enseñanza del Inglés, un Bachillerato en la Enseñanza del Inglés para I y II Ciclo, una Maestría en Educación con énfasis en Aprendizaje del Inglés, una Maestría en Educación con énfasis en Pedagogía Universitaria, los cuales fueron obtenidos en la Universidad Nacional. Además, tiene una Licenciatura en la Enseñanza del Inglés de la Universidad Americana. <https://orcid.org/0009-0004-4648-8723>

**Juan Pablo Zúñiga Vargas** es formador de docentes para la enseñanza del inglés en la Universidad Nacional, Costa Rica. Posee un Bachillerato en Inglés, una Licenciatura en Docencia Universitaria y una Maestría en la Enseñanza del Inglés como Lengua Extranjera, títulos obtenidos en la Universidad de Costa Rica. Es además el editor principal de la revista *Ensayos Pedagógicos*. <https://orcid.org/0000-0002-8717-3793>



## Índice

### **Implementación de las metodologías activas como estrategia para el logro de competencias matemáticas en el estudiantado de precálculo**

*Virgilio Enrique Benavides Vargas* 16

### **Formación universitaria para docentes en competencia mediática e informacional: una aproximación desde la perspectiva pedagógica crítica en la educación costarricense**

*Suhany Chavarría Artavia* 36

### **Formación pedagógica en la enseñanza de la medicina veterinaria: problemática, desafíos y oportunidades de mejora en la capacitación docente**

*Matteo Kareb Protti Consumi* 54

### **Herramientas pedagógicas en Química General para facilitar la transición de la educación secundaria a la universitaria**

*Jose Omar Villarreal Valenciano* 82

### **Implementation of Artificial Intelligence (AI) in EFL Classes: an Analysis of Its Praxis in Oral Communication Courses to Boost Learners' Speaking Skills at Universidad Nacional (UNA), Liberia Campus**

*José Enrique Chavarría-Chavarría* 100

### **Beyond the Screen: Enhancing Adult Learners' Engagement in Virtual EFL Classrooms**

*Karol Chavarría Chaves* 124

### **Enhancing Student Motivation through Game-Based Learning and Meaningful Classroom Interactions in English Courses at Centro de Estudios de Idiomas Conversacionales**

*Ericka Hernández Salazar* 144

**Learning Objects to Increase EFL Students' Participation**

*Yuritza De los Ángeles Marchena Guevara* 166

**Challenges in Teaching and Planning in Costa Rican Public Schools: The Reality of the Action-Oriented Approach**

*Karen Daniela Ruiz Juárez* 186

**Flipped Learning as a Tool in TEFL to Enhance Higher Education Beginner Students' Engagement with Listening Resources Outside the Classroom**

*Sirlen Johanna Vargas Méndez* 204

# Implementación de las metodologías activas como estrategia para el logro de competencias matemáticas en el estudiantado de precálculo

Virgilio Enrique Benavides Vargas<sup>1</sup>

Universidad Nacional

Costa Rica

[virgilio.benavides.vargas@est.una.ac.cr](mailto:virgilio.benavides.vargas@est.una.ac.cr)

## Resumen

El curso de Precálculo de la Universidad de Costa Rica es matriculado por una población estudiantil que se caracteriza por ingresar a la educación superior con deficiencias en cuanto a los conocimientos y las competencias propios de la matemática que espera el personal docente, lo cual obstaculiza su aprendizaje e incide de manera negativa en su rendimiento académico. La metodología docente juega un papel fundamental en el desarrollo de capacidades en el estudiantado, no solo a nivel de la comprensión de conceptos sino también en la resolución de problemas, el uso de TIC y la justificación del razonamiento. El presente ensayo tiene el objetivo de argumentar que las metodologías activas de enseñanza y aprendizaje son una estrategia que permite el desarrollo de competencias matemáticas en esta asignatura, entre las cuales destacan razonar, argumentar, representar, resolver problemas y utilizar herramientas o soportes. El curso presenta contenidos de diferentes áreas temáticas, tales como álgebra, funciones, trigonometría, estereometría y geometría analítica, lo cual permite realizar diversas conexiones entre conceptos y aplicarlos en la resolución de problemas pertenecientes a las variadas carreras de formación del estudiantado. Los enfoques metodológicos que son más acordes a implementar en esta materia son los siguientes: el aprendizaje basado en problemas, el aula invertida, el aprendizaje basado en proyectos, la clase magistral participativa y el aprendizaje cooperativo, los cuales se encuentran vinculados de manera coherente con las competencias matemáticas a potenciar.

**Palabras clave:** Competencia matemática, metodologías activas, precálculo.

1. Docente de la Sede del Pacífico de la Universidad de Costa Rica.

## Abstract

The Precalculus course at the University of Costa Rica is taken by a student population characterized by entering higher education with deficiencies in the mathematical knowledge and competencies expected by teaching staff. These deficiencies hinder their learning and negatively affect their academic performance. Teaching methodology plays a fundamental role in developing students' skills, not only in understanding concepts but also in problem-solving, using ICTs, and justifying reasoning. This essay aims to argue that active teaching and learning methodologies are strategies that facilitate the development of mathematical competencies in this subject, including reasoning, arguing, representing, solving problems, and using tools or supports. The course covers content from various thematic areas, such as algebra, functions, trigonometry, stereometry, and analytic geometry. This diversity enables connections between concepts and their application in problem-solving relevant to the diverse career paths of the students. The most appropriate methodological approaches for this subject include Problem-Based Learning, Flipped Classroom, Project-Based Learning, participatory lectures, and Cooperative Learning. These approaches are coherently aligned with the mathematical competencies to be developed.

**Keywords:** active methodologies, mathematical competence, precalculus

## Introducción

El curso de Precálculo de la Universidad de Costa Rica (UCR) es matriculado por una gran cantidad de estudiantes debido a que representa la primera asignatura de matemáticas del plan de estudios de todas las carreras de Ciencias Económicas y de prácticamente todas las de Ingeniería (excepto Ingeniería Eléctrica); por otra parte, en la Facultad de Agronomía, está dirigido a la población de discentes que se está formando en Tecnología de Alimentos y Economía Agrícola. Lo anterior se puede constatar en diferentes resoluciones emitidas por la Vicerrectoría de Docencia de esta casa de estudios: VD-R-9190-2015 (Vicerrectoría de Docencia, UCR, 2015), VD-R-9488-2016 (Vicerrectoría de Docencia, UCR, 2016a), VD-R-9495-2016 (Vicerrectoría de Docencia, UCR, 2016b) y VD-R-11173-2019 (Vicerrectoría de Docencia, UCR, 2019).

Debido a su carácter introductorio, la mayor parte de la población estudiantil que lo inscribe, en el primer ciclo de cada año, es de primer ingreso a la universidad. Dicho grupo de estudiantes se caracteriza por

haber tenido una formación en el nivel educativo de la secundaria que no es idónea en ciertas áreas, la cual les afecta para afrontar los nuevos retos que tendrán en la educación superior. Al respecto, en el Noveno Estado de la Educación (2023), se menciona que “las nuevas cohortes muestran cada vez mayores rezagos de aprendizaje debidos a los graves problemas de la calidad educativa en los niveles preuniversitarios” (Programa Estado de la Nación, 2023, p. 258).

La situación es preocupante en cuanto al nivel de conocimientos previos en matemáticas que se espera que posean las personas estudiantes que están ingresando a la UCR; el 93.28 % del grupo de discentes que presentó en el 2024 la Prueba Diagnóstica de Matemáticas (DiMa), no la aprobó (Matarrita, 2024). Esto significa que menos del 7 % de la población de primer ingreso, cuyos planes de estudio incluyen Cálculo I (MA1001), tiene los conocimientos previos necesarios para estudiar dicha asignatura.

Las deficiencias de formación que existen en el nivel educativo de secundaria no solo se evidencian en las pruebas que miden conocimiento matemático necesario para ingresar a la UCR, sino que también ocurre lo mismo en otras evaluaciones que validan competencias matemáticas. Por ejemplo, solamente el 28 % del estudiantado costarricense, al que se le aplicó las pruebas de la OCDE (Organización para la Cooperación y el Desarrollo Económico), correspondientes al proyecto PISA (*Programme for International Student Assessment*) del año 2022, logró interpretar matemáticamente una situación simple (Martínez, 2023).

Ante el problema de la carencia de competencias matemáticas con las cuales ingresa el estudiantado a la educación superior, Fonseca y Duarte (2020) advierten que es necesario que se implementen estrategias didácticas dinámicas y que tomen en consideración las principales debilidades que presenta cada estudiante. En el caso del curso de Precálculo, es evidente que existen obstáculos de aprendizaje asociados a los conocimientos previos, no solo por la formación deficiente que se recibió en el nivel de secundaria, sino porque existen contenidos que son nuevos para el estudiantado, los cuales no se incluyen en los Programas de Estudio de Matemáticas del Ministerio de Educación Pública (MEP), principalmente aquellos pertenecientes a la trigonometría (MEP, 2012; UCR, 2023). Los nuevos conceptos y procedimientos requieren que el estudiantado presente bases sólidas que le permitan comprender cómo diferentes áreas de la matemática se encuentran interrelacionadas, lo que contribuye a un aprendizaje más integrado y significativo.

El rendimiento académico en el curso de precálculo puede mejorar al propiciar en el estudiantado el desarrollo de competencias, para lo cual es importante realizar modificaciones en la forma en cómo se enseña. Estos cambios pueden implementarse a través de una mediación pedagógica basada en las metodologías activas de enseñanza y aprendizaje (Alcañiz *et al.*, 2016; Silva y Maturana, 2017; Robledo *et al.*, 2015). Estos métodos se encuentran fundamentados en las teorías pedagógicas cuyo foco de atención es la persona estudiante y su desenvolvimiento en el desarrollo de actividades, de tal forma que han superado la visión de la instrucción tradicional, que considera como protagonista al profesorado.

El presente ensayo tiene el propósito de argumentar por qué la puesta en práctica de algunas de las metodologías activas en el curso de precálculo puede ser eficaz para el logro de ciertas competencias matemáticas en el estudiantado, dentro de las cuales se pueden mencionar el razonamiento matemático, la resolución de problemas, la modelización matemática, la argumentación, la representación de conceptos y el uso de recursos tecnológicos (Niss, 2002). Al desarrollar estas capacidades en el grupo de discentes, se mejora su aprendizaje, lo cual repercute en un aumento en el porcentaje de aprobación y que continúen avanzando en las otras asignaturas de la malla curricular de sus correspondientes carreras (Delaney y Devereux, 2020).

## **Competencia matemática**

### ***Delimitación del concepto***

Es pertinente aclarar que no existe una definición única y consolidada de lo que desde el punto de vista educativo se conoce como competencia, se trata de un constructo complejo y polisémico (Perrenoud, 2004; Ruiz-Corbella y Aguilar-Feijoo, 2017; Zabala y Arnau, 2007). Sin embargo, para efectos de este ensayo, se rescatan algunas acepciones de este vocablo, de tal forma que resulte claro que la construcción del significado de la competencia matemática se ha realizado a partir de las concepciones del término competencia.

La competencia puede considerarse como “un conjunto de conocimientos y habilidades que los sujetos necesitamos para desarrollar algún tipo de actividad” (Zabalza, 2017, p. 62), también como “la capacidad de movilizar varios recursos cognitivos para hacer frente a un tipo de situaciones” (Perrenoud, 2004, p.11). En estas dos definiciones, se identifica el carácter activo de la competencia, no se trata solamente

del conocer sino también del hacer. Monereo y Pozo (2007), le agregan un aspecto reflexivo al concepto, la definen de la siguiente forma “un conjunto de recursos potenciales (saber qué, saber cómo, saber cuándo y por qué) que posee una persona para enfrentarse a problemas propios del escenario social en el que se desenvuelve” (p. 16).

En el nivel de planificación curricular, el concepto de *competencia* se emplea como fundamento para responder a la interrogante sobre cuáles son los aprendizajes esenciales que una persona necesita para participar activamente en la sociedad o desempeñarse de manera profesional (García, 2011). Estos aprendizajes comprenden tanto conocimientos conceptuales como procedimentales, ya que el conocimiento es un recurso necesario para desarrollar la habilidad.

Más allá de los conocimientos y de las habilidades, la competencia también está compuesta por elementos actitudinales tales como creencias, pensamientos, sentimientos, emociones, valores y conductas; estos forman la dimensión conocida como el saber ser (Pimienta, 2012). Por ejemplo, en el curso de precálculo la persona estudiante debe ser capaz de enfrentarse a los ejercicios y problemas que se le propongan a pesar de que sienta de que su formación previa no sea la idónea o que no se encuentran en igualdad de condiciones con respecto a sus pares.

Es importante tener claro que las competencias, de acuerdo con Pimienta (2012), están compuestas por conocimientos, habilidades y actitudes, ya que estos son los elementos que se buscan identificar en el planteamiento curricular de un curso para deducir las competencias que se pretenden alcanzar. Con base en la determinación de las competencias, se seleccionan las metodologías de enseñanza y las estrategias didácticas que sean más efectivas para desarrollarlas, al tomar en cuenta que las actividades de aprendizaje deben estar vinculadas con contextos que sean acordes al estudiantado.

Las competencias pueden estar vinculadas con campos disciplinares (historia, matemáticas, idiomas, música, entre otras) y relacionadas a un contexto (personal, social, profesional, científico, entre otros). En cada disciplina, es posible identificar competencias específicas; en el caso de la matemática, se encuentran en áreas o ramas como aritmética, geometría, álgebra, trigonometría, probabilidad y combinatoria, por mencionar algunas.

De la misma manera, como ocurre con el término competencia en educación, existen varias explicaciones de lo que significa ser competente en matemáticas, con la ventaja de que estas se encuentran

bastante relacionadas. Como base teórica para este ensayo, se han seleccionado dos definiciones que han servido de referente para una diversidad de estudios (Caraballo *et al.*, 2013; Proenza y Leyva, 2006; Rico, 2007; Solar *et al.*, 2012) acerca de la competencia matemática. Una es la expuesta por Niss (2002), quien la plantea como “the ability to understand, judge, do, and use mathematics in a variety of intra- and extra-mathematical contexts and situations in which mathematics plays or could play a role” (p. 7) [la habilidad para comprender, juzgar, hacer y usar matemáticas en una variedad de contextos y situaciones intra- y extra- matemáticos en los cuales puede o no desempeñar un papel]. La otra es la del proyecto PISA, que la considera como la capacidad que tiene cada persona de entender el rol que juegan las matemáticas en diferentes ámbitos del ser humano y de utilizarlas de manera reflexiva y responsable en su vida cotidiana (OCDE, 2005).

De acuerdo con las definiciones anteriormente expuestas acerca de los términos *competencia* y *competencia matemática*, se puede deducir que este último va más allá del saber y ser capaz de implementar de manera eficaz conceptos y procedimientos matemáticos al enfrentarse a una situación o reto de un contexto específico. También implica comprender y valorar la manera en la cual se ha efectuado, además de poseer una conducta que impulsa el haberlo logrado.

### ***Tipos de competencia matemática***

Existen ocho categorías de competencias matemáticas clasificadas en dos grupos, unas para plantear y responder preguntas dentro y a través de la matemática, las otras para dominar el lenguaje y las herramientas de esta disciplina (Niss, 2002). Esta taxonomía ha tenido su injerencia en el establecimiento de políticas curriculares a nivel internacional, ya que ha sido implementada por la OCDE en la aplicación de las pruebas del proyecto PISA en los años 2003 y 2006 (OCDE, 2005, 2006).

A continuación, se presentan las competencias matemáticas planteadas por Niss (2002), las primeras cuatro corresponden a las del primer grupo anteriormente mencionado, las otras forman parte del segundo. Cabe aclarar que estas no deben ser interpretadas como capacidades aisladas e independientes, más bien se trata de que las situaciones de aprendizaje que se propongan generen la interacción

entre estas, para formar un estudiantado en mejores condiciones para afrontar los retos que le exige su contexto cotidiano, académico y profesional.

- Razonar: realizar preguntas características de las matemáticas y saber las clases de respuestas que esta disciplina puede ofrecer; entender el alcance y las limitaciones de un concepto; generalizar resultados a clases más amplias de objetos matemáticos; distinguir entre diferentes tipos de enunciados matemáticos como definiciones, postulados, teoremas, postulados y conjeturas.
- Plantear y resolver problemas: identificar, plantear, especificar y resolver diferentes clases de problemas matemáticos; comprobar las soluciones propuestas y analizar si pueden ser resueltos de forma distinta.
- Modelizar: analizar fundamentos y propiedades de modelos existentes; traducir e interpretar elementos del modelo en términos de la situación modelada; evaluar el alcance y la validez de modelos; realizar modelado activo, lo cual significa matematizar el contexto, además de resolver e interpretar los problemas que genera.
- Argumentar: realizar seguimiento y evaluación de cadenas de argumentos propuestos por los demás; determinar si una prueba es formal o no; identificar y mostrar las ideas básicas en una argumentación; transformar argumentos heurísticos en pruebas válidas.
- Representar: comprender y utilizar diferentes tipos de representaciones de objetos, fenómenos y situaciones matemáticos; conocer sobre las fortalezas y limitaciones de una representación; elegir, traducir y utilizar diferentes representaciones de la misma entidad.
- Simbolizar y formalizar: traducir e interpretar el lenguaje matemático formal y simbólico, y comprender sus relaciones con el lenguaje tradicional; comprender la naturaleza y las reglas de los sistemas matemáticos formales (tanto sintaxis como semántica); entender y manipular declaraciones y expresiones que contienen símbolos y fórmulas.
- Comunicar: comprender los textos escritos, visuales y orales de otros sobre tópicos con contenido matemático; expresar de forma oral, visual o escrita, sobre tales tópicos, sea a un nivel teórico o técnico.

- Utilizar herramientas o soportes: conocer herramientas y soportes (incluyendo TIC) para la actividad matemática, además de saber acerca de sus propiedades, alcances y limitaciones; emplearlos de forma reflexiva.

Contar con la anterior descripción de cada competencia matemática permite determinar cuáles de estas se encuentran presentes en el curso de precálculo. Esto se puede llevar a cabo al compararlas con las acciones planteadas en los objetivos del programa del curso o al identificar aquellos contenidos de la asignatura que permiten desarrollarlas de manera transversal a partir del diseño y ejecución de actividades vinculadas con algún contexto del estudiantado.

## **Metodologías activas de enseñanza y aprendizaje**

### ***Implementación de las metodologías activas en la educación superior***

Silva y Maturana (2017) definen a las metodologías activas como enfoques pedagógicos que colocan al estudiantado en el centro del proceso de aprendizaje, se caracterizan porque promueven la participación, reflexión y autonomía. Su implementación en la educación superior se justifica debido a los retos que actualmente posee la universidad como institución en cuanto a la formación de la comunidad estudiantil, lo cual está sumamente vinculado con la necesidad que tiene cada discente de aprender competencias claves y básicas (Cejas *et al.*, 2019).

A continuación, se describen algunas de las metodologías activas que se implementan con bastante frecuencia a nivel universitario para el desarrollo de competencias (Barron y Darling-Hammond, 2008; De Miguel, 2005; Jordan *et al.*, 2015; Parrales y Rivadeneira, 2022; Poot-Delgado, 2013; Silva y Maturana, 2017).

- Estudio de caso: consiste en analizar situaciones reales o simuladas para comprender conceptos y aplicarlos a contextos específicos. El estudiantado analiza y discute un caso, posteriormente plantea las soluciones eficaces, generalmente realiza una indagación. Impulsa un aprendizaje motivador en un contexto real, desarrolla habilidades comunicativas y cognitivas, tales como la síntesis y el análisis.
- Aprendizaje basado en problemas: se les presenta un problema y deben trabajar en equipos para indagar, encontrar, analizar, discutir y validar sus posibles soluciones. Estimula el pensamiento

crítico, la creatividad, la toma de decisiones en situaciones nuevas, las habilidades comunicativas y las que implican trabajar de manera colaborativa

- Aula invertida: estudian el contenido previamente a la clase, a través de videos, \_lecturas, \_audio, etcétera. En el aula, se atienden las dudas, se aplican los conocimientos adquiridos, se discuten conceptos y se realizan actividades.
- Aprendizaje basado en proyectos: trabajan en proyectos o programas auténticos y significativos durante un período de tiempo prolongado. Investigan, diseñan, implementan y evalúan sus proyectos, \_en el cual se conectan todas las actividades formativas. Promueve la adquisición de una metodología de trabajo, se aprende a partir de situaciones realistas, promueve el autoaprendizaje y la creatividad.
- Aprendizaje cooperativo: se basa en la idea de que cada estudiante aprende mejor cuando trabaja en grupos. \_Se organizan en equipos pequeños en los que completan tareas, \_comparten ideas y se apoyan mutuamente, además de que se les evalúa con base en la producción grupal.
- Gamificación: consiste en aplicar elementos de los juegos a contextos educativos. \_Se utilizan mecánicas de actividades lúdicas como puntos, \_insignias, \_niveles y desafíos para motivar al estudiantado y hacer que el aprendizaje sea más atractivo.
- Clase magistral participativa: combina la exposición tradicional del personal docente con la participación dinámica del estudiantado. \_La persona que guía la enseñanza presenta el contenido de manera clara y concisa, \_pero fomenta la interacción entre pares y docentes a través de preguntas, \_debates y actividades cortas.

Las metodologías descritas anteriormente dejan en evidencia que en este enfoque cada estudiante es el protagonista activo de su propio aprendizaje. El rol de la persona docente es facilitar, guiar, apoyar, motivar y evaluar; es responsable de crear un ambiente donde el estudiantado explore, investigue, analice, cuestione, resuelva, argumente y se divierta. Al combinar estas metodologías con los contenidos del curso, es posible integrar conocimientos, habilidades y actitudes en el proceso de aprendizaje; si se complementan con actividades que se vinculen con diferentes contextos del estudiantado se desarrollarían diversas competencias.

### ***Papel de las metodologías activas en el desarrollo de competencias***

La metodología docente no debe limitarse a cumplir exclusivamente la función de transmitir conocimiento, es necesario que supere la puesta en práctica de estrategias didácticas que fomentan la memorización desconectada de la comprensión. Los actuales modelos de enseñanza están fundamentados en el desarrollo de competencias multidimensionales (Díaz *et al.*, 2023), entre las que destacan el pensamiento crítico, la resolución de problemas, el trabajo en equipo, la comunicación efectiva, la creatividad, la innovación y la alfabetización digital (Cejas *et al.*, 2019).

En cuanto a la importancia de los métodos de enseñanza en el fortalecimiento de los conocimientos y habilidades del estudiantado, Fernández (2006) asevera que las metodologías activas generan aprendizajes significativos y prolongados, también enfatiza que “preguntarse cómo formar en competencias es preguntarse cómo organizar y gestionar los procesos de aprendizaje” (p. 41). Se ha dejado en evidencia que cada metodología activa tiene características particulares en cuanto a la forma en que se lleva a cabo el proceso de enseñanza, por lo que resulta consecuente esperar que las competencias que cada método promueve sean acordes a las estrategias didácticas que se implementen.

Con respecto a las competencias específicas que cada metodología activa desarrolla en el estudiantado, el aprendizaje cooperativo acrecienta las habilidades interpersonales y de comunicación, además de que permite el cambio de actitudes; el aprendizaje basado en proyectos promueve el pensamiento crítico, las capacidades investigativas y la creatividad (Fernández, 2006). Para Barret (2005), el aprendizaje basado en problemas impulsa el trabajo en equipo, el planteamiento de estrategias de resolución, la justificación de resultados y la explicación de respuestas. Por su parte, el aula invertida propicia el dominio de herramientas digitales, la evaluación crítica de la información, la autonomía en el aprendizaje y la capacidad de interactuar con las demás personas del grupo (Parrales y Rivadeneira, 2022).

No existe una metodología activa que sea mejor que las demás; su selección depende de las competencias que se pretendan desarrollar. Más bien es recomendable combinarlas para ampliar y potenciar las capacidades que el estudiantado pueda lograr, de tal forma que el aprendizaje sea integral. Por otro lado, es fundamental que las

estrategias didácticas sean flexibles y variadas ya que en el aula pueden interactuar discentes con diferentes estilos de aprendizaje, con una pluralidad de intereses y actitudes.

En cuanto al gusto de cada discente por el aprendizaje individual o colectivo, el primero puede ser desarrollado por medio del aula invertida y el segundo a través del aprendizaje cooperativo. Algunas metodologías como el aprendizaje basado en problemas, el estudio de caso, la clase magistral participativa, el aprendizaje basado en proyectos y la gamificación pueden adaptarse para estimular tanto capacidades particulares como grupales (Fernández, 2006; Parrales y Rivadeneira, 2022; Silva y Maturana, 2017).

La atención de la preferencia del estudiantado por ciertos temas o contenidos puede lograrse por medio del aprendizaje basado en proyectos o el aprendizaje basado en problemas. Cuando al grupo de discentes se les presenta situaciones que están relacionadas con áreas o tópicos de sus carreras, pueden considerar el reto como una oportunidad que les permite poner en práctica conocimientos adquiridos en clase y desarrollar nuevas capacidades que les serán útiles en su futuro profesional, lo cual tiene implicaciones positivas en su motivación y afianza la percepción de que la matemática constituye una herramienta para comprender otras disciplinas científicas.

La idea de desarrollar una didáctica más contextualizada desde una perspectiva laboral es un aspecto que puede ser aprovechado en precálculo debido a las variadas carreras que contemplan la asignatura en su plan de estudios. En este sentido, los proyectos y problemas planteados pueden estar vinculados con finanzas, física, biología, química, demografía e ingeniería.

### **Competencias matemáticas en el curso de precálculo**

El principal objeto matemático que se estudia en el curso de precálculo son las funciones, lo que se refleja en la carta al estudiantado del curso, la cual contempla los principales elementos curriculares, indica que “el curso está orientado a los procesos algebraicos asociados a los criterios de funciones, el tratamiento gráfico y la aplicación de diversos contenidos en la resolución de problemas” (UCR, 2023, p. 1), en donde la palabra criterios se refiere a la fórmula o ley que cumple la función.

El tratamiento gráfico de las funciones permite desarrollar la competencia de utilizar herramientas y soportes matemáticos (Niss, 2002), específicamente con la implementación de software como GeoGebra, Mathematica o MATLAB. Estos son útiles para manipular los

trazos en tiempo real, lo que facilita la comprensión de cómo los cambios en los parámetros de una función inciden en su representación gráfica. De esta manera, se promueve un aprendizaje activo y autónomo, debido a que cada discente adquiere habilidades a través de la exploración de los conceptos al utilizar la herramienta tecnológica, no son receptores pasivos de información, más bien asumen un rol central en la comprensión de las representaciones gráficas.

Las funciones tienen la particularidad de que se pueden presentar de diferentes formas: verbal, tabular, algebraica, gráfica, simbólica, icónica (MEP, 2017). Todas estas pueden utilizarse en el curso con el propósito de que el estudiantado desarrolle la habilidad de convertir o traducir de un registro a otro, de tal manera que se logre la competencia matemática correspondiente a las representaciones.

Con respecto a la importancia de diversificar las representaciones de los contenidos estudiados, Duval (2006) indica que cada registro ofrece una perspectiva diferente del mismo concepto, de tal forma que al aumentar las formas de representación se comprende de mejor manera. Por ejemplo, una función puede estudiarse algebraicamente para manipular o simplificar su fórmula, gráficamente para entender su comportamiento visual y con una tabla de valores para identificar sus patrones numéricos.

La interpretación de las gráficas funcionales permite desarrollar una serie de procesos que caracterizan a la competencia de la argumentación matemática, entre estos se encuentran el interpretar datos, el justificar, el validar la justificación, el fundamentar, el reflexionar sobre la argumentación y el concluir (Solar *et al.*, 2012). La argumentación en precálculo genera que el estudiantado justifique sus respuestas y analice críticamente los procedimientos matemáticos; esta práctica les permite identificar errores, entender los pasos detrás de cada solución y construir un razonamiento más profundo.

Los tipos de funciones que se estudian en el curso son polinomiales, radicales, valor absoluto, exponenciales, logarítmicas, trigonométricas e inversas de trigonométricas. Sin embargo, existen otros contenidos que se consideran transversales y de estudio autónomo, los cuales pertenecen al álgebra, la estereometría y la geometría analítica; entre los cuales se encuentran: productos notables, ecuaciones, inecuaciones, factorización, descomposición en fracciones simples, rectas y volúmenes de sólidos (UCR, 2023).

El hecho de que en la asignatura se traten temas transversales en la medida que se van estudiando los diferentes tipos de funciones, genera que el grupo de discentes deba identificar la importancia y el alcance de las habilidades de tipo aritmético y algebraico que se consideran previas para el abordaje de los nuevos contenidos, las cuales se supone que adquirió durante su paso por la educación secundaria. En este sentido, está desarrollando la competencia del razonamiento matemático, porque cada estudiante debe ser capaz de atribuirle nuevos significados a los diferentes tópicos que aplica en el aprendizaje de las funciones, entre los conceptos claves se pueden mencionar: operatoria con números reales, factorización de polinomios, resolución de ecuaciones e inecuaciones, rectas paralelas y perpendiculares.

Las diferentes áreas temáticas (álgebra, funciones, trigonometría, estereometría y geometría analítica) a las que pertenecen los contenidos, así como la diversidad de carreras a las que pertenece el estudiantado, crean las condiciones acordes para que en la asignatura se resuelvan problemas de diferentes disciplinas, principalmente aquellas que pertenecen a las ingenierías y ciencias económicas. De esta forma, se promueven las competencias vinculadas con la modelización y la solución de retos matemáticos, lo cual genera que el grupo de discentes pueda implementar el conocimiento para tomar decisiones relacionadas con su futuro profesional y perciba un ambiente de aprendizaje más motivador porque las situaciones a las que se afronta están vinculadas a un contexto real.

### **Logro de competencias matemáticas en el curso de precálculo por medio de las metodologías activas**

La carta al estudiantado del curso de precálculo recomienda de manera tácita la implementación de las metodologías activas para llevar a cabo la mediación pedagógica de la asignatura, al respecto menciona “se pretende fomentar un rol activo de la persona estudiante y un cambio en la posición tradicional de la persona docente, de manera que funja como una mediadora y guía del proceso de interiorización de los contenidos” (UCR, 2023, p. 1). Es claro que en el curso se pretende que cada discente participe de manera dinámica y comprometida en su propio proceso de aprendizaje, en lugar de ser un receptor pasivo de información. Por lo tanto, debe asumir la responsabilidad de desarrollar las competencias matemáticas por sí mismo, con el apoyo y guía de la persona docente.

El aula invertida es idónea para que el estudiantado adquiera habilidades cuando aprende a utilizar las TIC (Parrales y Rivadeneira, 2022), por lo que representa una metodología que es recomendable de implementar en el desarrollo de la competencia matemática del uso de recursos y soporte, a partir de la manipulación de herramientas graficadoras de funciones. Por medio de videotutoriales o guías, se incentiva que en un momento previo a la clase cada discente adquiera una comprensión básica del funcionamiento del software, de tal manera que se aproveche el tiempo de aula para aplicar estos conocimientos de forma práctica en la resolución de ejercicios y problemas.

Otra de las metodologías recomendables a utilizar para que el estudiantado sea competente en el manejo de paquetes computacionales en el contexto del curso de precálculo es el aprendizaje basado en proyectos (Fernández, 2006), mediante la asignación de un plan en el que deban resolver de manera grupal un problema que se encuentre vinculado con su disciplina de formación y en el cual sea estrictamente necesario implementar la herramienta, sea para graficar o realizar cálculos. En este, se analiza un fenómeno real a partir de las diferentes representaciones de las funciones; puede ser vinculado con la proyección rectilínea de la demanda u oferta de un bien (función lineal), el movimiento parabólico de un objeto (función cuadrática), el interés compuesto de un crédito (función exponencial) o el análisis de temblores mediante la escala Richter (función logarítmica). De esta manera también se están incentivando las competencias de modelización, resolución de problemas y representaciones de un concepto.

La carta al estudiantado (UCR, 2023) indica entre sus objetivos específicos que se deben resolver problemas relacionados con la circunferencia trigonométrica, los ángulos de elevación y depresión, las rectas y los sólidos geométricos; por lo que también se recomienda implementar el enfoque de aprendizaje basado en problemas para el logro de la respectiva competencia (Barret, 2005). La metodología en precálculo debe estar fundamentada en el principio de que el aprendizaje no solo depende del diálogo que se establece entre docente-estudiante y estudiante-estudiante, sino también de la interacción que pueda surgir entre el discente y las situaciones didácticas que se plantean. En este sentido, la formación se enriquece cuando el estudiantado enfrenta problemas que le motivan a cuestionar sus ideas previas, formular nuevas hipótesis y verificar sus estrategias de resolución.

La argumentación matemática es una competencia que se puede desarrollar en el curso a partir de las interrogantes que la persona docente le plantee al estudiantado o las dudas que cada discente exponga. Mediante la clase magistral participativa (Fernández, 2006) se generan preguntas que propicien la reflexión y en las que se responda con base en la modificación de los supuestos teóricos que se derivan de definiciones, axiomas y teoremas. También, es útil aplicar estrategias grupales como mesas redondas, debates o foros virtuales de discusión; las cuales son características de la metodología de aprendizaje cooperativo (Silva y Maturana, 2017). En estas, es posible discutir acerca de si el procedimiento expuesto por una persona estudiante sería el correcto y si existe la posibilidad de plantearlo de otra manera que sea análoga en cuanto al resultado obtenido, lo cual permitiría realizar comparaciones en términos de la menor secuencia de pasos.

Queda en evidencia que para el desarrollo de competencias matemáticas en el curso de precálculo se pueden implementar las siguientes metodologías activas: aprendizaje basado en problemas, aula invertida, aprendizaje basado en proyectos, clase magistral participativa y aprendizaje cooperativo. Se sugiere ampliar el alcance de la presente indagación a partir del diseño y puesta en práctica de actividades que pueden ponerse en práctica en la asignatura, con el propósito de analizar el nivel del logro del estudiantado en cada una esas competencias matemáticas con las que se encuentran relacionadas. De esta manera, se va construyendo una mediación pedagógica objetiva, estructurada y capaz de generar más elementos para la reflexión.

## Conclusiones

El curso de precálculo de la Universidad de Costa Rica no solo pretende nivelar al estudiantado en cuanto a las deficiencias en los conocimientos previos necesarios para afrontar la asignatura de cálculo, sino que también busca que apliquen los principios básicos de las funciones en la resolución de problemas y logren comprender las conexiones conceptuales que existen entre tópicos de diferentes áreas de la matemática (álgebra, funciones, geometría analítica, trigonometría).

Los propósitos y contenidos planteados en la carta al estudiantado del curso de precálculo (UCR, 2023) permiten identificar una serie de competencias matemáticas que se han tomado como base para realizar evaluaciones a nivel internacional entre las cuales destacan: razonar,

resolver problemas, argumentar, representar y utilizar herramientas o soportes. Estas capacidades contribuyen al desarrollo integral del individuo, no sólo para desenvolverse en el ámbito académico y profesional, sino también para enfrentar las exigencias de la era digital y de la información.

El desarrollo de las habilidades en cada discente debe ser mediado a partir de los principios metodológicos y estrategias didácticas que selecciona y diseña la persona docente, los cuales buscan fomentar la comprensión de conceptos y la aplicación práctica de conocimientos. La implementación de metodologías activas en el curso no solo genera un rol más dinámico y autónomo de la persona estudiante en su proceso de aprendizaje, sino que también potencia el desarrollo integral de estas competencias matemáticas claves.

Algunas de las metodologías que son aptas para que el estudiantado desarrolle competencias matemáticas en el curso de precálculo son el aula invertida, el aprendizaje basado en problemas, el aprendizaje cooperativo, la clase magistral participativa y el aprendizaje basado en proyectos. Por medio de las estrategias propias de estos enfoques, es posible que el grupo de discentes aprenda a utilizar herramientas tecnológicas, enfrentarse a problemas reales, modelar situaciones y participar en debates que enriquecen su comprensión.

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# Formación universitaria para docentes en competencia mediática e informacional: una aproximación desde la perspectiva pedagógica crítica en la educación costarricense

Suhany Chavarría Artavia<sup>1</sup>  
Universidad Nacional  
Costa Rica  
[suhany17@gmail.com](mailto:suhany17@gmail.com)

## Resumen

La formación universitaria costarricense presenta falencias en la formación de las competencias mediática e informacional, competencia que se considera esencial en el siglo XXI. Desde 2008, la UNESCO ha establecido la necesidad de su incorporación en el currículum escolar y ha establecido la conceptualización y acciones metodológicas para su desarrollo. El presente ensayo analiza estas nuevas realidades desde una revisión bibliográfica para abarcar temas sustanciales de educación, competencias y tecnologías como sustento para establecer las premisas de una propuesta educativa a partir de los ejes educación en medios, perfil docente y formación universitaria. El ensayo concluye con una propuesta desde la perspectiva pedagógica crítica para validar dichas prácticas y los conocimientos necesarios para modificar el currículum universitario, estableciendo una guía para la alfabetización mediática e informacional y por consiguiente el perfil docente.

**Palabras clave:** alfabetización mediática e informacional, docentes universitarios, educación costarricense, formación universitaria, pedagogía crítica

## Abstract

The Costa Rican higher education displays flaws in the formation of media and information skills, a competence considered essential in the 21st century. Since 2008, UNESCO has recognized the need for its integration into the school curriculum and has established the conceptualization and the methodological actions for its development.

1. Encargada de la cátedra de Gestión y Comunicación para la informática educativa en la UNED. Máster en tecnología e informática educativa. Asesora Nacional en Informática educativa, departamento de Gestión de Recursos del Instituto de Desarrollo Profesional Uladislao Gámez Solano. <https://orcid.org/0000-0002-9083-3254>

This essay analyzes these new realities from a bibliographic review to cover substantial issues of education, competencies, and technologies as a basis to establish the premises of an educational proposal based on the axes of media education, teacher profile, and university training. The essay concludes with a proposal, from a critical pedagogical perspective allows us to validate such practices and the knowledge required to modify the graduate level curriculum, establishing a guide for media and information literacy and consequently the teaching profile.

**Keywords:** Costa Rican education, critical pedagogy, media and information literacy, university education, university faculty

## Introducción

Este ensayo permite reflexionar sobre la formación inicial docente que ofrece nuestro país a los futuros graduados en educación, desde una perspectiva crítica que se encuentra relacionada con las exigencias de la sociedad digital del siglo XXI; tal como la resumen Gutiérrez *et al.* (2018), somos usuarios hiperconectados y esto exige el desarrollo de ciertas competencias no solo para el desarrollo personal, sino además para el profesional.

Es a raíz de las propuestas de la Organización de las Naciones Unidas para la Educación, la Ciencia y la Cultura (UNESCO, 2011, 2018), sobre la formación en habilidades mediáticas, gestadas desde el año 1982 hasta la fecha y el reconocimiento de la alfabetización mediática e informacional como un concepto compuesto en 2008, que se ha visto la necesidad y prioridad de validar las competencias docentes en este ámbito; de esta manera, se profundiza en el concepto de alfabetización mediática e informacional y se analiza específicamente la competencia mediática y sus respectivas dimensiones desarrolladas puntualmente por Ferrés y Piscitelli (2012), quienes la consideran aún vigente. Además, de manera complementaria, se describen las prácticas y conocimientos que debe adquirir el docente en su proceso de formación universitaria abordadas por Gozávez *et al.* (2014), y las competencias definidas por Perdomo *et al.* (2020).

El ensayo presentará un abordaje conceptual desde la perspectiva crítica al validar los hallazgos establecidos en el octavo (Programa Estado de la Nación, 2021) y noveno (Programa Estado de la Nación, 2023) informes del estado de la educación, con la intención de definir el perfil de la nueva identidad docente de cara a las exigencias del siglo XXI, además del establecimiento de las prácticas pedagógicas para

promover un modelo transformador de la praxis educativa universitaria bajo la competencia mediática e informacional, así como la perspectiva política y metodológica de su incorporación en el currículo universitario costarricense, al integrar los alcances y los retos actuales.

### **Nuevas realidades, educación y seres hiperconectados**

Somos seres sociales que, aunque aún no saben leer o escribir, ya somos seres “hiperconectados”, tal como lo indican Gutiérrez *et al.* (2018). Este concepto se refiere a la práctica de estar utilizando dispositivos multimedia para desarrollar distintas actividades diarias, laborales y escolares, entre las que se destacan el envío de correos electrónicos y mensajes de texto, la participación en las múltiples redes sociales, y ser usuarios activos de productos multimedia que se visualizan en las páginas web, distintas aplicaciones, la televisión y otros medios, así como el uso de consolas de juego y de entretenimiento.

Nos encontramos con una población denominada “nativos digitales”, de acuerdo con Mejía (2011), que sugiere a su vez una reorganización que parte de la forma y el entorno en que se ubican las personas, al ser la virtualidad una puerta para lo local y lo global, lo personal y lo masivo. Las nuevas sociedades dejaron de ser pasivas y receptoras, ahora buscan ser vistas, tener información inmediata y, a la vez, establecer conexiones con otros a través de los medios virtuales (Gutiérrez *et al.*, 2018).

Esta nueva realidad modifica la forma en que aprendemos; “los símbolos y abstracciones que se convierten en materias primas de nuevos procesos sociales sobre el fundamento de un nuevo proceso de menteinformación” (Mejía, 2011, p. 121). Significa, por lo tanto, que nuestros aprendizajes están compuestos por imágenes, sonidos, signos, y otros elementos que permean la forma a la que accedemos a la información y, por ende, al conocimiento. Para Gozávez *et al.* (2014), “respiramos comunicación audiovisual en un mundo en donde la comunicación es cada vez más convergente y confluye en un mismo dispositivo tecnológico” (p. 19).

Esto propicia el cuestionarse qué y cómo se debe aprender, si se toma en cuenta que los ciudadanos del siglo XXI tienen exigencias, intereses y necesidades que se engloban en el uso de los videojuegos, las redes sociales, la realidad aumentada y virtual y otras aplicaciones que se generan día con día, como la integración de la inteligencia artificial a actividades cotidianas. Esta realidad, de acuerdo con Pablos y Ballesta

(2018), implica que “ya no se reproduce la información, sino que se ordena y organiza en los nuevos contenidos, desde la interacción con los medios digitales” (p. 118).

Las realidades anteriormente descritas también se encuentran presentes en el contexto costarricense; sin embargo, nuestro país presenta limitaciones estructurales para la adaptación pertinente, relevante y eficaz de los sistemas educativos. Al respecto, el Octavo informe estado de la educación (Programa Estado de la Nación, 2021) demuestra las grandes falencias que existen en cuanto a la alfabetización y al acceso a las tecnologías de información y comunicación e internet en los centros educativos; por su parte, en el 2022, la Organización para la Cooperación y Desarrollo Económico (OCDE) enfatiza que, para el caso costarricense, el acceso a dispositivos de comunicación es limitado en los escuelas y colegios, pero que existe una alta tasa de acceso desde los hogares, lo que implica que las personas se mantienen conectadas y reciben información de distintos medios, realidad que se traslada a nuestro país.

Por tanto, en el contexto de estas nuevas coyunturas, se hace necesario establecer un marco de referencia en torno a las competencias, educación, tecnologías y propuestas educativas que son necesarias desarrollar no solamente en el estudiantado, sino que por ende en la formación inicial de las personas estudiantes que se perfilan como futuros educadores.

### **Nuevas realidades: educación, competencias y tecnologías**

La competencia se define como “una combinación de conocimientos, destrezas y actitudes que se consideran necesarios para un determinado contexto” (Ferrés y Piscitelli, 2012, p. 3); este concepto fue acuñado en sus inicios al campo laboral y en la actualidad se ha integrado al campo educativo. Para validar campos del saber y conocimientos, se han establecido distintas posturas sobre el perfil que debe poseer una persona educadora, se analizan a continuación tres modelos de competencia en el uso de las tecnologías en educación.

Primeramente, la UNESCO (2019) desarrolló el marco de competencias docentes en materia de Tecnologías de información y comunicación (TIC), que se describe en seis áreas de desarrollo: a) comprensión del papel de las TIC en educación, b) currículo y evaluación, c) pedagogía, d) aplicación de competencias digitales, e) organización y administración y f) aprendizaje profesional de los docentes. Cada una de

ellas con tres niveles de crecimiento en un nivel inicial de adquisición de conocimientos, en un nivel intermedio de profundización de conocimientos y en un nivel superior en la creación de conocimientos. Al analizar esta propuesta, se observa una visión integral de todas las áreas que intervienen en la educación, se puede pensar en un punto inicial para docentes que no han tenido contacto con la tecnología.

Por otra parte, se encuentra la visión de los países que componen los Estados miembros europeos, los cuales determinaron la necesidad de generar un conjunto de competencias digitales que permitan a los profesionales en educación aprovechar el potencial de las tecnologías digitales con el fin de mejorar e innovar en educación conocidas como DigCompEdu. Estas competencias se dividen en seis áreas: a) compromiso profesional, b) contenidos digitales, c) evaluación y retroalimentación, d) enseñanza y aprendizaje, e) empoderamiento de los estudiantes y f) desarrollo de la competencia digital de los estudiantes (Redecker, 2020). Si bien es cierto estas competencias están planteadas para la población europea y con un nivel intermedio de integración en el currículo, nos facilita el tener una visión de las fortalezas y habilidades promovidas en los educadores, claro está, con ajustes a la realidad educativa costarricense.

Finalmente, Perdomo *et al.* (2020) proponen el desarrollo de siete competencias digitales que respondan a las exigencias actuales del contexto educativo y que favorecen la incorporación de las TIC. Entre ellas se encuentran a) el diseño y planificación de los entornos virtuales, b) la moderación de aprendizaje colaborativo, c) la conducción, orientación y valoración, d) el desarrollo profesional, e) el uso responsable, ético y diverso de las tecnologías y f) el medio ambiente, la salud y la seguridad laboral con el uso de las tecnologías.

Tal como se analiza en estas tres propuestas, se da un énfasis al uso de la tecnología en la integración en el aula y se definen las habilidades necesarias de la persona docente; la cual le prepara para afrontar las exigencias de la sociedad actual, al aprovechar el potencial y las dificultades que ofrecen las innovaciones educativas. Ahora bien, hilando un poco más allá en este marco de competencias, Férres y Piscitelli (2012) presentan una competencia específica en el uso y manejo de los medios de comunicación e información.

La competencia mediática e informacional está compuesta por dimensiones, tal como la propuesta de la UNESCO y el DigCompEdu y cada una de ellas tienen como fin validar los conocimientos, las

actitudes y destrezas sobre los medios de comunicación e información. De la misma manera, se describen los indicadores que determinan el grado de participación en el ámbito de análisis (cómo se recibe y se interactúa con los mensajes) y el nivel de expresión (cómo se producen los mensajes) Ferrés y Piscitelli (2012). La competencia mediática contempla a) lenguajes, b) la tecnología, c) procesos de interacción, d) procesos de producción y difusión, e) ideología y valores y f) estética.

En sus posturas más recientes, Mateus *et al.* (2019) plantean las competencias desde tres niveles piramidales, donde el primer nivel se refiere al acceso y uso de los medios, el segundo a la comprensión y la crítica y el tercero a la producción comunicativa y creativa. Para lograr el desarrollo de esta competencia en los docentes, es estrictamente necesario el desarrollo de la alfabetización mediática e informacional (AMI), en tanto se ha convertido en los últimos años un tema de agenda de muchos países debido a la gran relevancia que tiene para la sociedad.

Con la Declaración Grünwald, la UNESCO, desde 1982, ha buscado promover la comprensión fundamental de los “fenómenos de comunicación” (UNESCO, 2011), y esto ha fomentado la generación de diferentes declaraciones con el objetivo de consolidar el concepto de alfabetización mediática e informacional (AMI); en 2018, la UNESCO la define de la siguiente manera:

La AMI abarca una serie de competencias que permiten a las personas buscar, evaluar críticamente, utilizar y enriquecer la información y el contenido de los medios de comunicación apropiadamente; conocer los derechos de cada usuario en Internet; comprender cómo luchar contra la incitación al odio en línea, la información y las noticias falsas y el ciberacoso; comprender las cuestiones éticas relacionadas con el acceso a la información y el uso de esta; y colaborar con los medios de comunicación y las tecnologías de la información y la comunicación como productores de información y contenidos para promover la igualdad, la expresión personal, el pluralismo de la información y de los medios, el diálogo intercultural e interreligioso y la paz. (p. 2)

Fedorov (2011) realiza un recorrido de las iniciativas de integración de la competencia dentro del currículo y describe cómo la UNESCO desde el 2011 establece como necesidad la participación de la sociedad en la

alfabetización mediática. Para fortalecer estas iniciativas, Pablos y Ballesta (2018) proponen la participación de los agentes que se involucran con la educación, incluyendo a quienes gestionan los medios de comunicación.

Para Mateus *et al.* (2019), estamos envueltos en una “cultura multimodal del siglo XXI, en la que la información fluye constantemente, una persona alfabetizada debe dominar todos los códigos, formas expresivas de cada uno de los lenguajes de representación vigentes (el textual, el audiovisual y el digital)” (p. 119). Como resultado, se busca que las personas estudiantes reciban la información y sean capaces de organizarla y estructurarla de una manera crítica y autónoma, entiendan las funciones de los medios, además de comprender los derechos, la lucha contra el odio en línea, el ciberacoso, la ética en el acceso a la información, al promover la igualdad, el pluralismo, el diálogo intercultural y la paz (UNESCO, 2018).

Recientemente y como consecuencia del SRAS-CoV-2, la comunidad de especialistas de la red Alfamed, destacan la necesidad de establecer dentro del currículum de la formación de profesores en educación mediática:

conocimiento sobre el derecho al acceso a la información, el uso ético de los medios, de la tecnología y de la información, así como la participación con implicación de valores personales y sociales, las formas de relación y comunicación participativa a través del diálogo intercultural y la función social de la comunicación. (Pérez-Rodríguez *et al.*, 2021, p. 28)

Como conclusión, se entiende la alfabetización en medios como “el proceso de enseñar y aprender acerca de los medios de comunicación” (Mateus *et al.*, 2019, p. 119) y aborda las implicaciones que acarrear los medios en la sociedad, su uso y su intención (Pablos y Ballesta, 2018). Para ello, es necesario validar el rol de la tecnología, lo que significa la educación en medios y el rol que cumple el docente en el desarrollo de esta competencia como parte esencial de su formación universitaria.

La tecnología siempre ha tenido un papel protagónico en las actividades cotidianas de las personas, pero es con la integración de la internet que la comunicación y la información, que se tornó con un rol más esencial en el desarrollo social de la ciudadanía, se entiende que la tecnología no puede ser vista como un aparato, sino que “al tener lenguaje, lógica, narrativa, manera de orientar la acción están generando un nuevo sujeto de desarrollo, de aprendizaje, de socialización, el cual atrae un cambio cognitivo” (Mejía, 2011, p. 122).

A nivel costarricense, estudios han determinado que la simple dotación de la tecnología no cierra la brecha o cumple con las expectativas de desarrollar habilidades en la alfabetización mediática e informacional. Pérez-Escoda *et al.* (2020), en su estudio, identifican que los centros educativos públicos no logran incorporar la tecnología de manera que se cumpla con el mejoramiento y rendimiento esperado, a pesar de que el Ministerio de Ciencia, Innovación, Tecnología y Telecomunicaciones (MICIT) realizó esfuerzos con el planteamiento de políticas nacionales centradas en mejorar las condiciones de acceso en telecomunicación.

### **Propuesta educativa: educación en medios, perfil docente y formación universitaria**

En el marco de lo expuesto, el sistema educativo costarricense requiere construir propuestas educativas para atender las nuevas realidades a partir de la incorporación de la educación en medios, clarificación de perfiles docentes y una reflexión-acción sobre la formación universitaria. En el primero de los casos (educación en medios) Zitkoski *et al.* (2015) exponen una lectura crítica de esta propuesta al establecer que, quienes abogan por desarrollar espacios donde se problematice la forma en que la información por medios de comunicación masiva puede generar control sobre los ciudadanos y el peligro de generar una opinión pública infundada por el pensamiento de pocos. Gozávez *et al.* (2014) llaman la atención a no ser usuarios pasivos, que solamente consumen, sino que a su vez sean productores de contenido mediático.

Al partir de los esfuerzos que ha realizado la UNESCO en coordinación con varias naciones, se conoce que muchos de los países desarrollados, en donde el despertar al uso de la tecnología y los medios de comunicación fue más temprano que la realidad costarricense, se ha promovido una mayor vinculación a una enseñanza crítica de los medios en el aula, en contraposición con el relato “tecnosolucionista” que ha sido impulsado en su mayoría por empresas privadas en alianza con el gobierno “que centra su atención a los dispositivos y en la forma instrumental, desatendiendo otras dimensiones propias de la educación mediática” (Mateus *et al.*, 2019, p. 289). Sin embargo, en su investigación también declaran que en Latinoamérica existen vinculaciones con la pedagogía liberadora, la comunicación popular y la educomunicación (Mateus *et al.*, 2019).

La sociedad digital exige la reflexión y el estudio de los medios de manera transversal en los procesos educativos, Gutiérrez y Torregro (2018) aclaran que la integración de la tecnología como recursos didácticos no puede reducirse a ser incorporada en la didáctica, por el contrario, debe ser parte de los procesos de formación del profesorado universitario. No es suficiente el desarrollo de conocimientos, destrezas y actitudes ante los medios de comunicación, la generación de la percepción positiva al uso de las TIC; sin embargo, lo que se ha logrado de manera generalizada es una inserción instrumental y política de las tecnologías, tal como lo exponen Andrada (2019) y Mateus *et al.* (2019); la cantidad de información que recibimos ha generado una polarización de la sociedad.

Por tal razón, se hace necesario adoptar un compromiso serio a la hora de pensar en la educación en medios, no es solo facilitar la tecnología para mediar los procesos educativos que se analizaron, sino que además requiere “tareas planificadas con objetivos a alcanzar; supone organizar didáctica y pedagógicamente actividades con la finalidad de comprender los mensajes y contenidos que vehiculan los nuevos medios, para contribuir al desarrollo de personas creativas, activas, responsables y críticas” (Pablos y Ballesta, 2018, p. 118).

Para continuar con este proceso, se hace necesario un análisis crítico del rol de la persona mediadora en los procesos educativos y, por ende, de la evaluación de los programas de estudio de las carreras universitarias que lideran procesos de la enseñanza de la educación para validar si la competencias mediática e informacional está intrínseca en el currículum.

### ***Perfil y rol del docente***

Al partir de la realidad educativa que atraviesa Costa Rica, se tiene claro que la pandemia y distintas situaciones afectaron el estado actual de la educación, en el Octavo Informe del Estado la Educación (Programa Estado de la Nación, 2021), se denotan hallazgos que nos dan las pistas de cómo se impacta e influye en la formación universitaria de los futuros docente. Entre ellas, se rescatan las relevantes para este ensayo:

- a) Hay pocas o nulas diferencias que existen al incorporar las TIC en los procesos de aprendizaje en el aula entre los que tienen o no formación en educación a distancia o herramientas virtuales.
- b) Entre el 41% y 46% de las personas docentes, se ubicaron en el perfil de bajo desarrollo de las competencias digitales.
- c) La evaluación de las competencias digitales docentes en práctica pedagógica, ciudadanía digital y desarrollo profesional

revela que la mayoría de los y las docentes se encuentran en los niveles iniciales de exposición y familiarización.

d) Las personas docentes con mayores niveles de desempeño muestran mayor agrado por usar las tecnologías en clases, tienen más años de experiencia trabajando con las TIC, y han recibido capacitación y formación inicial en el tema. (p. 182)

En otras investigaciones, se demuestra que las competencias AMI que más se utilizan se relacionan con el reconocer la necesidad de informarse, ubicar y evaluar el tipo de información que se obtiene y almacenar y recuperar información. Así como el interés por formarse en el área del uso de las TIC y tecnologías emergentes que puedan ser aplicadas a distintas áreas disciplinares (Pierre, 2020). Uno de los aspectos más criticados como resultado de esta investigación es la visión que tienen los estudiantes de sus docentes; se considera que es necesario realizar diagnósticos para validar el nivel de uso de las tecnologías y que, por ende, no se puede asumir que se tienen los conocimientos necesarios para realizar las asignaciones con las tecnologías.

Andrada (2019) asegura que los estudios demuestran que existen problemas en la implementación de la educación en medios, y básicamente se relaciona con la poca formación docente en esta materia, “los profesores suelen mostrar una buena actitud ante los medios, pero desconocen cómo enseñar sobre ellos” (p. 27). De esta manera, se pueden valorar las pistas de lo que implica no solo las deficiencias existentes en la población docente del país, sino que es necesario validar la mediación de las tecnologías con conciencia de la capacidad que tiene la población infantil y es de esta manera que se plantea la pregunta ¿Qué tipo de perfil docente se necesita para promover la alfabetización mediática e informacional?

Dentro de los postulados freirianos, se espera que el pensamiento de un docente sea “provocativo e incitante porque siempre está en movimiento, abierto a las diferencias culturales y a los nuevos desafíos frente a las realidades sociales” (Zitkoski *et al.*, 2015, p. 27). Desde la praxis pedagógica, se promueve una correlación entre la vida cotidiana y las acciones educativas, al propiciar un proceso continuo de revisión de la metodología, los dispositivos que se utilizan y la responsabilidad ética de los resultados, y se promueve de esta manera una praxis emancipadora donde se aprende a “empoderarse produciendo conocimiento y saber” (Mejía, 2011, p. 135) y, finalmente, se espera que esta práctica educativa

esté acompañada de una ética y desarrollo profesional que permita “conservar, mejorar y actualizar su nivel de competencia técnica, cognitiva y metodológica” (Gozálvez *et al.*, 2014, p. 23).

Dentro de las acciones que el docente ejerce desde el ejercicio de su praxis, se mencionan características específicas de varios autores que se resumen a continuación:

- Tutorizar procesos de aprendizaje con componentes virtuales, donde se fomenten actividades individuales y grupales, que a su vez generen procesos de autoevaluación y autorregulación (Hidalgo, 2019).
- Promover espacios donde se dé cabida a las nuevas formas culturales que posee la sociedad, donde se permita la recepción y autonomía de la información que se recibe, cuestionando a los medios (Pablos y Ballesta, 2018).
- Poseer las destrezas necesarias para utilizar los medios y las tecnologías, las habilidades para el acceso a la información que les permita mejorar y fortalecer su práctica y desarrollo profesional (UNESCO, 2018).
- Actualizar su formación profesional, se convierte en una exigencia de “incuestionable valor, y responden a la necesidad de adaptar, regenerar, mejorar y dotar de nuevo significado a la tarea docente (Gozálvez *et al.*, 2014).

Todo profesor universitario que se encuentre en su proceso inicial debe no solo poseer todas estas características, sino que además la universidad se ve comprometida en ofrecer las acciones necesarias e integradas en el currículo para responder a la educación mediática (Gutiérrez y Torrego, 2018).

### **Formación universitaria**

Para formar en medios digitales y en el uso de la información, es necesario que la universidad adopte una perspectiva crítica de sus procesos educativos, desde un marco político y metodológico que favorece la integración en los programas de estudio de todas las carreras que forman en educación. Actualmente, se realiza la integración con esfuerzos fragmentados que facilita a los profesionales en sus procesos iniciales tener algunas pinceladas del uso de la tecnología, pero tal como se analiza en el Octavo Informe de la Educación (Programa Estado de la Nación, 2021) y de acuerdo con los resultados de investigaciones citadas anteriormente, las personas docentes conocen

cómo utilizar la tecnología, pero desconocen sobre cómo enseñar de la tecnología en medios e información. Demuestran, por lo tanto, las grandes falencias que existen en cuanto a la alfabetización y en cuanto al acceso a las tecnologías de información y comunicación e internet en los centros educativos, aspecto que también se demuestra en el Noveno Informe Estado de la Educación (Programa Estado de la Nación, 2023).

Si partimos de una educación humanista liberadora desde la perspectiva freiriana se hace necesario iniciar esta formación desde el diálogo crítico, promoviendo la integración de toda la población costarricense que ha estado excluida (Zitkoski *et al.*, 2015). Hemos de partir de una negociación cultural y la recontextualización donde “los saberes, las metodologías, las concepciones pedagógicas y procesos de aprendizaje son recogidos desde el lugar social y cultural del otro” (Mejía, 2011, p. 133), al permitir de esta manera tener una conciencia más consciente de la realidad.

Desde esta educación crítica, la comunicación entre educandos busca ser abierta al análisis de lo que sucede en el mundo, de la forma en que la información llega a nuestro entorno inmediato y al desarrollo de habilidades que les facultan su capacidad para identificar, transformar y cuestionarse sobre los medios (Martínez, 2014). Además, de manera paralela se espera el desarrollo de valores éticos y críticos sobre las potencialidades y consecuencias que acarrea la manipulación de los medios y la información, desde una perspectiva voluntaria y autónoma, donde el convencimiento sobre los fines de la educación sea propio. Gozávez *et al.* (2014) enumeran los principios necesarios para formar este nuevo perfil docente en su proceso inicial:

el principio de respeto a la dignidad personal de todos los miembros de la comunidad educativa, el principio de la promoción de los derechos humanos y la defensa de los valores de la ética civil, el principio de justicia (en un sentido distributivo y en un sentido conmutativo o igualitario), el principio de la autonomía profesional, el principio de beneficencia (poner las competencias profesionales al servicio del bien de los usuarios), el principio de confidencialidad, el principio de veracidad y, por último, el principio de responsabilidad profesional. (p. 23)

Este proceso de promoción de los principios analizados anteriormente se genera dentro de un marco común del currículum universitario, porque para transformar el perfil del estudiante, es

necesario no solo un cambio en los programas de estudio, o la visión de las cátedras y escuelas; sino que repercute en la visión y dirección que ejecuta la universidad. Las universidades propician la construcción y reproducción del conocimiento, dentro de un marco político, social y económico que tiene como fin último generar los saberes y perfiles de las futuras personas que se integran a la sociedad. Dentro de la formación docente, implica que los procesos educativos se transformen y se orienten en satisfacer no solo las demandas del siglo actual, sino que tiene que enfocarse a la formación del perfil de un estudiantado inmerso en propuestas epistemológicas bajo una pedagogía crítica.

### **Propuesta de competencia mediática e informacional**

A manera de presentar un acercamiento a la integración de la competencia mediática e informacional dentro del currículum universitario, se hace evidente la necesidad de que los futuros educadores tengan conocimiento de acuerdo con Gozávez *et al.* (2014), Ferrés, y Piscitelli (2012) y Gutierrez y Torrego (2018), en:

- El manejo de las plataformas virtuales para el aprendizaje, al dar un uso eficaz de las herramientas, evaluaciones y procesos de interacción.
- El uso eficiente de internet y de tecnologías de información y comunicación para promover procesos educativos planificados.
- La construcción a la construcción colectiva, al promover los derechos de autor, la detección del plagio para generar contenido inédito.
- La promoción el uso de medios de las seis dimensiones propuestas, que promuevan la creación y análisis de contenido.
- La integración curricular de TIC y medios como objeto de estudio.
- La integración curricular de los medios y tecnologías digitales como recursos didácticos.

En un contexto ideal, cada una de estas habilidades y competencias se desarrollan desde una perspectiva crítica, en un marco de formación universitario crítico, el cual implica comprender sobre el uso y tratamiento de la información que se consume y se produce, para ello se hace necesario el establecimiento de alcances y retos.

### **Alcances y retos**

La alfabetización mediática e informacional (AMI) “provee a los ciudadanos las competencias que necesitan para buscar y gozar de todos los beneficios de este derecho humano fundamental” (UNESCO, 2018, p. 16), además es un derecho fundamental que propicia la libertad de expresión y el derecho al acceso de la información. Quienes intervienen en la educación de las poblaciones estudiantiles, promueven una conciencia del potencial que tienen los medios de comunicación e información, para aprovechar sus potencialidades y desarrollar las destrezas para actuar en consecuencia de la información que se recibe (Gutiérrez y Torrego, 2018).

Al conocer acerca de medios, se abre la puerta para participar activamente en la creación de información de una manera más autónoma y racional. Esto requiere de una integración no solo a nivel universitario, sino que se fortalece de políticas educativas y gubernamentales que promuevan la alfabetización mediática e informacional e implica el compromiso del país de dotar de oportunidades a cada estudiante dentro del territorio nacional. El gran reto es disminuir la brecha digital.

### **Conclusión**

La realidad costarricense nos impulsa a tomar acciones claras y precisas en cuanto a la educación mediática, no solamente en los procesos de formación inicial universitaria para futuros docentes de educación, sino dentro de las prácticas educativas que se desarrollan en las aulas de todas las modalidades educativas del país. Se espera que las personas adquieran la competencia mediática, lo cual implica el uso crítico sobre los mensajes que se producen y sobre los que se consumen.

Esto sugiere un cambio político y de las autoridades de gobierno en tema de educación, ya que las universidades, apoyadas en políticas públicas tengan un impacto a nivel país. El primer paso es analizar los currículos universitarios y visualizar si desde el planteamiento de cada una de las asignaturas se logra extraer la competencia mediática e informacional como un todo (conocimiento, procedimientos y actitudes) y validar si la tecnología se ve de manera fraccionada en las metodologías educativas.

Establecer a nivel nacional un marco común de competencias digitales docente, un modelo que establezca los criterios de evaluación y las rutas e itinerarios de aprendizaje necesarios, al alcanzar como

primera etapa una formación básica y en las etapas consiguientes alcanzar los niveles más avanzados de aplicación y creación de contenido multimedial.

La tarea no es fácil a la hora de definir un perfil de docente deseable, desde una perspectiva crítica, que invite al alumnado tomar control de su propio conocimiento, de valorar los medios digitales como herramientas de acceso a la información y validar los procesos de análisis por desarrollar, para distinguir con fundamento la providencia de la información, sus repercusiones y sus potenciales dentro de una realidad hiperconectada y mediatizada.

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# Formación pedagógica en la enseñanza de la medicina veterinaria: problemática, desafíos y oportunidades de mejora en la capacitación docente

Matteo Kareb Protti Consumi<sup>1</sup>

Universidad Nacional

Costa Rica

[matteo.protti.consumi@est.una.ac.cr](mailto:matteo.protti.consumi@est.una.ac.cr)

## Resumen

Este ensayo contextualiza y analiza los aspectos que influyen en la formación pedagógica del docente en medicina veterinaria, al destacar las problemáticas que limitan la implementación de una capacitación continua y certificada en educación universitaria. Se abordan desafíos como la escasez de docentes con formación pedagógica, la sobrecarga laboral y el limitado aprovechamiento de programas existentes vinculados con praxis y estrategias actualizadas de enseñanza y aprendizaje dirigidas al personal académico. Además, se provee recomendaciones para fortalecer las competencias pedagógicas del profesorado, con el objetivo de mejorar la calidad educativa y promover un aprendizaje significativo en la formación de los futuros profesionales médico-veterinarios de Costa Rica.

**Palabras clave:** Aprendizaje profesional, capacitación docente, competencias, educación, enfermedades zoonóticas, formación pedagógica, habilidades, medicina veterinaria

## Abstract

This essay contextualizes and analyzes the factors influencing pedagogical training for faculty in veterinary medicine, highlighting the issues that hinder the implementation of continuous and certified training in higher education. It addresses challenges such as the shortage of faculty with pedagogical training, workload overload, and the limited utilization of existing programs related to praxis and updated teaching and learning strategies for academic staff. Additionally, it provides recommendations to strengthen the pedagogical competencies of

1. Médico veterinario egresado de la UNA. Estudiante de la Licenciatura en Farmacia y Maestría en Educación con énfasis en Pedagogía Universitaria. Cirujano y clínico con énfasis en medicina de felinos domésticos y mamíferos exóticos. Posee experiencia en docencia e investigación.

faculty members, aiming to enhance educational quality and promote meaningful learning in the training of future veterinary professionals in Costa Rica.

**Keywords:** competencias, education, pedagogical training, professional learning, skills, teacher training, veterinary medicine, zoonotic diseases

## Introducción

La medicina veterinaria tiene un campo de acción muy amplio, complejo y dinámico, para el cual se requieren años de estudio y capacitación; en este sentido, la docencia se comporta igual, pues posee conceptos, referentes teóricos, estrategias de enseñanza, aprendizaje y evaluación y, por eso, requiere de un proceso de capacitación formal para ejercerla apropiadamente. Sin embargo, la realidad demuestra que esto no siempre ocurre, ya que hasta ahora, muchas instituciones educativas, al realizar sus contrataciones y revisar el currículum de la posible persona docente, aún priorizan el conocimiento técnico en el área de interés por encima del conocimiento formal de la pedagogía (Moscoso y Hernández, 2015; Ríos, 2021), y, aunque pueden solicitar experiencia en educación, esta puede basarse en la experimentación, la replicación de estrategias según su propia vivencia como estudiante y el aprendizaje entre pares, en vez de un conocimiento formal y certificado.

Autores como Arteaga *et al.* (2018), Mendoza-Bravo *et al.* (2023), Encinas *et al.* (2015), Figueroa (2018), Sandoval *et al.* (2022), Isaza (2022), Mancuso (2022), Ríos (2021) y Rochin *et al.* (2023) coinciden en que la capacitación del estudiantado está directamente vinculada con el grado de conocimiento pedagógico, praxeológico y didáctico de la persona docente. Por eso, si quien educa carece de los conocimientos o recursos necesarios para aplicar estrategias y técnicas de formación actualizadas y reconocidas en el ámbito docente, la calidad de la enseñanza y el aprendizaje de las personas estudiantes puede verse comprometida.

La medicina veterinaria, a lo largo de milenios, ha evolucionado desde un conocimiento inexistente, pero con una necesidad de saneamiento y tratamiento de las especies animales con las que el ser humano comenzó a vincularse, al pasar por el empirismo y el conocimiento transmitido de generación en generación, hasta la formalización de instituciones de enseñanza en diferentes regiones del mundo con un crecimiento acelerado, y la maduración de los principios, conocimientos, técnicas, habilidades y competencias que hoy se

conocen y siguen desarrollándose. Del mismo modo, la docencia ha tenido su historia de transformación y expansión a lo largo del tiempo, al sentar importantes precedentes a partir de las nociones y corrientes generadas por importantes pensadores de diferentes épocas, quienes, junto a otros factores, han delimitado el concepto de la pedagogía.

El presente ensayo tiene como propósito contextualizar y examinar los aspectos asociados con la formación docente, a fin de ofrecer recomendaciones para identificar y superar los factores que dificultan o retrasan la implementación de una capacitación continua y certificada en pedagogía universitaria en la carrera de medicina veterinaria.

### **Origen, conceptualización e historia de la medicina veterinaria**

Esta sección presenta un análisis del origen histórico de la medicina veterinaria, al destacar evidencias y prácticas asociadas a su desarrollo en las sociedades antiguas. Aborda las líneas de pensamiento y los avances del conocimiento que dieron forma a esta profesión, desde su surgimiento hasta su consolidación como institución y analiza cómo estos procesos contribuyeron en su estructuración actual dentro del enfoque de “Una salud”.

#### ***Evidencia y prácticas veterinarias en las sociedades antiguas***

La estrecha relación entre los animales y los humanos se remonta a más de 10,000 años a. C., cuando se iniciaron las primeras prácticas agrícolas y la cría pastoril, al surgir la necesidad de convertir a ciertas especies de presas, en animales domesticados de importancia económica. Algunos ejemplos son los bovinos en Anatolia alrededor del 8,000 a. C., los cerdos en Europa, Persia, África y China hacia el 6,500 a. C. y los equinos al norte de Rusia en el 5,000 a. C. (Monina, 2022; Visintin, 2019). Si bien algunos relatos sugieren eventos aislados de intervención humana en beneficio de la salud o la supervivencia de sus animales, el momento exacto en que surgió la figura del médico veterinario, incluso como una labor informal, sigue siendo incierto (Visintin, 2019).

A modo de ejemplo, Binois (2015) relata que durante unas excavaciones en Tétéghem, en el norte de Francia, unos arqueólogos descubrieron un pozo que contenía los esqueletos de una vaca y su cría, fallecidos a causa de un parto distócico. Estos restos fueron datados cronológicamente a finales de la Edad Media, entre el fin del siglo XIV y principios del siglo XV. Lo notable de este hallazgo es que los restos mostraban evidencias de intervención humana tanto durante, como después del intento de parto, lo cual evidencia un esfuerzo fallido por

extraer de manera forzada al ternero, lo que resultó en la muerte de ambos animales. Según el autor, esto sugiere que, pese a la falta de conocimiento médico y obstétrico, existía la necesidad de los habitantes de la época de brindar cuidados a sus animales, al denotar no solo la relación entre pastores y su ganado, sino también las actitudes, el conocimiento, los tratamientos e intervenciones de esos tiempos.

De manera similar, Visintin (2019) menciona el caso de unas pinturas encontradas en una tumba en Saqqara, Menfis, la antigua capital de Egipto, donde se representa nuevamente una situación de asistencia obstétrica hacia el ganado bovino. Dichas ilustraciones se exhiben actualmente en el Instituto de Egiptología en Múnich, Alemania. Tanto Visintin (2019) como Binois (2015) describen cómo, a través de diversos estudios arqueológicos, textos e iconografías, se ha descrito la manera en que las sociedades en la antigüedad trataban las enfermedades y lesiones de los animales, lo cual resolvían de forma muy empírica al basarse en la observación y la experiencia práctica que era transmitida de generación en generación.

Binois (2015) y Visintin (2019) señalan que la evidencia histórica anterior a la era moderna es escasa, especialmente en el caso de animales distintos al bovino o al caballo. Estas dos especies han tenido una relación estrecha y una relevancia fundamental para la humanidad durante más de 8 mil años, ya que se han utilizado como fuente de alimento, para labores de carga y tracción, como medio de transporte en épocas de guerra, para generar calor mediante la quema de sus excrementos secos y como vestimenta a partir de sus pieles. Este vínculo sugiere que la Medicina Veterinaria pudo haber surgido de la necesidad de criar, cuidar, tratar y alimentar a los animales domesticados que acompañaban a las primeras civilizaciones humanas, lo que eventualmente llevó al interés por su salud y al tratamiento de enfermedades, aunque estas prácticas fueran rudimentarias en sus inicios.

Por otro lado, pese a la existencia de textos antiguos de autores romanos, como Columela o Vegetius, que describen tratados sobre enfermedades que aquejan a los animales, la realidad es que sus menciones son breves y ambiguas y, su aplicabilidad práctica, así como su uso cotidiano en la época, son desconocidas (Binois, 2015). Por su parte, Lucio Junio Columela, en Los doce libros de agricultura, utilizó por primera vez la palabra “veterinario” para referirse a quienes curaban las enfermedades de los animales, especialmente en ovejas y bovinos

utilizados para carne y pastoreo, lo cual marca un precedente en la historia (Carvajal, 2014). Aun así, la información relacionada con las prácticas veterinarias de la Edad Antigua o de la Edad Media es limitada, y más en las sociedades prehistóricas de las cuales existe un desconocimiento absoluto. Esto evidencia un vacío histórico para proporcionar un dato fidedigno de los comienzos y orígenes de la medicina veterinaria.

### ***Desarrollo del conocimiento médico veterinario desde la Edad Media hasta la fundación de la primera institución profesional***

Hacia la Edad Media, filósofos como Hipócrates y Aristóteles escribieron extensas obras sobre historia natural, donde discutieron conceptos importantes en relación con diversas patologías y lesiones padecidas por los animales (Carvajal, 2014). También incluyeron descripciones anatómicas y fisiológicas basadas en los estudios biológicos que realizaron sobre distintas partes del cuerpo animal, así como procedimientos quirúrgicos y de asistencia médica dirigida a diversas especies animales. Asimismo, el *Ars Veterinaria* de Pelagonio, escrito en latín, a mediados del siglo IV d. C., describe aspectos básicos de la medicina veterinaria aplicada en caballos (Barroux, 2011). Estas obras muestran un conocimiento incipiente en torno a la salud y la enfermedad de los animales domésticos y silvestres. Incluso, en muchos de esos textos, los autores ya relacionaban y describían el rol de ciertos animales, como las ratas, en la transmisión de enfermedades epidémicas. Esta documentación, estableció muchas de las bases que después fueron utilizadas para sistematizar el conocimiento veterinario.

Hacia el final de la Edad Media y el inicio del Renacimiento, la medicina veterinaria comenzó a adquirir una estructura más formal, pero la profesión tal y como se conoce en la actualidad no se instauró sino hasta 1761, cuando Claude Bourgelat fundó la primera escuela de medicina veterinaria del mundo llamada Escuela Real de Veterinaria de Lyon, ubicada en Francia (Barroux, 2011). El autor añade que, posteriormente en el mismo país, se crearon la Escuela de Medicina Veterinaria Real de Alfort en 1776 y la Escuela Veterinaria de Tolouse en 1825, crecimiento que se basó en la comprensión de que la responsabilidad de un médico veterinario trasciende a la salud animal e implica además el cuidado de la salud pública. La fundación de instituciones de educación veterinaria formales y estructuradas jurídica y administrativamente contribuyeron a la dignificación de la profesión, la

cual frecuentemente era desacreditada por profesionales en medicina humana debido a la tendencia de ver a los animales como pacientes inferiores.

De manera gradual, la sociedad comenzó a reconocer la importancia del médico veterinario como profesional de la salud, al destacar su capacidad para identificar, diagnosticar, tratar, prevenir y erradicar diversas enfermedades que afectan tanto a las poblaciones animales como humanas. Estas afecciones, conocidas hoy como *enfermedades zoonóticas*, son aquellas transmisibles entre animales y personas, por lo que estas funciones se consolidaron como eje central de la labor y ética profesional del médico veterinario (Carvajal, 2014).

### ***Desarrollo de la medicina veterinaria en la era contemporánea y su enfoque actual hacia la perspectiva de “Una salud”***

A partir de la Edad Contemporánea, se generó una expansión de la educación médico-veterinaria, por lo que se fundaron numerosas facultades en diferentes partes del mundo. Esto produjo una mayor especialización de la profesión. Rivera (2009) proporciona ejemplos de las primeras escuelas en establecerse en América, como la Escuela de Medicina Veterinaria de Nueva York en 1846, la Escuela de Veterinaria de México en 1853, la de Boston en 1883, la Facultad de Medicina Veterinaria de Bogotá en 1884, la de La Habana en 1907, entre otras. Además, en 1924, se crearon instituciones internacionales como la Oficina Internacional de Epizootias (IOE), que en 2003 pasó a llamarse Organización Mundial de Sanidad Animal, pero conservando su acrónimo OIE; y asociaciones como la Asociación Mundial de Veterinarios (WVA, por sus siglas en inglés) en el 2002, al demostrarse un interés global por la salud animal y sus implicaciones.

En Costa Rica, la Universidad Nacional (UNA) creó la primera Escuela de Medicina Veterinaria del país en 1973 en la ciudad de Heredia (Castro *et al.*, 2022). Seguidamente, en 1999, se fundó la Escuela de Medicina Veterinaria San Francisco de Asís en Vásquez de Coronado, San José, perteneciente a la Universidad Veritas (World Organization for Animal Health, 2015). Más recientemente, en el 2018, la Universidad Técnica Nacional (UTN) comenzó a formar médicos veterinarios en Atenas, Alajuela (Universidad Técnica Nacional, 2024). Esta evolución y expansión de la medicina veterinaria fue posible gracias a los avances en la comprensión de las enfermedades y padecimientos de los animales, el aumento en las herramientas, equipos y técnicas diagnósticas, así como en los tratamientos médicos, quirúrgicos y farmacológicos

disponibles, y su aplicación para la prevención de lesiones y afecciones en los animales. Además, se vio impulsada por el desarrollo de una cultura social más preocupada por la salud y el bienestar de las mascotas, animales silvestres y de producción.

Actualmente, los movimientos en torno a la salud mundial se centran en el concepto de “Una salud” (*One Health* en inglés). Esta estrategia se basa en la generación de políticas a nivel global, que buscan promocionar la salud pública desde un enfoque multidisciplinario, en el cual convergen la medicina humana, las ciencias ambientales, la disponibilidad de recursos hídricos potables y alimentos seguros, el manejo de la resistencia antimicrobiana y por supuesto, el rol del médico veterinario en el control de la reemergencia y propagación de enfermedades zoonóticas (Zunino, 2018). En este nuevo contexto, el médico veterinario requiere de una formación integral y sólidos conocimientos con fundamentos científicos, que le aporten la capacidad de analizar aquellos problemas que van más allá de las habilidades técnicas enseñadas en las facultades, con el fin de diversificar los entornos en los que participa y poder así abordar y resolver los problemas emergentes.

### **Medicina veterinaria en la Universidad Nacional de Costa Rica**

A continuación, se abordarán los aspectos relacionados con la fundación y la visión de la Escuela de Medicina Veterinaria de la Universidad Nacional de Costa Rica (UNA), al mencionar algunos elementos vinculados con su entorno académico. Asimismo, se profundizará en el perfil de salida de la persona médico-veterinaria en función de las expectativas y exigencias que la sociedad costarricense y el entorno laboral espera sobre estos profesionales.

#### ***Fundación y visión inicial***

Desde su creación, la UNA mostró interés y compromiso con la salud animal, al fundar en 1973 la Escuela de Medicina Veterinaria (EMV), misma que se ha consolidado a través de los años como un referente en la formación de profesionales altamente capacitados. Su constitución, respondió a la creciente demanda de médicos veterinarios en los años 70 en Costa Rica, época en la que la formación dependía de la capacidad económica de las familias para enviar a sus hijos a estudiar en el extranjero (Castro *et al.*, 2022).

Por otro lado, la EMV tiene una importante participación en múltiples proyectos de investigación y de extensión, los cuales complementa con su enfoque de carácter social. Lo anterior resulta ser sumamente importante al ejecutar múltiples programas de ayuda y atención a una gran cantidad de comunidades desfavorecidas en diferentes sectores del país, entre ellas, pueblos indígenas y poblaciones en estado de vulnerabilidad. De acuerdo con Rodríguez *et al.* (2012), esta labor viene desarrollándose desde 1994 por parte de los académicos y estudiantes de la EMV, pues consideran que el brindar prevención, tratamiento y bienestar a los animales de compañía y de consumo de estas comunidades, contribuye a la reducción e incluso eliminación de brotes de enfermedades, protegiendo así la salud pública. Lo anterior refleja el enfoque holístico, integral y de carácter social en la formación profesional que esta institución fomenta en el estudiantado.

### ***Calidad académica y entornos de aplicación práctica***

Desde su origen, la EMV se ha distinguido por su compromiso con la excelencia académica e innovación en la formación de su alumnado. Esto se refleja en su plan de estudios y posicionamiento a nivel nacional e internacional. Su enfoque educativo combina la teoría y la práctica para propiciar un aprendizaje significativo e integral, y para ello cuenta con múltiples áreas de aplicación como los Hospitales de Especies Menores y Silvestres, de Especies Mayores y Equinos, y diversos laboratorios, que ofrecen servicios no solo a sus hospitales, sino también a otros laboratorios, centros veterinarios, productores y propietarios de mascotas (Castro *et al.*, 2022). Sumado a esto, dispone de instalaciones altamente tecnificadas, demostrando su compromiso con la innovación y la capacitación del estudiantado en nuevas tecnologías, métodos diagnósticos y de tratamiento.

De acuerdo con Castro *et al.* (2022) el plan de estudios de la EMV desarrollado por la Comisión de Diseño Curricular de esta unidad académica, ofrece una formación completa, equilibrada y progresiva que “está enmarcada en concepciones y corrientes pedagógicas socio constructivistas y constructivistas, ya que concentra los elementos curriculares con una orientación hacia la transformación social” (p. 15). Por eso, sus asignaturas abarcan desde lo básico (biología, química, anatomía, histología, fisiología, microbiología, entre otros) hasta lo avanzado (patología, cirugía, medicina interna, anestesiología, farmacología, toxicología, entre otros), e incluyen prácticas pertinentes, éticas y aplicadas al conocimiento proporcionado desde el primer semestre.

De forma complementaria, ofrece actividades de extensión curricular, como cursos optativos, prácticas, giras y programas de trabajo social. Este enfoque multidisciplinario garantiza que los estudiantes adquieran bases teóricas sólidas y habilidades técnicas y ejecutorias esenciales para diagnosticar y tratar diversas afecciones en los animales, al aplicar sus conocimientos a los escenarios reales en su futuro profesional. Asimismo, para la EMV la investigación es un pilar fundamental, por lo que promueve activamente proyectos investigativos a lo largo de los cursos de grado y en los trabajos finales de graduación a través de tesis y pasantías, tanto a nivel nacional como internacional (Castro *et al.*, 2022).

### ***Perfil de salida del estudiante y expectativas profesionales***

De acuerdo con Castro *et al.* (2022), el médico veterinario egresado de la EMV posee una formación sólida, tanto de la parte teórica como de la práctica o ejecutoria, que le permite desempeñar las diversas tareas que son características de su profesión. Esto abarca desde aspectos relacionados con la medicina y la salud animal, la producción animal sostenible, la inocuidad de alimentos de origen animal, y la salud pública, hasta procedimientos tales como cirugías, realización de anestias, elección, dosificación, prescripción y aplicación de fármacos. Incluye también el uso de herramientas laboratoriales, equipos médicos y tecnologías para el diagnóstico de diversas patologías en múltiples especies, conocimiento de la legislación en materia animal y procedimientos regulatorios de instituciones como el Colegio de Médicos Veterinarios y el SENASA (Servicio de Salud Animal), entre muchos otros que se detallan en el plan de estudios de esta licenciatura.

Castro *et al.* (2022) añaden que los graduados manejarán aspectos relacionados con la morfología, el funcionamiento celular, el desarrollo embrionario, el comportamiento animal, los procesos de salud y enfermedad, la reproducción, las respuestas inmunológicas, los agentes parasitarios y microbianos así como sus ciclos biológicos y de infección, la bioseguridad, la asepsia y antisepsia, la nutrición animal, la bioética, los distintos abordajes, manipulación correcta y segura de las principales especies animales con las que trabajará (equinos, porcinos, bovinos, caprinos, ovinos, caninos, felinos, roedores, conejos, erizos, e incluso fauna silvestre), los procesos anestésicos, quirúrgicos, farmacológicos, las diversas técnicas diagnósticas y de procesamiento de muestras, entre otros. Por si fuera poco, el estudiantado, al finalizar su

esquema académico, deberá desarrollar una serie de actitudes y aptitudes que le permita desenvolverse con confianza, calidad, liderazgo y ética profesional en la amplia diversidad de campos de acción en los que puede ejercer como médico veterinario.

Por su parte, la Ley del Colegio de Profesionales en Medicina Veterinaria de Costa Rica número 3455 (1964) establece en el artículo 6 que, “Serán consideradas funciones Médico Veterinarias todas aquellas que traten o se relacionen con la Medicina, Cirugía, Patología, Profilaxis, Microbiología, Salud Pública Veterinaria y Zoonosis” (p. 3). Por eso, los procesos de enseñanza son tan importantes, pues influyen directamente en el aprendizaje de las personas estudiantes, quienes deben comprender y dominar una gran cantidad de conocimientos y habilidades al momento de graduarse. Si los métodos y herramientas de aprendizaje no son adecuados, el desarrollo óptimo de competencias puede verse afectado. De ahí la importancia y responsabilidad que tienen los docentes en el desarrollo académico del estudiantado.

### **Problemática y desafíos de los entornos educativos de la medicina veterinaria en la educación superior**

Este apartado abordará los desafíos que enfrentan las instituciones de educación superior en Costa Rica para incorporar a nuevos docentes dentro de su oferta académica, así como la problemática vinculada a su falta de formación pedagógica, factor que impacta negativamente en la calidad educativa. Asimismo, se expone una realidad relacionada con la sobrecarga de funciones impuesta sobre el personal docente.

#### ***Incorporación de nuevos docentes en las universidades costarricenses: un desafío para la oferta académica en la Medicina Veterinaria***

La excelencia pedagógica del profesorado universitario, es un pilar indiscutible de la calidad formativa de la institución. Según Mendoza-Bravo *et al.* (2023) el docente es quien tiene la capacidad y la responsabilidad de “impulsar el desarrollo de las competencias y habilidades necesarias en los estudiantes” (p. 190). Sin embargo, el agravante está cuando se prioriza la formación profesional del docente médico-veterinario relacionándola con su ámbito de expertise clínico, quirúrgico o investigativo, por encima de su preparación pedagógica. Arteaga *et al.* (2018) añaden que esta situación podría restarle capacidad de respuesta y adaptabilidad al profesorado ante “las complejas realidades académicas formativas y psicosociales que enfrentan los

docentes en las aulas” (p. 79) y, por tanto, destaca la importancia de la preparación pedagógica por parte de la persona docente universitaria; condición por la que debería velar la propia institución educativa contratante.

Arteaga *et al.* (2018) explican además que, en Cuba, uno de los mayores desafíos que enfrenta la educación superior a nivel de la enseñanza de la medicina veterinaria, es la escasez de docentes y la necesidad de dirigir muchos recursos a su capacitación, para promover un desempeño más efectivo en términos de significancia educativa. Esto está en consideración de las exigencias anteriormente mencionadas del perfil profesional de salida y por tratarse de un área expuesta a constante transformación y aumento masivo de información técnica y científica. Dicha realidad existente también en Costa Rica, y se suma el inconveniente de que la docencia no suele ser un nicho de particular interés para la mayoría de los profesionales egresados.

Sumado a esto, existen otros factores que afectan la disponibilidad de docentes médico-veterinarios, y son las políticas de contratación que posee el centro educativo. Por ejemplo, la EMV está enfrentando una mayor dificultad para integrar nuevos educadores debido a la implementación de los recientes perfiles docentes de contratación universitaria, pues según el inciso 2 del artículo 13 del *Reglamento de Contratación Laboral para el Personal Académico de la Universidad Nacional*, “el grado académico del personal académico por contratar será mínimo de posgrado. El grado académico deberá estar debidamente reconocido y equiparado...” (Acuerdo UNA-SCU-ACUE-369-2024, 2024, p. 8). Este criterio no solo comprometió, en su momento, la permanencia del profesorado existente, sino que ahora limita también el número de potenciales postulantes que cumplen con los requisitos, lo cual restringe aún más las opciones de incorporación de personal calificado fuera de la actual fuerza laboral.

Como resultado, las personas médico-veterinarias interesadas en la docencia, pero sin estudios de postgrado, no pueden concursar por posiciones académicas, y a la vez, existe una necesidad por ocupar las plazas disponibles a la brevedad posible. En relación con esto, la Tabla 1 detalla la variedad de perfiles docentes que a noviembre del 2024 se solicitan en la bolsa de empleo de la EMV para completar ocho plazas vacantes a nivel académico.

**Tabla 1**

*Ofertas laborales del sector académico de la EMV-UNA en noviembre del 2024*

<b>Perfil</b>	<b>Nombre</b>	<b>Área disciplinar o temática</b>
Perfil 1	Ciencias Biomédicas veterinarias (Anatomía, Zoología, Histología, Embriología, Fisiología, Biología celular, Inmunología, farmacología)	Anatomía, histología, embriología, fisiología, biología celular, inmunología, farmacología veterinaria.
Perfil 2	Ciencias básicas veterinarias	Zoología, Bioquímica, Genética, Bioestadística, Bioinformática, Epidemiología.
Perfil 3	Producción, reproducción y nutrición animal.	Producción, Ginecología, Obstetricia, Andrología, Biotecnología de la reproducción, Nutrición animal, Inspección e Inocuidad de alimentos (cerdos, bovinos, aves, otras especies).
Perfil 4	Patología.	Patología veterinaria y patología aviar
Perfil 5	Microbiología y toxicología.	Bacteriología, virología, micología, parasitología, análisis clínicos, toxicología clínica.
Perfil 6	Clínica, medicina y cirugía.	Clínica, medicina, cirugía (porcinos, bovinos, equinos, pequeños rumiantes, pequeñas especies, exóticas y silvestres).
Perfil 7	Especialidades médicas veterinarias	Imágenes médicas, gastroenterología, urgencias en especies de compañía.
Perfil 8	Especialidades asociadas a la Medicina Veterinaria.	Comportamiento animal, Administración de empresas veterinarias, Bioética, gestión integral del riesgo

*Nota:* Datos tomados de la Bolsa de Oferentes Académicos de la UNA en noviembre del 2024.

Dado que la amplia diversidad de perfiles disponibles parece abarcar la mayoría de las áreas del currículo (desde asignaturas teóricas como anatomía y bioquímica, hasta especialidades médicas y quirúrgicas avanzadas), se presume que existe una apremiante necesidad de personal docente. Esta situación podría llevar a priorizar perfiles de médicos veterinarios con experiencia técnica en el área de interés, pero sin formación específica en docencia, siempre que cumplan con los requisitos académicos establecidos para garantizar la incorporación oportuna de profesionales en las áreas ofertadas. Adicionalmente, aunque el perfil de selección está orientado hacia la docencia, no se observa la mención de algún requisito relacionado con un grado académico o formación certificada en pedagogía, debido a

que, al menos en la Universidad Nacional, el *Reglamento de Contratación Laboral para el Personal Académico* de dicha institución no contempla una cláusula que establezca como requisito el poseer una formación en pedagogía universitaria para aplicar por un puesto como docente (Acuerdo UNA-SCU-ACUE-369-2024, 2024).

En este sentido, Figueroa (2018), Isaza (2022) y Moscoso y Hernández (2015) señalan que, en general, existe una tendencia a dar mayor relevancia al conocimiento técnico, las habilidades investigativas y la experiencia profesional, relegando la formación pedagógica a un segundo plano, lo cual refleja un enfoque centrado principalmente en el perfil técnico y profesional del médico veterinario, más que en la preparación específica de los procesos de enseñanza y aprendizaje. No obstante, la Universidad Nacional a través del artículo número 14 del mencionado *Reglamento de Contratación Laboral para el Personal Académico de la Universidad Nacional* (Acuerdo UNA-SCU-ACUE-369-2024, 2024) establece la obligatoriedad de parte del personal académico contratado a recibir capacitación pedagógica durante el primer año laboral.

Adicionalmente, el artículo 5, inciso 2 del Acuerdo UNA-SCU-ACUE-369-2024 (2024) establece que el personal académico debe “participar activamente de los procesos de capacitación y formación permanente” (p. 7). Si bien esta disposición refleja el compromiso de la Universidad Nacional con la actualización profesional de su cuerpo docente, resulta limitado en su alcance al no especificar que dichas capacitaciones incluyan formación pedagógica. Esta omisión podría generar un enfoque desequilibrado, donde el docente decida priorizar su especialización técnica sobre las competencias didácticas, porque, si bien se promueve explícitamente la capacitación en pedagogía al integrar nuevos docentes, no se establece con igual claridad la obligatoriedad de continuar desarrollándose en esta área.

A pesar de las limitaciones mencionadas, es importante señalar que, excepto por el caso de la Universidad Nacional, no se dispone de información relacionada con los requisitos o el perfil de contratación del personal académico en las otras dos instituciones que ofrecen la carrera de medicina veterinaria en el país (la Universidad Técnica Nacional y la Escuela San Francisco de Asís), razón por la cual se desconoce si dichos centros educativos exigen conocimientos en pedagogía universitaria para la contratación de personal docente o si, al igual que la UNA, cuentan con un ente encargado de coordinar la capacitación pedagógica del profesorado actual y futuro.

### ***Impacto de la falta de formación pedagógica por parte de los docentes, en la calidad educativa y en el desarrollo de competencias del estudiantado***

De acuerdo con Encinas *et al.* (2015) e Isaza (2022), la situación de no exigir que el profesorado universitario posea alguna titulación o capacitación específica en pedagogía para acceder a cargos de enseñanza superior, no es reciente, por lo cual es necesario hacer reflexión y discusión sobre la importancia de que las personas dedicadas a la docencia cuenten con formación pedagógica. Moscoso y Hernández (2015) mencionan que la mayor parte del profesorado en el Ecuador posee una buena preparación a nivel profesional dentro de sus respectivas áreas de expertise disciplinar; sin embargo, dentro del ámbito educativo, sus conocimientos son insuficientes en didáctica, lo cual genera dificultades para la formulación de objetivos de aprendizaje, la selección de metodologías y actividades de enseñanza adecuadas, la elaboración y uso de materiales y medios para apoyar los procesos de asimilación del estudiantado, y la aplicación de formas de evaluación más diversas, por lo que usualmente basan su accionar en la intuición y el empirismo o replican las actitudes y los métodos que han heredado de sus propios profesores.

Debido a la situación anteriormente descrita, Isaza (2022) hace hincapié en que, actualmente existe una presión y exigencia hacia la persona docente para que desarrolle y aplique conocimientos pedagógicos con el fin de generar un impacto positivo en el estudiantado. Ríos (2021) menciona además, que es responsabilidad de las instituciones de educación superior el asumir el rol activo, constante y consciente hacia la formación pedagógica de su personal docente en ejercicio. Esto, por ejemplo, está ocurriendo actualmente dentro de los sistemas universitarios europeos, pues según Encinas *et al.* (2015), en España, se decretó, en pro de la mejora de la calidad de la formación educativa, que todo el personal docente en instituciones de educación superior, a partir del año 2020, debe contar con capacitación pedagógica certificada y continua como condición para su contratación.

En el caso de Costa Rica, algunas instituciones universitarias, como la Universidad Nacional, han implementado estrategias para abordar la falta de preparación pedagógica en su cuerpo docente. Un ejemplo de ello es, como se mencionó en la sección anterior, el artículo 14 del *Reglamento de Contratación Laboral para el Personal Académico*, el cual establece que:

El personal académico contratado en la Universidad deberá obligatoriamente recibir en el primer año de su contratación, capacitación pertinente y apropiada en pedagogía universitaria. Corresponderá a la Vicerrectoría de Docencia establecer el procedimiento y la coordinación necesaria para su ejecución. (Acuerdo UNA-SCU-ACUE-369-2024, 2024, p. 9)

Sin embargo, Ríos (2021) menciona que persiste la necesidad de lineamientos más integrales que promuevan una capacitación dinámica, permanente y específicamente en las áreas de pedagogía y didáctica, en los cuales se incluya la presentación de evidencias ante las unidades académicas correspondientes para garantizar que los docentes participen activamente en estos procesos formativos. Añade también que el Consejo Académico de la Universidad Nacional (CONSACA), desde el 2004, aprobó la propuesta del establecimiento de una política institucional de certificación pedagógica universitaria, sin embargo y a pesar de que desde el 2016 está incluida dentro del plan de mediano plazo para ser institucionalizada, en este momento aún no se ha ejecutado.

Por otro lado, dentro del profesorado, es frecuente la preferencia de estudios de postgrado relacionados con su área profesional por encima del área pedagógica, esto por ejemplo se evidencia dentro de la carrera de medicina veterinaria de la UNA al analizar el perfil curricular de su actual cuerpo docente, pues en el plan de estudios presentado por la Comisión de Diseño Curricular en el 2021, hay una lista de su cuerpo docente, el cual está compuesto por 28 académicos propietarios y 13 interinos con sus respectivas titulaciones, y a pesar de que muchos cuentan con puestos académicos en periodos que incluso superan los 40 años, solamente se identifica una profesora con una titulación vinculada a la pedagogía universitaria (Castro *et al.*, 2022). Esto es alarmante, sobre todo al considerar que la Universidad Nacional cuenta con una maestría en modalidad semipresencial de Educación con Énfasis en Pedagogía Universitaria, que está disponible y resulta muy accesible para sus académicos, con una estructura curricular flexible y que fomenta estrategias de enseñanza y aprendizaje reales con reflexión y transformación de la praxis docente (Ríos, 2021).

Es importante destacar que, la Universidad Nacional es un centro educativo de reconocida trayectoria y transparencia, lo cual se refleja en la accesibilidad de la información relacionada con sus funcionarios y acuerdos, disponibles públicamente en la red. Este nivel de acceso

contrasta con los otros dos centros educativos que imparten la carrera de Medicina Veterinaria en Costa Rica, donde dicha información no está igualmente disponible. Por esta razón, el análisis de la problemática nacional se ejemplifica a través de las circunstancias de la Universidad Nacional, ya que no se cuenta con datos suficientes sobre las políticas de contratación, los procesos de formación o los requisitos pedagógicos exigidos en estas otras instituciones.

Sin embargo, la información que proveen diversos autores desde otras latitudes, como Mendoza-Bravo *et al.* (2023), exponen que según los resultados de una encuesta que realizaron a médicos veterinarios de un sector educativo en el Distrito de Bolívar, Ecuador, ninguno poseía un título en educación, y además solo el 50 % afirmó haber participado de cursos de capacitación relacionados con la pedagogía. Esto mismo es mencionado por Sandoval *et al.* (2022), quienes indican que, según su investigación, en el nivel de los Institutos Superiores Técnicos y Tecnológicos de Ecuador, ningún docente poseía formación en pedagogía y que, los pocos conocimientos que poseían eran adquiridos por medio de educación cortoplacista o lograda a través de procesos de educación continua y, por tanto, sus procesos de enseñanza dentro de las aulas eran limitados.

Retomando el caso de Costa Rica, el objetivo de exponer esta realidad no es criticar las políticas ni los requisitos de contratación existentes, sino contextualizar los factores que han conducido a la limitada presencia de formación pedagógica formal entre los académicos encargados de formar a futuros médicos veterinarios. Según Mendoza-Bravo *et al.* (2023), la educación implica un proceso mediante el cual se impulsa el conocimiento, las destrezas y las habilidades en entornos formales; por lo tanto, la falta de una estructura, didáctica y concepciones pedagógicas sólidas y actualizadas puede dificultar que los estudiantes desarrollen plenamente las competencias necesarias para enfrentar los desafíos profesionales actuales.

En este escenario, los docentes, al carecer de herramientas para implementar estrategias de enseñanza efectivas y adaptadas, podrían recurrir a enfoques jerárquicos y métodos evaluativos que no necesariamente favorecen un aprendizaje significativo ni una formación integral. Como resultado, se limita el desarrollo de conocimientos y habilidades críticas en el alumnado, quienes requieren de una preparación holística y basada en competencias para responder a las crecientes exigencias del contexto laboral actual (Moscoso y Hernández, 2015). Por eso, Encinas *et al.* (2015) destacan que un camino poco reglado

y autodirigido por parte del profesorado universitario para ejercer la enseñanza superior, genera incapacidad para afrontar la continua y necesaria actualización que se requiere ante “los cambios tecnológicos, metodológicos y estructurales de la educación superior” (p. 53), por lo que es responsabilidad de las instituciones contratantes el garantizar la calidad de su personal docente universitario a través de actividades formativas, estrategias de cualificación, sistemas de evaluación de las competencias docentes y la implementación de programas de formación certificada.

### ***Desafíos en la implementación y actualización del currículo en la educación médico-veterinaria***

De acuerdo con Isaza (2022), la reestructuración del plan de estudios para adaptarlo a los requerimientos y las necesidades actuales, está motivada por una integración curricular en pro de la mejora de los procesos de formación, y una optimización de las estrategias didácticas. Los enfoques de enseñanza actuales están orientados a otorgarle al estudiantado un rol activo sobre su propio proceso formativo, al ser por tanto necesario dejar de aplicar metodologías magistrales y tradicionales en la educación. A pesar de esto, en muchas carreras, sobre todo aquellas del área de la salud como la medicina veterinaria, se sigue manejando de forma prioritaria la enseñanza magistral (Londoño y Castaño, 2023).

Como ejemplo, se puede mencionar nuevamente lo que ocurre en la EMV, donde a pesar del rediseño curricular que se realizó en el plan de estudios en el 2022, se mantiene una estructura predominantemente magistral y un enfoque de evaluación fuertemente sumativo. Esto se ve reflejado en muchos de los programas de cursos de la carrera presentados por Castro *et al.* (2022), en donde con frecuencia se lee una leyenda similar a la siguiente: “En el componente de teoría el docente impartirá lecciones magistrales de cada tema enfatizando en la definición de los conceptos y su aplicación en el campo de la producción animal con énfasis en salud” (p. 62), en materias como fundamentos de química orgánica, bioestadística, genética, toxicología clínica veterinaria, enfermedades de las aves de producción, manejo y medicina de animales silvestres, historia natural de la fauna silvestre de Costa Rica, entre otros.

### ***Sobrecarga académica y exigencias hacia la docencia contemporánea***

La sobrecarga de trabajo del personal académico es una preocupación que aqueja a muchos docentes. Sobre esto, Londoño y Castaño (2023) indican que, entre otros aspectos, en Colombia, el profesorado está exigido a rendir apropiadamente en términos de evaluación, de preparación del material didáctico que orientará el aprendizaje, de desarrollo de estrategias para trabajar en equipo, en la implementación de diversos enfoques de aprendizaje y en el planteamiento de propuestas de enseñanza basadas en el estudiante. Por tanto, contar con la capacidad para brindar este tipo de acciones y acompañamientos, y además poseer la sensibilidad y la motivación para complementar las prácticas docentes con nuevas teorías y paradigmas con el fin de superar las prácticas tradicionales, puede representar para la persona docente una sobrecarga de exigencias a sus funciones dentro de la institución.

Dicha acumulación de responsabilidades, repercute tanto en el rendimiento como en el bienestar personal y profesional de quien educa, generando estrés y agotamiento emocional. En este sentido, es fundamental que las instituciones de educación superior implementen programas de apoyo, así como capacitaciones especializadas, cursos didácticos accesibles, conferencias, seminarios, jornadas expositivas y otros (Ríos, 2021) que en conjunto alivien esta sobrecarga y promuevan una adaptación progresiva hacia enfoques actualizados, centrados e innovadores de la didáctica y el aprendizaje activo del estudiantado.

### **Aspectos pedagógicos en la enseñanza y el aprendizaje de la medicina veterinaria**

Este apartado expone aspectos que se espera puedan mejorar la praxis pedagógica del personal docente que instruye a estudiantes de la carrera de medicina veterinaria. A su vez, se presentan una serie de estrategias y propuestas que buscan fortalecer y promover el crecimiento profesional dentro del ámbito educativo, para finalmente resaltar algunos paradigmas y enfoques formativos que podría implementar el profesorado.

#### ***Optimización de la formación pedagógica del personal docente***

Anteriormente, se mencionó que, uno de los desafíos que enfrentan los centros de enseñanza en medicina veterinaria de Costa Rica, es la falta de capacitación formal, constante, actualizada y certificada en su personal docente en términos de educación. Esto resalta la importancia y

la necesidad de implementar programas de capacitación continua en técnicas didácticas y metodológicas esenciales para la actualización de quien instruye, como los son cursos clásicos, jornadas académicas, seminarios y conferencias de temática pedagógica, y otras acordes con las últimas tendencias educativas, y que están centradas sobre todo en la experiencia y la reflexión como por ejemplo lo menciona Ríos (2021) “la investigación-acción, el intercambio de experiencias, talleres en grupos reducidos, entre otros” (p. 181).

Es imperativo, entonces, fomentar y apoyar la realización de estas capacitaciones e incluso los cursos de postgrado que ya las mismas instituciones ofertan, como es el caso de la Universidad Nacional con la ya mencionada Maestría en Educación con Énfasis en Pedagogía Universitaria, sobre todo porque su enfoque es muy pertinente y está muy alineado con el sistema formativo y los propósitos de enseñanza de la institución según el contexto nacional (Ríos, 2021). Por tanto, no hay razones para que los docentes no sigan relacionándose con las tendencias metodológicas educativas, las cuales como cualquier otra disciplina están en constante evolución, son dinámicas y se actualizan continuamente.

El exponerse a una capacitación para un aprendizaje más amplio y consciente de los aspectos educativos de la actualidad, sumado a los años de experiencia siendo docentes, tiene, por tanto, un impacto positivo y significativo en el mejoramiento del desempeño de sus futuras prácticas académicas, de la mano con una mayor adaptación, innovación, aplicación y uso de las tecnologías disponibles para los fines formativos. Este proceso finalmente beneficia tanto a la persona docente como al estudiantado al que instruye, y a la sociedad donde se desarrollan (Isaza, 2022). En este sentido, resulta imprescindible mantener una visión holística de los procesos formativos dentro de la educación de los futuros médicos veterinarios, quienes según Arteaga *et al.* (2018) e Isaza (2022), deben ajustarse a las necesidades de formación y a las demandas de aprendizaje del país, para que así puedan estimular apropiadamente el pensamiento crítico y la autonomía del estudiantado, realicen adecuados procesos de evaluación, integren estrategias didácticas pertinentes, entiendan las necesidades de las personas estudiantes y provean evidencias de desempeño ante la institución contratante.

### ***Estrategias para promover la formación docente en la enseñanza de la medicina veterinaria***

Según lo indican Mendoza-Bravo *et al.* (2023), resulta fundamental evitar que, por falta de recursos, se limiten las oportunidades de las personas educadoras para capacitarse y actualizarse en pro de la mejora de sus competencias pedagógicas, de manera que estas sean efectivas para los procesos de enseñanza que efectúan y, por tanto, potencien la calidad educativa. Por ello, dentro de las estrategias que se proponen, está el ofrecer mejoras salariales, ya que, para capacitarse en cualquier área, las personas docentes requieren, además de motivación y tiempo, una inversión económica (Isaza, 2022). Además, es sensato considerar que el incremento de las exigencias laborales debería estar acompañado de una mejora en las condiciones salariales del profesorado, lo cual no solo potencia la anuencia hacia una formación continua, sino que también representaría un insumo adicional para incursionar en estos estudios, promoviendo así una educación de mayor calidad.

A la vez, Mendoza-Bravo *et al.* (2023) destacan la importancia de asegurar una estabilidad laboral, lo cual es particularmente importante en los casos donde el personal docente no cuenta con nombramientos permanentes, porque en un entorno laboral sostenible, el profesorado puede concentrar sus esfuerzos en el desarrollo de sus habilidades pedagógicas sin temor de perder su posición en el corto plazo, e impulsando un compromiso de formación continua y de autorreflexión sobre la praxis docente, seguido del deseo de crecimiento continuo dentro del área de la didáctica, de manera que se les permite a quienes educan, mejorar el desempeño en beneficio propio y del estudiantado. Otra estrategia propuesta por Isaza (2022) es el desarrollo de un sistema de puntaje destinado para la persona docente, quien presentará constancia escrita de la asistencia y la cantidad de horas de actualización en temas pedagógicos, ya sea a través de talleres, cursos, seminarios, certámenes nacionales e internacionales, programas de desarrollo pedagógico docente, e incluso estudios de postgrado, presenciales o a través de una plataforma virtual con respaldo institucional.

A su vez, es importante destacar que es sumamente importante el asegurar y el fomentar la capacitación del profesorado universitario, lo cual es respaldado por Figueroa (2018), quien además añade que, para subsanar la problemática de la falta de preparación pedagógica de las

personas docentes, debe emplearse todos los recursos que sean necesarios en pro de su perfeccionamiento como académicos, proporcionándole formación pertinente, permanente, estructurada y con fundamentación científica para la adquisición y reestructuración de sus conocimientos, y para la aplicación de los mismos en su desempeño como docente, sobre todo considerando que este se trata de un eje formativo que deberá continuarse durante todo el tiempo que se ejerza la docencia. De este modo, será capaz de articular, como lo indica Isaza (2022) “su saber pedagógico, investigativo, disciplinar y profesional, y la autonomía en las estrategias utilizadas para la formación de los estudiantes” (p. 18).

### **Competencias docentes para la enseñanza en medicina veterinaria: paradigmas y enfoques formativos**

Existen numerosos enfoques formativos y paradigmas que describen las características esenciales que un docente universitario debe poseer para que su praxis sea efectiva. En la medicina veterinaria, estas condiciones no solo facilitan el aprendizaje de competencias técnicas en el estudiantado, al fortalecer sus habilidades críticas y éticas, sino que también al ser guiados por un profesorado que domina las teorías pedagógicas más fundamentales y es capaz de adaptar por ende sus métodos de enseñanza a las necesidades específicas de la disciplina, van a gozar de un ambiente de aprendizaje más significativo y participativo.

Dentro de este contexto, autores como Sandoval *et al.* (2022) mencionan que es imprescindible que las competencias que desarrollen los docentes incluyan “bases pedagógicas que vayan desde la planificación hasta la aplicación de metodologías y estrategias de enseñanza y aprendizaje, elaboración de recursos didácticos, así como de sistemas de evaluación de aprendizajes” (p. 17), al resaltar la complejidad del rol docente, quien requiere de preparación integral para responder a las necesidades de aprendizaje. La integración de estos elementos permite estructurar procesos educativos coherentes y promueve un aprendizaje significativo y adaptado a diferentes contextos sociales y características del estudiantado.

Según Sanmartí (2007), algunas estrategias promotoras de aprendizaje significativo son la evaluación formativa (que incorpora rúbricas claras y retroalimentación constante para comprender cómo mejorar), las actividades de autoevaluación y coevaluación (que fomentan la responsabilidad en los procesos de aprendizaje y provee

retroalimentación constructiva), el aprendizaje basado en problemas (ABP) (los problemas reales y contextualizados permiten la aplicación del conocimiento en situaciones prácticas, desarrollando habilidades de resolución), el trabajo en equipo y el aprendizaje colaborativo (en el cual se comparte perspectivas y se construye conocimiento en conjunto, al fortalecer la comprensión y el respeto por la diversidad de ideas) y los proyectos integradores que requieran de investigación y aplicación de conocimientos (los cuales conectan la teoría y la práctica al favorecer aprendizajes más profundos y duraderos). Dichas metodologías resultan muy pertinentes en el entorno educativo de la Medicina Veterinaria, al igual que la implementación de tecnologías digitales de información y comunicación (Rochin *et al.*, 2023).

Otro aspecto indispensable para desarrollar en las personas docentes, es la capacidad de responder ante las exigencias académicas que se presentan, al instruirlos con metodologías tales como el aprendizaje a través de competencias (Tobón, 2005), el pensamiento crítico (Freire, 2006), el ABP (Sanmartí, 2007), la formación aptitudinal, así como modelos teóricos tales como el personalista o humanista dirigido a la enseñanza de los procesos de relación interpersonal y desarrollo personal, el tradicional-artesanal basado en el proceso de ensayo-error, en el cual se aprende durante la práctica y finalmente, el paradigma crítico-reflexivo, con el cual busca la valoración de la propia práctica y su reconexión como docente (Figueroa, 2018).

Asimismo, Sandoval *et al.* (2022) caracterizan el perfil del profesional docente como competente cuando este posee la capacidad real y demostrada de aplicar pilares de la educación, representados por los elementos cognitivos, procedimentales, actitudinales y aptitudinales, al cumplir exitosamente las complejas exigencias que “implican la integración del saber (cognición), del saber hacer (praxis) y del saber actual (axiología)” (p. 18), al ser esto a su vez catalogado por Mancuso (2022), como la representación del ideal de la buena enseñanza. Dentro las cualidades y competencias que debe poseer el profesorado según la autora, destacan la ambición y la capacidad de abordar con complejidad los objetivos y metas planteadas. Esto se relaciona directamente con el fomento de un pensamiento crítico, creativo y el desarrollo de habilidades cognitivas profundas en el estudiantado. Sin embargo, solo será posible si el profesorado comprende su rol central en el proceso, al demostrar así que su impacto es determinante en el rendimiento académico del alumnado.

## Conclusión

La formación de las personas médico-veterinarias enfrenta múltiples desafíos que reflejan tanto los logros históricos como las limitaciones actuales de la educación superior. Por eso, a lo largo de este ensayo y de forma crítica, se ha demostrado que, aunque la medicina veterinaria ha evolucionado significativamente desde sus inicios como una disciplina basada en el empirismo hacia una profesión científica y estructurada, la enseñanza de esta carrera enfrenta profundas deficiencias en términos de praxis y pedagogía por parte del personal docente, debido a la dependencia de un modelo educativo que prioriza el conocimiento técnico sobre la preparación pedagógica, lo que no sólo ha generado un vacío que compromete la calidad de la enseñanza, sino que afecta tanto al estudiantado como a la sociedad que demanda profesionales con competencias integrales y éticas.

Los retos principales identificados incluyen la escasez de personal docente capacitado en pedagogía, la sobrecarga laboral y un marco normativo que, aunque bien intencionado, resulta insuficiente para garantizar la actualización continua y certificada de los educadores. Estas problemáticas no son exclusivas de Costa Rica, sino que se reflejan en otros contextos regionales y globales, como lo señalan Encinas *et al.* (2015) e Isaza (2022). Sin embargo, en la Universidad Nacional (UNA), estas limitaciones resultan particularmente relevantes, dado su prestigio y la disponibilidad de programas formativos en pedagogía universitaria, los cuales, aunque están diseñados para fortalecer competencias relacionadas con los procesos de enseñanza y aprendizaje, muestran evidencias de que su aprovechamiento no es completo.

Lo anterior se basa en que muchos docentes se siguen preparando en su área profesional, pero no tanto en las áreas pedagógicas, como se evidenció al mencionar que, en la EMV, entre sus más de 40 docentes, solamente una profesora posee un postgrado en educación universitaria, a pesar de que la propia institución ofrece capacitaciones e incluso maestrías en el área. Esto señala una oportunidad para incrementar la difusión, accesibilidad y obligatoriedad de la capacitación pedagógica entre el cuerpo académico. Asimismo, resulta evidente que la falta de formación pedagógica tiene importantes implicaciones para la calidad educativa, pues si las personas docentes no dominan las estrategias didácticas más innovadoras, tienden a perpetuar prácticas tradicionales, y a menudo obsoletas, lo cual limita el desarrollo de competencias críticas en el estudiantado.

Esto contrasta con las necesidades de aprendizaje significativo y contextualizado que requiere el médico-veterinario para resolver los problemas emergentes, por eso Mancuso (2022) señala que la educación basada en competencias no es solo una opción, sino una necesidad en la formación de los profesionales y Sanmartí (2007) menciona que las metodologías como el aprendizaje basado en problemas y la evaluación formativa son herramientas efectivas para fomentar el pensamiento crítico y la autonomía en el estudiantado. Además, estas estrategias deben complementarse con el uso de tecnologías educativas, que modernicen la enseñanza y amplíen las posibilidades de aprendizaje en contextos diversos.

Por tanto, y ante dichas deficiencias, las soluciones deben ser integrales y sostenibles, para lo cual es urgente que las instituciones de educación superior establezcan programas obligatorios y permanentes de formación pedagógica, como lo proponen Figueroa (2018) y Ríos (2021). Estas deben estar acompañados de la implementación de incentivos laborales que motiven al profesorado a priorizar su desarrollo pedagógico, ya sea mediante incrementos salariales o la estabilidad laboral, como sugieren Mendoza-Bravo *et al.* (2023). Este enfoque no solo fortalecería las competencias docentes, sino que también contribuirían a la retención de profesionales talentosos en el ámbito educativo.

De cara al futuro, es necesario crear una cultura institucional que valore la pedagogía como un pilar fundamental de la formación profesional, al reconocer que la excelencia técnica y la excelencia pedagógica no son mutuamente excluyentes, sino complementarias. Este cambio requiere de liderazgo institucional, políticas claras y una inversión estratégica en la capacitación docente, dado el rol del profesorado como agente de cambio y facilitador del aprendizaje.

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# Herramientas pedagógicas en Química General para facilitar la transición de la educación secundaria a la universitaria

Jose Omar Villarreal Valenciano<sup>1</sup>  
Universidad Nacional  
Costa Rica  
[jose.villarreal.valenciano@una.cr](mailto:jose.villarreal.valenciano@una.cr)

## Resumen

El presente ensayo examina el proceso de transición entre la educación secundaria y superior, la cual conlleva una serie de retos para los estudiantes que ingresan recientemente al ámbito universitario, específicamente en el caso de aquellos que se enfocan en carreras científicas como la química industrial. Para ello, se realiza una revisión bibliográfica que aborda las consideraciones relevantes para la mediación con estudiantes de primer año, seguida de un análisis de los principios pedagógicos fundamentales para la didáctica de la química, con el fin de mejorar la comprensión de distintos modelos y estrategias propias de la enseñanza de la disciplina, apoyada con distintas herramientas tecnológicas. Entre las principales conclusiones, se establecen una serie de consideraciones importantes para implementar los modelos descritos, junto con sugerencias para mejorar la adaptación de la población estudiantil al contexto universitario a través de la mediación docente.

**Palabras clave:** Adaptación estudiantil, consideraciones pedagógicas, didáctica de la química, herramientas tecnológicas, mediación docente.

## Abstract

This essay examines the transition process between secondary and higher education, which poses a series of challenges for students who are newly entering the university environment, specifically focusing on those pursuing scientific majors, such as Industrial Chemistry. To achieve this, a literature review is conducted addressing the relevant considerations for mediating with first-year students, followed by an analysis of the fundamental pedagogical principles for teaching chemistry, aiming to

1. Coordinador académico en el programa de enseñanza de la química, de la Escuela de Química de la Universidad Nacional de Costa Rica. Docente de biología en programas de educación abierta en el Ministerio de Educación Pública. Licenciado en Enseñanza de la Ciencias Exactas y Naturales. <https://orcid.org/0000-0002-9035-9919>

enhance the understanding of various models and strategies inherent to chemistry education supported by different technological tools. Among the main conclusions, a series of important considerations are established to implement the proposed strategies, along with suggestions to improve the adaptation of the student population to the university context through teaching mediation.

**Keywords:** chemistry teaching, pedagogical considerations, student adaptation, teacher mediation, technological tools

### Introducción

La transición de la enseñanza secundaria a la universitaria es un proceso que conlleva la adaptación a diferentes contextos, condiciones y factores tales como nuevas dinámicas de aprendizaje, modelos educativos, dinámicas de grupo y exigencias propias de la carrera universitaria que se cursa. Es por ello que los estudiantes de primer ingreso son una población con condiciones distintas a los estudiantes de niveles superiores también llamados estudiantes regulares, ya que, en ocasiones, las habilidades, destrezas y conocimientos que presentan son muy limitadas, y que a su vez crea una gran diversidad de necesidades educativas a afrontar en los cursos de primer ingreso (Valverde *et al.*, 2022).

Al analizar las investigaciones que se vinculan a los apoyos que se brindan a los estudiantes de primer ingreso, se plantean ideas que van desde la formación de programas de orientados a la guía personalizada hasta la promoción de actividades que faciliten la adaptación al entorno universitario. Por otra parte, se tienen propuestas dirigidas a áreas específicas tales como el apoyo social, la promoción de autonomía, el fortalecimiento del compromiso académico y la reducción de la deserción y el abandono mediante departamentos vinculados al éxito académico e integración de los estudiantes (López-Angulo *et al.*, 2021).

A pesar de existir ese tipo de apoyos, es común contar con estudiante de primer ingreso o niveles superiores que presentan problemas de autogestión del tiempo, dificultades para comprender textos académicos y mal manejo de emociones, lo cual deriva en distintos aspectos que conllevan a situaciones de estrés, y eventualmente podrían vincularse a la repitencia de los cursos. En consecuencia, las acciones que buscan auxiliar a los estudiantes se enfocan en actividades extracurriculares, mediadas por distintos departamentos que se enfocan

en actividades diagnósticas, para obtener información para la elaboración de talleres y toma de decisiones en materia de apoyo social.

En ocasiones, derivado de los diagnósticos, se implementan políticas curriculares de manera masiva, con la intención de brindar una mejor adaptación de los estudiantes, pero que no contemplan las características propias de las carreras que cursan los estudiantes. En este sentido, se tiene el caso de las carreras relacionadas con la química, las cuales se vinculan a áreas científicas como la biología, medicina, ingenierías y gestión ambiental; son todas carreras que se alimentan de la química general para la comprensión de conceptos propios de sus áreas del saber, y que por lo tanto necesitarían de estrategias propias de su didáctica y no unas generalizadas a toda la población estudiantil.

Dentro de este marco, la presente indagación se enfoca en brindar distintas herramientas pedagógicas a los docentes que imparten los cursos de química general a estudiantes de primer ingreso, con el objetivo de facilitar la adaptación de estos al entorno universitario y generar insumos que permeen el diseño curricular de la carrera de química industrial y afines. Para ello, se proponen distintas estrategias y consideraciones para fomentar el desarrollo académico de los estudiantes, las cuales se agrupan en cuatro grandes componentes, a saber, la comprensión del contexto del estudiante de primer ingreso, la descripción de conceptos básicos de la pedagogía universitaria y didáctica de la química, los modelos pedagógicos y estrategias pertinentes para la enseñanza de la química, y la integración de herramientas tecnológicas con estudiantes de primer ingreso.

## Desarrollo

La química general corresponde a una de las asignaturas básicas para todos los estudiantes de esta y de muchas otras carreras científicas, al tener grandes alcances en muchas profesiones vinculándose a sus hallazgos científicos y tecnológicos. Como señala Morales (2024, p. 34), esta

Se centra en el estudio de la estructura de la materia, las propiedades de las sustancias, las transformaciones químicas y las leyes que rigen los fenómenos químicos. Además, se resaltan las conexiones interdisciplinarias, dado que esta asignatura se relaciona estrechamente con muchas otras disciplinas científicas, entre las cuales figuran: la Física, la Biología y la Geología.

Es por ello, que como señala Yunga (2022), su enseñanza requiere de docentes que asuman un rol de facilitadores en la comprensión y

asimilación de los distintos principios científicos y la interpretación del mundo que los rodea.

En particular, la enseñanza de la química general se percibe por autores como Urquizo *et al.* (2022), como un desafío enrevesado que influye en la interpretación de los principios de la química en las futuras generaciones, dada la dificultad que presentan ciertas temáticas que implican el desarrollo de múltiples habilidades para la comprensión de conceptos abstractos y diversas relaciones matemáticas. Es por ello que, estos autores recalcan la importancia de utilizar distintas actividades didácticas que fomenten la interacción y motivación del estudiante, y emplear distintas herramientas que permitan personalizar el aprendizaje de los estudiantes de acuerdo con sus necesidades. Por lo tanto, a continuación, se detallan una serie de apartados que describen distintas estrategias, propuestas y herramientas a considerar para un adecuado abordaje de la química general en estudiantes de primer ingreso.

### ***Consideraciones para trabajar con estudiantes de primer año***

La estructuración y diseño de los cursos de primer ingreso en la enseñanza universitaria conlleva distintos desafíos, en especial cuando se trabaja con estudiantes de primer ingreso. Entre los principales, se destaca la carencia de un lenguaje tecnocientífico, operaciones matemáticas simples, lectoescritura y hasta la autogestión del tiempo. Otro tipo de desafíos corresponden a la percepción de la química como una ciencia abstracta, y de alta complejidad, lo cual dificulta la aplicación de la enseñanza tradicional; ya que muchos estudiantes no logran comprender los conceptos básicos, desarrollar adecuadamente sus habilidades tecnocientíficas, al estancar su progreso y aumentar su frustración (Espitia *et al.*, 2022).

Por esta razón autores López-Aguilar *et al.* (2023), en respuestas a esos desafíos, proponen la implementación de un diseño secuencial y escalonado, que en sus etapas finales implemente actividades estrechamente relacionadas a las labores a desempeñar como profesionales, que desafíen a los estudiantes y propongan soluciones a problemas reales. Un ejemplo corresponde a la aplicación de estrategias propias del aprendizaje experiencial, el cual se define como un modelo que brinda a los estudiantes la oportunidad de demostrar y desarrollar las competencias alcanzadas mediante experiencias vinculadas a contextos reales, al ser estrategias propias de este modelo el aprendizaje basado en retos, problemas o proyectos, la solución de estudios de caso, o bien la gamificación (Vera-Monroy y Monsalve-Silva, 2022).

Otra consideración por incorporar en los cursos de primer ingreso corresponde a la implementación de actividades que fomenten la participación, el trabajo en equipo y la emisión de opiniones de parte del estudiante, al ser estas actividades parte de objetivos de aprendizaje y criterios de evaluación claros, que en compañía de variados métodos de enseñanza, facilitan la adaptación del curso a las necesidades propias del contexto del curso. En este sentido, la inclusión de un diagnóstico durante la primera sesión de los cursos impartidos a estudiantes de primer ingreso cobra vital importancia, ya que mediante dicho instrumento se pueden explorar las necesidades, tipos de apoyo, contextos sociales y académicos en los que se desarrolla el estudiante y así establecer actividades apropiadas a sus condiciones individuales o colectivas (Carreño *et al.*, 2016).

En cuanto al rol que desempeña el docente que imparte los cursos iniciales de química, se recomienda que este se oriente hacia un guía del proceso de aprendizaje. Un primer paso en esa dirección corresponde a la implementación de sesiones de repaso de los contenidos, tutorías personalizadas y otros apoyos enfocados a técnicas de estudio (Carreño *et al.*, 2016). Además, el docente puede guiar a los estudiantes de manera efectiva, al establecer espacios de retroalimentación específica y constructiva sobre las técnicas de estudio que emplea el estudiante, y fomentar así habilidades vinculadas a la autoevaluación, la metacognición y mejorar el interés y la motivación intrínseca en el estudiantado, o bien instruir a estos para buscar el apoyo en otras instancias tales como departamentos de psicopedagogía, psicología o trabajo social (Hernández y Camargo, 2017).

En definitiva, la planificación de cursos iniciales para las carreras de ciencias exactas, como este caso, se ve permeado por múltiples aspectos que influyen a nivel curricular, en aspectos como el diseño, recolección y análisis de datos socioemocionales, y el establecimiento de una serie de estrategias didácticas que brinden una amplia gama de opciones para adaptarse de mejor manera a la transición colegio-universidad. Ahora bien, para incorporar las recomendaciones descritas con anterioridad, hay que considerar la dinámica, los desafíos y las cualidades propias de la enseñanza de la química, con el fin de establecer un mejor vínculo entre los objetivos de aprendizaje presentados en el programa del curso o bien aquellos derivados que el docente proponga.

### **Conceptos básicos de la pedagogía universitaria y didáctica de la química**

La enseñanza y el aprendizaje de una disciplina son un proceso que presenta características propias que sumadas a la falta de conocimiento por parte del estudiante; la motivación, la actitud y el estilo de aprendizaje de estos pueden complicar el proceso de aprendizaje de una disciplina. Por lo tanto, un buen diseño curricular parte de objetivos de aprendizaje claros, al ser entendidos como aquellas conductas, productos o acciones esperables de parte del estudiante, por lo que deben ser claramente entendidos por la población estudiantil. Los objetivos pueden ser clasificados de diferentes maneras, por ejemplo, Pinto (2001) los diferencia según su amplitud en generales o específicos, al considerar el grado de exigencia los divide en mínimo, obligatorios u optativos, o bien pueden ser genéticos y operativos al tomar en cuenta su formulación.

Aunado a ello, es importante que los objetivos sean presentados a los estudiantes de manera efectiva; es una recomendación establecida por Pinto (2001) el presentarlos mediante expresiones como "al final de esta actividad deberías ser capaz de" o "en esta actividad se espera que", lo cual favorece su comprensión y mejora la autorreflexión. Por consiguiente, para mejorar la mediación pedagógica, se recomienda colocar los objetivos en algún sitio visible dentro del espacio del aula (sea virtual o presencial), e ir marcando o borrando aquellos que se completando durante el avance de la lección, al brindar así un sentido de progresión al estudiante.

Una vez comprendido el concepto y tipos de objetivos, el siguiente concepto a analizar corresponde al método de enseñanza y el de aprendizaje. El primero es definido por Diosveldy y Marynoris (2017), como el camino, la secuencia de acciones, actividades o procesos que planifica el docente con la finalidad de alcanzar los objetivos de aprendizaje. Por otra parte, estos mismos autores definen el método de aprendizaje como las acciones realizadas por el estudiante para adquirir o asimilar los contenidos de enseñanza y la reconstrucción de conocimientos previos. Los métodos de enseñanza y los de aprendizaje, en conjunto, guían las acciones, actividades y estrategias a utilizar para superar los objetivos propuestos para la clase, curso o bien el mismo currículum, ámbitos en los cuales es relevante establecerlos desde la comprensión de las necesidades de los estudiantes y metas del programa de estudios.

Al contemplar los métodos de enseñanza de manera general, se dificulta la atención de las necesidades individuales de los estudiantes, al promover espacios descontextualizados. Como solución a esto, cada disciplina presenta una compilación de métodos, estrategias y técnicas propias, unificadas en propuestas didácticas, la cual para el presente caso corresponde a la didáctica de la química. Esta es descrita por Carriazo y Saavedra (2004), como el área encargada de abordar la enseñanza y aprendizaje de la química desde una perspectiva teórica, práctica y disciplinar; y cuyo objetivo es proporcionar estrategias y herramientas que mejoren su comprensión, al considerar las particularidades propias de esta asignatura científica.

Al respecto, Carriazo y Saavedra (2004) establecen una serie de líneas de investigación abarcadas por la didáctica de la química desde antes del año 2000, las cuales son los conocimientos previos del estudiante, el pensamiento del profesor, la formación docente, la evaluación, la relación tecnología-sociedad, el diseño curricular, la práctica de laboratorio y el enseñanza por indagación. Cada una de estas líneas de investigación propias, son fuentes de técnicas de aprendizaje, las cuales Pinto (2001), las define como procedimientos o recursos con los cuales concretar y llevar a la práctica de manera efectiva el método de enseñanza; así pues, es de vital importancia que el docente mantenga una constante actualización en los aportes a dicha disciplina, con la finalidad de integrar mejores técnicas a su mediación pedagógica.

En trabajos como los realizados por Borrero et al. (2020), se refleja que las investigaciones en didáctica de la química se ven influenciadas por la búsqueda de la inclusión del contexto socioeducativo del estudiante, con la finalidad de centralizar la selección de estrategias en las necesidades de la población estudiantil, la integración de conocimiento y el vínculo entre la teoría y la práctica. Estos autores señalan que la comprensión profunda de los conceptos, el pensamiento crítico y desarrollo de la creatividad en los estudiantes, cobran relevancia al transformarse en herramientas que permitan ir más allá de los aspectos relacionados a la química, al permear su contexto socioeducativo y vida académica de los estudiantes de química, y en especial para los de primer ingreso.

Un último factor por considerar es la transposición didáctica, descrita por Ruiz (2023), como un proceso en donde el conocimiento científico y especializado se convierte en conocimientos adaptados a los

recursos y apoyos del estudiante, con la finalidad de adecuarlo a sus necesidades sin perder el sentido o significado. Este factor cobra un rol importante en la mediación pedagógica al permitir vincular la química general a los conocimientos previos de los estudiantes, y establecer proceso de alfabetización científica graduales sin perder la rigurosidad propia de dicha disciplina y los objetivos de aprendizaje propios del programa del curso de química general.

### ***Modelos y estrategias para la enseñanza de la química***

Un modelo educativo es definido como un conjunto de ideas de formación, enseñanza, metodologías, estrategias y enfoques que establecen el tipo de enseñanza que se ajusta a las características propias de una población educativa. Estos se pueden diferenciar dependiendo del enfoque en el cual se centran; son los principales el tradicional, el conductista, el constructivista, el cognitivo, el social y el humanista (Vera-Monroy y Monsalve-Silva, 2022). No obstante, estos autores exponen algunos modelos más diversos, como lo son el de educación basado en los resultados (MEBR) y el de motivación, apropiación, praxis y cuestionamiento (MAPIC).

En relación con el MEBR, Vera-Monroy y Monsalve-Silva (2022) establecen que este se diferencia de los demás en la articulación de los resultados de aprendizaje analizados desde distintas dimensiones tales como la curricular, la del profesorado y la del estudiante. Para lograrlo, se espera que el docente genere nuevas experiencias a partir de actividades vinculadas a la solución de estudios de caso, el aprendizaje basado en proyectos y la gamificación. En cuanto a metodologías más activas como el MAPIC, destacan su potencial para mejorar la motivación de los estudiantes mediante dinámicas que expliquen y permitan construir conocimientos que favorezcan el aprendizaje colaborativo y significativo.

Por otra parte, autores como Bertazzi y Mallo (2019), destacan otros dos modelos que permiten mejorar la motivación del estudiante, generar aprendizajes significativos y llevar a la realidad los aprendizajes sin dejar de lado el contexto y complejidades del mundo real. El primero corresponde al aprendizaje basado en proyectos; es definido por estos autores como un modelo que organiza el aprendizaje entorno a un proyecto que permite formular hipótesis, plantear teorías y usar diferentes herramientas de la vida real para dar solución a problemas en el aula y fuera de ella.

En cuanto al segundo modelo, Bertazzi y Mallo (2019) proponen al pensamiento de diseño como un modelo orientado en el desarrollo de competencias comunicativas, sociales, creativas y cognitivas que se fomentan mediante la solución de un problema específico, para el cual los estudiantes buscan soluciones apropiadas a través del análisis de sus posibilidades y el trabajo en equipo. Es por ello que estos autores, en relación al aula invertida, el aprendizaje basado en proyectos y el pensamiento de diseño, proponen que estos presentan similitudes tales como el estudio de fenómenos en su totalidad, el propiciar un aprendizaje significativo no extrapolado de la realidad, la construcción de conocimientos basado en experiencias previas, el fomento de trabajo colaborativo, aprendizaje autónomo, pensamiento crítico y, principalmente, el permitir aprender de manera flexible en cualquier tiempo y lugar.

En lo concerniente a la enseñanza de la química, es muy común el uso del modelo tradicional, el cual es caracterizado por emplear el tiempo de aula para explicar a los estudiantes el nuevo contenido basado en un libro o material recomendado, al mismo tiempo que los estudiantes toman un rol pasivo y se limitan al tomar notas sobre lo expuesto por el docente, para finalizar con orientaciones sobre las actividades a completar fuera de la clase de manera individual o grupal (Martínez *et al.*, 2023). Al respecto, Pinto (2001) destaca que la elección de este modelo podría vincularse a la simplificación del rol docente y el diseño de clase, ya que la preparación de las lecciones se limita a cuestiones básicas, tales como la expresión oral, el cuidado de la voz, la organización de la pizarra o recurso a emplear para presentar la información, al promover así la memorización y limitar la comprensión del estudiante a solo lo abordado en cada clase.

Un modelo pedagógico diferente aplicado en la enseñanza de la química corresponde al aula invertida, la cual según Gonzaga *et al.* (2021), presenta múltiples ventajas como la promoción de la autonomía de los estudiantes, el fomento de la autodisciplina, una mayor flexibilidad de horarios y las modalidades tales como la sincrónica y asincrónica. Consiste en el cambio de la dinámica tradicional de una clase, al brindar la presentación y sistematización de contenidos fuera del aula mediante recursos multimedia, y emplear el tiempo de clase para facilitar y potenciar otros procesos de aprendizaje bajo la guía del docente (Arellano-Becerril y Escudero-Nahón, 2022). Dentro de los obstáculos para su implementación, Gonzaga *et al.* (2021) establecen la conexión a

internet, la falta de un ambiente adecuado para estudio, dificultad de los estudiantes para autorregularse, y la ausencia de contacto con el personal docente de manera más directa y fluida. No obstante, en contraposición, proponen el uso de un tutor para aumentar la eficacia del aula invertida, siendo que el tutor catalice la comunicación docente-estudiante, brinde apoyo técnico y emocional a la población estudiantil.

Mientras que el aula invertida permite a los estudiantes estudiar conceptos clave de química general por su cuenta, las estrategias didácticas dentro del aula aseguran que ese conocimiento se consolide a través de actividades prácticas y colaborativas. Un ejemplo del aula invertida en combinación con recursos tecnológicos para cursos de laboratorio podría consistir en clases pregrabadas en las cuales el docente brinda una explicación completa de las dinámicas a trabajar, con la finalidad de agilizar y centrar el trabajo del estudiante en el desarrollo de los temas mediante la confección de los informes o reportes de laboratorio. Una estrategia distinta y útil es la puesta en marcha de laboratorios caseros y laboratorios virtuales apoyados por simuladores web especializados para cumplir con los objetivos virtuales de aprendizaje (Espitia *et al.*, 2022).

Una estrategia que es imprescindible en todo diseño curricular vinculado al área de química corresponde al experimento químico. Este concepto es descrito por Pérez de Villa *et al.* (2020), como una actividad dirigida por el docente, quien mediante tareas experimentales que responden objetivos y contenidos preseleccionados, propicia el trabajo en equipo para el cumplimiento de una experiencia real o virtual con el fin de obtener, procesar y analizar información necesaria para dar solución a un problema o bien explicar un fenómeno. Dicha estrategia suele ser estudiada como objeto de estudio, medio o método de enseñanza con la finalidad de evaluar el desarrollo de habilidades técnicas para el caso de estudiantes de química o ciencias duras.

De igual forma en la investigación realizada por Pérez de Villa *et al.* (2020) destacan el potencial del experimento químico para desarrollar habilidades manipulativas vinculadas a útiles de laboratorio, operacionales, técnicas, lógicas generales, experimentales e investigativas. Además, señalan conjuntos de habilidades que desarrollan los estudiantes mediante dicha estrategia, siendo descritas y ejemplificadas en la Tabla 1.

**Tabla 1**

*Descripción de las habilidades desarrolladas en el experimento químico*

<b>Tipo de habilidades desarrolladas</b>	<b>Descripción</b>	<b>Acciones que realiza el estudiante</b>
Cognoscitivas	Permiten la apropiación de conceptos, hechos, principios y otros tipos de información.	<ul style="list-style-type: none"> <li>- Dominio de fuentes de información.</li> <li>- Observar, describir sustancias química y reacciones</li> <li>- Aplicar métodos de investigación</li> <li>- Seleccionar y aplicar adecuadamente métodos y procedimientos de investigación.</li> </ul>
Proyectivas	Se vinculan al a interpretación de documentos, normativas, y actividades experimentales	<ul style="list-style-type: none"> <li>- Formulación de objetivos</li> <li>- Planificación de experimentos básicos</li> <li>- Verificación de hipótesis y predicciones</li> <li>- Resolución de tareas experimentales</li> </ul>
Comunicativas	Desarrollan la expresión oral y escrita	<ul style="list-style-type: none"> <li>- Expresar ideas de manera precisa, clara y empleando lenguaje técnico de la química.</li> </ul>
Organizativas	Referentes a la preparación de la actividad experimental y su realización	<ul style="list-style-type: none"> <li>- Organización de la información y recursos para generar informes escritos</li> <li>- Limpieza y orden en el puesto de trabajo</li> </ul>

*Nota:* Adaptado de Pérez de Villa *et al.* (2020).

Por lo tanto, es importante añadir a los modelos pedagógicos la experiencia del experimento químico, para así fomentar el desarrollo de múltiples habilidades que les serán útiles a los estudiantes de química general; este mantendría un continuo sentido de progresión, el cual es de gran ayuda en la motivación de los estudiantes de primer ingreso. Además, es importante rescatar la flexibilidad que ofrece el experimento químico en conjunto con el aula invertida. Por lo tanto, esta combinación permitiría poner en marcha las habilidades que desarrolla el experimento químico mediante herramientas tecnológicas que brinden una experiencia personalizada, colectiva o masiva y en sesiones presenciales puede ser llevada a cabo en espacios de laboratorio (Zamora, 2023).

### ***Uso de herramientas tecnológicas en la mediación pedagógica***

La química general antes de la inclusión de las tecnologías se basaba en recursos tradicionales tales como libros de texto, pizarra, modelos moleculares en físico y las experiencias de laboratorio. Sin embargo, como señala Yáñez (2024), su eficacia se limita al acceso que tengan los docentes, y la poca interactividad y posibilidad de visualizar conceptos abstractos propios de la química. Es por ello que, para este autor, uno de los aportes más significativos en la enseñanza de la química ha sido el desarrollo de simuladores virtuales para la ejecución de laboratorios virtuales.

Al respecto autores como Arce-Castro y Bello (2022) describen a los laboratorios virtuales como software que contiene distintos elementos que ayudan a los estudiantes a apropiarse del conocimiento y poner a prueba habilidades desarrolladas durante el estudio de la química; como ejemplo, se tiene al laboratorio de simulación interactiva Phet, el cual es descrito por Ávila (2024) como un sitio web elaborado por la universidad de Colorado Boulder, que ofrece más de cuatro docenas de simulaciones basadas en conceptos químicos. Los autores recalcan la posibilidad que ofrecen este tipo de laboratorios para observar los cambios de la materia, integrar la teoría con la práctica y desarrollar aprendizajes basados en casos de la vida real. Además, establecen otros beneficios tales como la posibilidad de repetir la experiencia múltiples veces, el ahorro en reactivos químicos, la disminución de la contaminación y producción de conocimiento de manera autónoma y flexible.

Otra herramienta similar al laboratorio virtual corresponde a los simuladores web, los cuales son recursos enfocados a presentar uno o varios principios científicos mediante representaciones virtuales, en donde se pueden generar distintas experiencias que permiten ponerlos a prueba. Al respecto Carrión-Paredes *et al.* (2020), enfatizan que los simuladores son herramientas tecnológicas trascendentales en asignaturas experimentales como química, ya que mediante su uso, se despierta el interés del educando y se fomenta el pensamiento crítico.

Ahora bien, para realizar un óptimo uso de las herramientas virtuales, recae en el docente la responsabilidad de apropiarse de dicha estrategia, y plantear su incorporación de manera que se favorezca el desarrollo cognitivo, la interacción entre estudiantes y la optimización de su aprendizaje mediante las ventajas que brinda la plataforma. Por ejemplo, se plantea una serie de pautas para la implementación, donde el primer paso es la selección e ingreso a la plataforma, lo cual se conoce

como la experiencia virtual. La segunda etapa corresponde a la experiencia concreta, la cual hace referencia a un análisis al considerar las características propias, la importancia y la aplicabilidad del tema a desarrollar, y la exploración de vídeos no mayores a tres minutos con la finalidad de enriquecer el análisis metacognitivo. La tercera etapa corresponde a la actividad con simulación, en la cual el docente relaciona lo conceptual con lo experimental, general un nuevo escenario de aprendizaje (Carrión-Paredes *et al.*, 2020).

Una herramienta complementaria que favorece la enseñanza de la química corresponde al uso de aulas virtuales, como por ejemplo las configuradas en plataformas como Google Sites o Moodle. Sobre este último, Esteves *et al.* (2023) enfatizan la idea de que este tipo de recursos facilita la generación de contenidos variados en formatos, que se pueden completar de manera individual o grupal, y facilitan la inclusión de actividades experimentales simples, el uso de simuladores, y brindan posibilidades de accesos diversos al ser compatible con computadores y teléfonos móviles. Entre los beneficios que describen, se encuentran la posibilidad de agilizar procesos evaluativos como la autoevaluación, trabajos prácticos y generación de prácticas previas a las pruebas parciales, lo cual le concede al estudiante una mejor visión de su progreso.

Una herramienta alternativa a Moodle corresponde a la aplicación Flipsnack. El uso de esta en química general fue explorado por Aimacaña y Morales (2024), quienes concluyen que dicho recurso captó el interés de los estudiantes al presentar gran versatilidad, un aprendizaje flexible y la integración de diversos recursos multimedia como videos, talleres, juegos y mapas conceptuales. Aunado a ello, establecen que fue de gran ayuda para la elaboración de un folleto interactivo para temáticas propias de la química como enlaces químicos, estructura y nomenclatura de compuestos inorgánicos, con la finalidad de generar experiencias enriquecedoras y participativas.

Resultados complementarios obtenidos por Esteves *et al.* (2023) recalcan que las aulas virtuales facilitan el trabajo áulico, al permitir la elaboración de materiales diversos que se combinan con actividades simultáneas, asincrónicas, videoconferencias, uso de simuladores y actividades experimentales simples, lo cual permite identificar las necesidades y fortalezas de cada estudiante y mejorar la motivación y el trabajo colaborativo. Esto se refuerza al analizar los hallazgos que señala Yáñez (2024), quien concluye que las aulas virtuales, en conjunto con

diversos recursos, logran mejorar la motivación del estudiante, fomentan el desarrollo de competencias digitales y brindan un mayor acceso al aprendizaje; sin embargo, su uso debe ser cuidadoso, ya que su excesivo podría limitar las capacidades del estudiantado al crear dependencia de dichas tecnologías.

Una manera de evitar este inconveniente y potenciar las distintas habilidades que fomentan las herramientas virtuales, es emplear diversas aplicaciones en momentos específicos. Un ejemplo de esto es presentado por Arce-Castro y Bello (2022), quienes emplearon la herramienta Edpuzzle, la cual presenta una serie de actividades a desarrollar de manera virtual, tales como crucigramas, sopas de letras, cuestionarios, entre otros. Dichos autores emplearon este sitio web como sustituto de los laboratorios virtuales, al presentar grabaciones de procedimientos de laboratorio diseñados de manera que los estudiantes debían responder correctamente ciertas preguntas para continuar la visualización, lo cual permitió mayor interacción durante la exploración de las temáticas con ayuda de vídeos.

Asimismo, Arce-Castro y Bello (2022) realizan una compilación y establecen a manera de recomendación el uso de diversos recursos tecnológicos; entre ellos se encuentran: *ChemCollective*, *Mixed Reception*, *Aspirin Screen Experiment*, *CK-12 Chemistry Simulations*, *Titration Screen Experiment*, *goREACT* y *Molecular Workbench*. En consecuencia, es importante considerar las alternativas que ofrecen las distintas herramientas tecnológicas, con la finalidad de despertar el interés, la motivación intrínseca e implementar el aprendizaje significativo en la población estudiantil.

## Conclusiones

Para implementar las distintas ideas y herramientas planteadas en los apartados anteriores, es fundamental considerar como punto de partida el contexto del estudiante, donde cobran relevancia los instrumentos diagnósticos, las documentaciones generadas por departamentos de vida estudiantil y las actividades indagatorias realizadas en las primeras clases. Con la información recolectada, se pueden establecer estrategias didácticas variadas que fomenten la interacción y motivación del estudiante, y que faciliten el proceso de comprensión de concepto abstractos y relaciones matemáticas necesarias en los cursos de química general.

En cuanto a la planificación de los cursos iniciales, tales como química general y afines, es importante abordar aspectos curriculares, socioemocionales y pedagógicos que permitan mejorar de manera efectiva la transición del colegio a la universidad. Entre esos aspectos, se plantea generar diseños secuenciales de aprendizaje que evitan monopolizar un único tipo de recurso o estrategia didáctica, ya que esto podría llevar a clases rutinarias o poco atractivas al presentar recursos predecibles y sobre explotados. Para evitar esto, se hace relevante una constante actualización docente en temas como estrategias propias de la didáctica química y herramientas tecnológicas, con el fin de promover habilidades más allá de las tecnocientíficas, tales como la participación, en trabajo colaborativo y la escucha de opciones.

Por su parte, se sugiere orientar el rol del docente hacia el asesoramiento en temas más allá de la química, como la gestión del tiempo, la búsqueda de distintas herramientas tecnológicas que faciliten en aprendizaje, o bien el fomento de la búsqueda de apoyo externo cuando sea necesario. Por último, un eje central debe ser la claridad de los objetivos de aprendizaje, los cuales han de ser alcanzables y comprobables desde la visión de los estudiantes, y deben presentados de manera efectiva para favorecer la comprensión, la autorreflexión y el sentido de progresión, mediante la implementación de modelos más allá del tradicional, tales como el aula invertida, y de estrategias variadas como el experimento químico, los simuladores virtuales y las experiencias vinculadas a la práctica profesional.

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# Implementation of Artificial Intelligence (AI) in EFL Classes: an Analysis of Its Praxis in Oral Communication Courses to Boost Learners' Speaking Skills at Universidad Nacional (UNA), Liberia Campus

José Enrique Chavarría-Chavarría<sup>1</sup>  
Universidad Nacional  
Costa Rica  
[jose.chavarria.chavarria@una.cr](mailto:jose.chavarria.chavarria@una.cr)

## Abstract

The purpose of this essay is to inform about the importance of implementing Artificial Intelligence (AI) in oral communication courses to boost learner's speaking skills at a university level. Indeed, it is known that teaching oral courses in college is not an easy task for teachers since they want their learners to become effective, efficient, and productive in English. This is a serious concern, and teachers ought to be creative, enthusiastic, and responsible for achieving the learning goals that their learners have, that is, the former want to give AI different pedagogical uses to help their learners accomplish those set learning goals. With AI-generated resources, teachers might see that using these technological tools help support students in their language performance as the latter sometimes face some difficulties in language use, and that can be noticed in oral communication courses. Therefore, AI becomes an ally in the development of an English class because it offers many tools that both teachers and students can implement during the teaching-learning process. AI is not something new because it has been available since the Internet was invented; however, EFL teachers and students may now be aware of the benefits it might bring if it is well-introduced in the described courses.

**Keywords:** Artificial Intelligence, EFL learners, oral communication courses, language teachers, teaching-learning process, technological resources, university level

1. Holder of a Bachelor's Degree in English Teaching, UNA, a Bachelor's Degree in Educational Administration, UCR, a Bachelor's Degree in English Teaching, ULASALLE, a Master's Degree in Educational Administration, UAM, An Associate Degree in English, UNA, a Master's Degree in English Teaching, Universidad Latina de Costa Rica, a Master's Degree in Educational Sciences with an Emphasis on Teaching, UAM, a Bachelor's Degree and a Licenciante Degree in Business Administration, USAM, a Master's Degree in Business Administration, UMCA, a Bachelor's Degree in Educational Evaluation, Universidad de las Ciencias y el Arte, a Bachelor's Degree in I and II Cycles, UAM, a Master's Degree in Innovation, USAM, a Bachelor's Degree in Educational Sciences with an emphasis on I and II Cycles, UMCA, and a Bachelor's Degree in Human Resources Management, UMCA. Secondary School Teacher, English area, Ministry of Public Education and Academic Professor, Universidad Nacional, Chorotega Regional Headquarters, Liberia Campus.

## Resumen

El propósito de este ensayo es informar sobre la importancia de implementar la Inteligencia Artificial (IA) en cursos de comunicación oral para mejorar las habilidades de habla de los estudiantes a nivel universitario. De hecho, se sabe que impartir clases orales en la universidad no es tarea fácil para los docentes, ya que buscan que sus estudiantes sean eficaces, eficientes y productivos en inglés. Esta es una preocupación seria, y los docentes deben ser creativos, entusiastas y responsables para lograr los objetivos de aprendizaje de sus estudiantes. Es decir, los primeros desean darle a la IA diferentes usos pedagógicos para ayudarlos a lograr dichos objetivos. Con los recursos generados por la IA, los docentes podrían ver que el uso de estas herramientas tecnológicas ayuda a los estudiantes en su desempeño lingüístico, ya que estos últimos a veces enfrentan dificultades en el uso del lenguaje, lo cual se puede observar en los cursos de comunicación oral. Por lo tanto, la IA se convierte en un aliado en el desarrollo de una clase de inglés, ya que ofrece numerosas herramientas que tanto docentes como estudiantes pueden implementar durante el proceso de enseñanza-aprendizaje. La IA no es algo nuevo, ya que ha estado disponible desde la invención de Internet; sin embargo, tanto el profesorado como el alumnado de inglés como lengua extranjera (EFL) pueden tomar conciencia de los beneficios que podría aportar si se introduce adecuadamente en los cursos descritos.

**Palabras clave:** cursos de comunicación oral, estudiantes de inglés como lengua extranjera, inteligencia artificial, nivel universitario, proceso de enseñanza y aprendizaje, profesorado de idiomas, recursos tecnológicos.

## Introduction

There are different reasons why teachers are now using Artificial Intelligence (AI) in their speaking courses as this new technological resource is helping students boost their language skills, and this essay will focus on the introduction of AI in teaching as it has demonstrated to be a benefit when it comes to language teaching and learning. For instance, AI represents the use of technological tools to perform human-like tasks, and it helps students carry out a variety of tasks; it has meaningfully transformed the way English teachers carry out their classes at the university because they have changed their traditional teaching methods to modern ones, which include these new trends, that is, AI-generated tools – resources that are designed with this AI technology. Indeed, AI has

been effectively enriching a variety of areas, and they include university education and language learning and teaching, especially to improve students' performance in oral communication courses, which is this essay's concern. Certainly, there should be a solid understanding, from teachers, of how AI works and the possible uses it might bring; this is a fundamental step to know the positive impacts on English as a Foreign Language (EFL) teaching and learning, and how it also impacts the teachers' pedagogical praxis.

In addition, universities are now trying hard to implement new technological resources to help learners achieve their learning goals despite the limitations and challenges they usually face. Colleges know that AI has potential uses if it is used wisely; such information will be explained in detail throughout this paper. Another important point to make is that AI offers the tech tools students need; that is, it explicitly provides students with the resources they require to improve their speaking skills – fluency, accuracy, pronunciation, etc. Thus, examples will include the types of platforms learners can use to effectively focus on the areas that have been difficult to master in the oral communication courses they ought to take.

Besides, the implementation of AI at the university includes many methodological, transformational, and pedagogical advantages, which can improve the language learning process. As well, it is necessary to mention that AI-generated resources, for example, chatbots, specialized software systems, language applications, and online platforms help teachers design real-life materials so that students may have more chances to use the target language in different contexts; students might also notice the changes in language production more constantly, and they can make decisions about what to do to boost their knowledge when it comes to oral communication skills.

Additionally, AI, if used effectively and correctly, may give learners the feedback they need after every language performance they will eventually have; teachers can also use this to provide language motivation and support so that students can understand that the language learning process is not easy to carry out; however, teachers will be there for them in case recommendations and suggestions should be given. As it was mentioned, AI technologies can help in the development of speaking skills by giving students the language elements they require to focus on their oral communication goals. If students are taught to use AI-generated resources on their own, that could increase their autonomy in this important language learning context.

In conclusion, it is crucial to implement AI in language teaching and learning so that students may feel more engaged, motivated, and confident to enhance their oral performance in the communication courses at Universidad Nacional, Campus Liberia; it might result in students being more proficient and fluent when using English in different situations. Hence, AI should not be seen as something negative, but as a modern resource that can methodologically transform how a language might be taught nowadays. In other words, the use of AI in oral communication courses at UNA will demonstrate that it can empower students during their learning process as they know how important it is to speak English fluently and accurately.

### **Artificial Intelligence (AI)**

AI is a technological tool that is revolutionizing the modern world; it has impacted many people's lives since it eases their daily tasks and responsibilities. For example, they can use AI to learn a language, use virtual assistants, and shop online from home. In fact, AI has brought several benefits to humans' living conditions as they now depend somehow on the technology that it includes, for example, to have access to teaching and learning tools, simulated real-life situations, machine learning, social platforms, online shopping, among others. In terms of how beneficial AI is, Wei (2023) stated that "AI, as a branch of computer science, enables machines to simulate human intelligence, learn from experiences, and perform tasks that typically require human cognitive abilities. In the education contexts, AI technologies hold immense potential to transform traditional instructional methods" (p. 3). In this case, AI has evolved to make educational tools more accessible, appropriate, and effective for humans, especially because some of them want to learn languages without relying on using traditional methods, which sometimes hinder the language learning process.

Furthermore, AI represents a way of accessing information much faster. For instance, there are tools, such as ChatGPT, which people can use to easily access and get the information they need to work on their different duties. To exemplify this, students use ChatGPT to look for resources they can use to boost their speaking skills as it offers a world of learning strategies. However, AI users ought to be intelligent and careful enough to know that such information must be analyzed first before it gets to be used since not all that they find on the web or AI-generated is a reliable source. For example, some individuals often search for help for their academic issues, that is, to carry out their studies or investigations,

so they rely on AI tools as the latter respond quickly with the required and relevant information the former need. In addition, it can be said that AI is progressively being used in different educational contexts, which helps in those individuals' decision-making process, something that resembles human thinking (Wei, 2023, p. 3). Indeed, the process of making decisions is not easy for humans; that is why they must understand that AI-powered resources are to be examined before using them to avoid future problems. Again, AI is a good option to access the information people need, and it changes through time because it can be powered by human intelligence.

All in all, AI contributes to different aspects of life, and the students' language learning process is not the exception. In other words, teachers can use AI to guide learners into focusing on their oral communication skills as it also plays an important role in EFL courses at the university. Thus, the more students use AI, the more efficient they can become in English without creating dependence on it as they focus on specific communicative aspects.

### **Importance of AI in the Teaching-Learning Process**

Artificial Intelligence plays an important role in society because it can be employed in a variety of situations that may help humans carry out their tasks more effectively, particularly in university-level oral communication EFL courses. So, based on this, there are some elements to consider regarding the importance this technological tool has in all aspects of life, and more specifically in the teaching-learning process. Regarding AI and its pedagogical uses, Seif (2024) stated that

In the field of language learning, artificial intelligence can play its unique advantages. It plays an important auxiliary role in students' learning and teachers' teaching. The application of artificial intelligence technology in English teaching can give full play to its advantages and make up for the shortcomings of traditional classroom teaching. (pp. 27-28)

So, it can be said that AI tools are necessary to improve language learning and contribute to what learners need to acquire all the language elements they require to focus on their speaking skills as this is essential for language production and a more effective communication with others. With that said, these are some features why AI is important in students' learning process. Thus, Vera (2023) indicated that AI is fundamental in the EFL class because it

- brings innovation to the teaching context; it provides teachers with the new technology they need to teach languages more effectively.
- helps simulate real-life situations so that students can put into practice what they have been learning, which is necessary to prove their language abilities.
- reduces costs in the EFL class, especially when it comes to investing time and economic resources to carry out daily teaching and learning activities.
- assists teachers and students in the process of decision-making to solve teaching and learning problems that sometimes take place in the school setting.
- generates resources and materials that are required to ease the teaching-learning process, and it provides the tech tools teachers and learners need for language learning; and
- improves the students' capacities to perform better in the EFL class and secures language proficiency for better communication.

Thus, AI is appropriate for helping both teachers and students change their ways of teaching and learning for good, that is, it gives them the necessary tools they require to do their daily school activities, which is the real purpose of implementing AI in the language class.

### **AI-Generated Benefits in the EFL Class**

When teaching a language, there are university teachers who rely on using traditional methods since they believe these might produce better oral language performances. However, teachers need to decide on integrating this new and pedagogical technology in their speaking classes to help their learners acquire language skills more effectively and easily. The use of AI is a significant tool nowadays as it provides teachers and students with the materials and resources required to learn English. For example, Seif (2024) stated that “with more usage of artificial intelligence in education, major transformations can be foreseen in the education systems and its processes” (p. 29). In other words, there can be more positive results if AI is implemented in the EFL class as students can be more productive, which is an aspect that educational systems are looking for, that is, more positive results when investing in new technologies to improve the teaching-learning process.

Based on the previous premise, in the coming sections a set of benefits will be given to exemplify how AI can contribute to enhance the students' experiences and expectations in the EFL class. Indeed, AI usage in the language class is now a possibility because if teachers and students want to get positive results, then they both ought to adopt the new forms of learning by implementing more technological tools in the EFL class. On one hand, Seif (2024) mentioned that

AI can also enhance teachers' skills by providing them with access to a range of tools and resources that can help them become better educators. For example, AI-powered assessment tools can provide teachers with real-time feedback on student performance, enabling them to adjust their teaching strategies to better meet the needs of their students. AI can also help teachers to personalize learning, creating lessons that are tailored to the individual needs of their students. (p. 31)

Consequently, teachers have different options to give students the information and feedback the latter need to focus more on their language learning process; this process can be carried out face-to-face, or both students and teachers can meet online as well, which is another possibility in the EFL class. In other words, AI provides different scenarios for language learning, and it can bring solutions to problems such as accessibility, distance, and inclusivity. Both teachers and students can look for those scenarios, and the web offers such language learning tools.

Thus, if AI has the possibility of precisely recognizing learners' strengths, weaknesses, learning problems, and learning styles, then it can also give more personalized content, activities, and real-time feedback to create more appealing and effective language learning experiences in the EFL class. Additionally, by adding gamification, ludic elements such as prizes, challenges, and progress follow-up, AI, therefore, has the potential to enhance language motivation and involvement, making the learning process more significant and enjoyable (Lee & Davis, 2024, p. 1).

In short, students' motivation can be increased if teachers have AI be part of the new pedagogical methods that they might use to empower students in being engaged and interested in improving their oral communication skills at the university. In this way, AI will not be seen as a threat to teachers and students, but it will turn into an educational and transformative tech ally.

## AI in the EFL Class at a University Level

AI functionality in the EFL class has been thoroughly explained, and it also gives better perspectives of how to use it at the university level, especially in the oral communication courses, in which students are expected to be fluent and accurate during class participation. For example, some AI-generated applications, such as *Duolingo*, which assesses oral language performance and provides feedback in real time, *Jumpspeak*, which is used to have real-life conversations and prepares you for oral real world situations, and *Talkpal*, the one that simulates real-world conversations, are essential in having students be more responsible for their language learning process as they are expected to be more productive when it comes to using English language. The idea of implementing AI in the class is to enhance students' oral communication competence since sometimes there is a lack of exposure to the target language (López et al., 2025, p. 63). Nonetheless, to have students be language users, they require time and space to adjust their learning process to the new AI situations; these experiences will be new to them, and teachers must be patient and wait until students feel more comfortable with these AI methods. Of course, the aim is to have students be able to listen, speak, read, and write; however, it takes time, and that time can be reduced if more AI tools are implemented at the university classes.

Thus, by paraphrasing López-Minotta et al (2025), a summary of the benefits will be given as follows because it is important to externalize the advantages that AI brings to the EFL class at a university level:

- The use of AI in language learning can give personalized and access to quality learning materials at the university context; such resources can break the barriers related to distance and money, economically speaking. However, universities must invest a lot in this to give students the opportunities to improve their language skills, and the yearly budget they get is not enough, but they try to provide students with what they need.
- When using AI, it is vital to think that students can also increase their confidence, motivation, and comfort while using these technological tools; when they get familiar with them, the learning process eases.
- The use of applications with ludic and dynamic characteristics and collaborative conversation activities demonstrates how crucial and engaging AI tools are; they can help keep students' motivation

and reduce their intellectual challenges often faced in language learning, especially when they do not know how to use the new available technology. This allows students to be more engaged, interested, and motivated with their EFL learning process by focusing on the four language skills as AI permits to integrate all of them in simple tasks.

- The implementation of AI can enhance time management, and such space can effectively be used in other educational purposes, for example, to provide students with the feedback they need in different sessions and situations.
- The incorporation of AI in teaching and learning provides more dynamic and significant environments that may promote students' participation and commitment. This is a fundamental idea because students should feel well when being part of a class; this allows them to participate and be more creative when being immersed in the language class.

Overall, it is fulfilling to give students the chances they deserve to learn and practice English; AI represents a pedagogical way to demonstrate that a language can be acquired if the necessary tools are implemented; teachers ought to demonstrate that they are open and willing to serve as guides and facilitators when language learning takes place. Therefore, to expect positive results, teachers need to guide students in knowing how AI can be wisely used for communicative purposes, which sometimes denotes a pedagogical limitation.

### **Pedagogical Uses of AI in a University Context**

It is essential to say that AI is a practical and technological tool that enriches how students learn when taking, for example, conversational or oral expression courses at the university. When being at the university, students are needed to have an acceptable English level, and they already understand that, but that specific feature changes among them. However, at that level, they should be more committed to their language learning process. In other words, teachers expect them to be efficient and proficient when it comes to using English in different contexts. However, if teachers want that to happen, they must look for a variety of ways to give AI its pedagogical uses. AI exists, and it is available to everyone, but focusing it on its educational usages is pivotal for both teachers and students. Indeed, Kim et al. (2021) explained that “based on the students’

responses, it was found that AI chatbots helped them to improve their English-speaking skills as well as their pronunciation in a comfortable learning environment" (p. 731). Once an AI is found, teachers ought to adapt that technological tool to what students need, as it is demonstrated with the use of the chatbot in Kim and Young's study. As the authors Kim et al. (2021) mentioned, chatbots are useful, technological\_tools that help students be more in contact with the target language, and they can use them to learn about general aspects of English. For example, chatbots can provide students with simulated conversations, which they can repeat or reproduce to improve their oral communication skills, more specifically, fluency, accuracy, and pronunciation.

Thus, if students learn how to be committed to AI tools, then they can practice English more and generate significant language. In this way, AI demonstrates to be a support for language development as it gives students personalized and meaningful learning. Therefore, students will be able to successfully use English in real-life situations during oral communication classes.

### **Implementation of AI in the Oral Communication Courses**

Why is it important to implement AI in oral communication courses? When talking about the use of AI in language classes, it means that AI works as a bridge that helps students build their confidence, motivation, and language skills, for example, while using English in real-life contexts, when teachers give them feedback, and once they are ready to use AI-generated resources. AI is essential in oral communication classes because they allow students to be more proficient and effective when interacting with others. Students can also use AI tools to communicate with other people either face-to-face or online.

Consequently, integrating artificial intelligence technology into oral communication instruction is critical. This integration can support English teachers in delivering listening and speaking lessons, and this will potentially increase students' motivation and engagement to learn, especially when using English either in the class or in the real world. In fact, this might enable learners to practice their communication skills in different settings, and connect with real-life situations or contexts, which will boost their understanding and comprehension of spoken English features (Chen, 2024, p. 3).

An important aspect to consider is that teachers can integrate AI in their classes; however, they ought to be trained how to do that because AI is not easy to implement; it needs a series of steps to follow to take advantage of it. In fact, AI can be functional when teachers are to provide feedback to students; there are a lot of learning applications that can give what students need to improve their language performance. For instance, language simulators such as Duolingo, Jumpspeak, and Talkpal can serve as language tools that can also let students practice conversation online, and, after practicing, the same platform can provide the recommendations needed for language improvement. Thus, this is how AI takes that valuable role in aiding both teachers and students to get better results on the oral communication courses through activities designed by the same apps or shared on virtual spaces.

Another important point to make is that AI is essential because it evolves constantly. In this modern world, times change rapidly, and artificial intelligence becomes gradually integrated into other aspects of people's daily routines and habits. For instance, an increasing number of learners are now relying on advanced AI apps (Duolingo, Jumpspeak, and Talkpal) to strengthen and boost their language learning process. This innovative technique not only offers a vastly and greatly personalized learning experience, but it also intelligently orders both the content and the pace of instruction to suit each student's individual communication abilities and learning needs. By doing so, AI helps learners to progress at an adequate, relaxed, and effective rate level while they can focus on aspects and elements that need improvement – for a more precise language production (Chen, 2024).

On top of that, AI has proved to be an ally for teachers because they can recommend to their students different webpages and applications that the latter can use to work on their language performance and improvement. Now teachers are opting for making their classes more and more dynamic and interactive since this is a way of calling students' attention. To exemplify that, by considering personal experiences as a language teacher, universities are investing in installing language labs, buying smart screens in classrooms, and getting Internet access to take advantage of the available AI technological tools; this gives learners more opportunities to put English into practice in oral communication courses, which, as a result, boosts students' language performance. Nevertheless, to get better options, state universities, for instance, in Integrated English and Oral Communication courses at UNA, Campus Liberia, are also opting for getting licensed tools to facilitate language learning so that students

can also use what is available to integrate all the language skills: listening, speaking, reading, and writing – for a more complete learning process; one can personally discuss this as teachers and students are relying on these AI tools to enhance their language knowledge, especially in speaking courses; however, students must wisely use the tools to avoid dependence on them.

### **AI Tools to Improve Speaking Skills**

There is a great variety of online tools that teachers can use to help students improve their communication skills, especially in oral communication courses. Such tools have been being replaced by AI-generated ones, which meet the students' needs when it comes to language learning. At a university level, teachers could possibly implement AI to teach English; however, the process requires analysis and availability of economic resources. For instance, UNA, Campus Liberia, is remodeling its language labs so that students can access and use the available and technological equipment for language practice; in this way, language learners can be more exposed to the target language. Therefore, universities are given AI tools an opportunity to be used in the EFL class for the students' benefit.

For example, Chen (2024) said that “everyone has different learning habits and preferences, so university students hold different attitudes towards different ways of improving their speaking skills online and offline” (p. 4). Therefore, students can use a variety of tools to improve their speaking skills. Some of these tools can be represented by AI elements such as the Rosetta Stone, Talkpal AI, Duolingo, and ELSA Speak applications; these AI resources focus on the students' speaking skills in oral communication courses, and they give feedback towards pronunciation, fluency, accuracy, and vocabulary. Of course, there are other AI resources that can also help strengthen learners' language skills.

These AI tools can be accessed for free, or people can also pay a significant fee for having more opportunities to use the platforms thoroughly. For example, some students have externalized that they enjoy using the previous apps a lot, especially because they assist them with what they need, and the same apps specifically concentrate on oral communication. The results have been positive, and students are now putting into practice what they constantly learn from those learning apps (Vera, 2023). In terms of AI positive results, Chen (2024) stated that “In addition, AI can form learning communities with other learners to promote

communication and competition among them. Through continuous technological innovation and improvement, AI can be expected to play a greater role in improving spoken English” (p. 5). With that said, AI experiences constant innovation, and its errors are continuously fixed for giving the users, teachers and students, ongoing experiences, in which learning becomes the number one priority; learning communities can be found online, more specifically when learners play video games with people from different parts of the world.

Regarding Chen’s (2024) study, it also investigated how artificial intelligence helps university students improve their spoken English in China. The results obtained in the study can also be used and applied to Costa Rican state universities, especially UNA, Campus Liberia, as there are students who are working and focusing on learning English by using AI tools that can assist them in polishing their language skills. AI language tools or applications enhance students’ oral skills, focusing on aspects such as pronunciation, accuracy, grammatical structures, and fluency as they provide more personalized learning experiences and feedback from well-designed apps. In fact, Chen (2024) explained that “this type of learning not only provides a personalized learning experience, but also intelligently adapts the content and pace of teaching according to each student’s speaking level and needs” (p. 4). To sum it up, there are many AI tools to improve oral communication skills; however, students and teachers use the ones they feel comfortable with for meeting their learning needs and problems.

### **Boosting Pronunciation: Accuracy and Fluency Enhancement with AI**

At the university, when it is about oral communication courses, it is necessary to focus on aspects that are going to help students improve the way they communicate in the target language; some of those elements have to do with fluency and accuracy. On one hand, one might say that fluency deals with how natural a person speaks a language, that is, there is no hesitation or doubt about what will be said, an aspect that will not affect the communicative process. On the other hand, accuracy is related to aspects that cope with the use of correct vocabulary and grammatical structures (syntax) to accurately express ideas. These two language key points are usually taught to engage students in mastering the foundations they ought to know for language competence. For instance, López-Minotta et al. (2025) explained that “by implementing an AI-based application, students are expected to improve their

communicative competence in English, especially in oral expression" (p. 63). This is one of the objectives that needs to be reached, in other words, English teachers expect students to enhance their level of language use by implementing and focusing on prosodic aspects that will lead them into an acceptable pronunciation.

Besides language competence, when comparing two groups, low-level and intermediate-level learners, Kim et al. (2021) found out that "the group comparison results also demonstrated that there were significant differences between the intermediate- and low-level groups, suggesting that the intermediate-level students performed better than the low-level students in terms of communication skills and fluency" (p. 731). Hence, when working on language fluency, it seems that the higher the level students have, the better they perform in oral communication classes; this can be a result of the previous language knowledge that intermediate-level students have in comparison to the others. Thus, it can be concluded that language knowledge plays an important role in being proficient or not when using English effectively. However, teachers should look for different strategies to work with students that are having problems in pronunciation because they also deserve to be taken care of- they need their teachers' assistance to boost their language competence in English.

To have students be more familiarized with prosodic aspects, teachers must think about what types of AI tools they can implement to boost the former's English in the language class. In this case, Chen (2024) said that "by simulating real-life dialogue scenarios and providing instant feedback, AI helps students practice pronunciation, grammar and fluency more efficiently" (p. 4). To get positive results, teachers, along with the students, ought to work together to talk about the AI resources that will be used to learn English more properly and effectively. UNA, Campus Liberia, students are always willing to do what it takes to improve language skills, especially speaking, and that has been demonstrated in one's personal experience as a teacher. AI is pivotal for boosting pronunciation, but teachers need to be knowledgeable about how to teach that specific part of language if they want their students to be as productive as expected; this is not an easy task neither for teachers nor for students; however, efforts will pay off if both parts work hard to ensure a language class environment where students can feel motivated and supported.

## **Strengthening University-Level Oral Competencies with AI**

When dealing with oral competencies at a university level, teachers are constantly looking forward to enhancing students' capacities to speak English effectively at any language context. It has been a hard process, but with the students' commitment and efforts, the results can be either positive or acceptable; students are able to think and express their ideas in English, yet there is a lot more to do, especially when it is about fluency and accuracy. In fact, the teachers' job is demanding and complex as they have their students' progress in their hands, and they also need to be as creative as possible to meet the students' needs in language learning. Nonetheless, AI-generated tools can be that so-called ally to strengthen students' abilities in English.

Oral language competence must be fostered, and students should try to implement AI-related tools to ludically learn English; this is a hard decision-making process for UNA, Campus Liberia students, and if they want to master all aspects that English use requires, then they must start becoming more familiar with the new and available AI technology (AIT). According to Sergieieva (2023),

AI is already being used in the practice of foreign language teaching in higher education today, so its presence cannot be ignored. Consequently, a scholarly discussion about its future role in teaching and learning in higher education, and about the choices universities will make about AIT, needs to begin. In fact, now is the time for universities to rethink their functions and pedagogical systems of teaching, as well as their future relationship with AI technologies and their owners. (p. 21)

It is urgent for universities, public and private, to get ready to face the challenges and realities of how students are learning nowadays; universities need to focus on changing traditional methods and approaches to help their students become better language proficient users. But to do this, they ought to train teachers about AI use, change the old-fashioned language labs they still have, and invest more in getting the licenses for getting permission to access AI-generated resources.

In the end, if universities continue implementing AI in oral communication courses, students will be able to access resources that might improve their language learning process, especially when it comes to the development of oral communication skills. This can have students be more prepared to face real-life situations, where they are asked to

effectively use their speaking skills; this is a step to get adapted to the new technology, and this also increases their chances to get competitive job opportunities.

### **Promoting Oral Proficiency with AI-Based Approaches**

In teaching languages, there is not a perfect approach that teachers can rely on; they use a combination of different ones that may somehow be integrated to see what results they can bring. Approaches such as the Communicative Approach, Task-Based Approach, Total Physical Response, and Action-Oriented Approach (AOA), to mention some, are commonly implemented by teachers to develop and boost students' speaking skills. Indeed, a combination of AI tools and these approaches can offer students with significant and dynamic practice, personalized feedback, and real-life simulated situations to enhance, once again, oral performance in speaking classes. These approaches are now being combined with AI tools for having students learn a language effectively. Nevertheless, teachers ought to look for what works best for students, considering the latter's language learning needs. To exemplify, as an English teacher that works for the Ministry of Public Education (MEP), one can see that the current English programs are aimed at promoting oral proficiency in the students because the programs were designed with the AOA. What students learn in high schools is what they will be using at a university level, hopefully, but sometimes that process fails, and students are not as productive as expected. So, to foster oral proficiency, there is a need to use AI resources to improve language production; in other words, teachers are motivated to implement AI-based approaches since this will bring learning adjustments to what students really need to be more fluent and accurate in English.

For fostering oral skills with AI-based approaches, Thooyib and Aniyah (2024) mentioned that teachers must be conscious about the current "gaps in students' understanding and for providing the necessary scaffolding to support students in achieving holistic language proficiency. So, a more integrated approach combining AI, traditional teaching, and peer collaboration may offer the most effective strategy for language development" (p. 327). Thus, AI can assist teachers in changing what they have traditionally been doing, which sometimes is fruitless, and students do not learn what they need to be able to communicate with others, orally speaking. One way to implement AI in this sense is giving students feedback based on their language performance. This can be done by

using AI platforms which students access to get to know what their strengths and weaknesses are; this is not going to replace the teachers' job, but AI will support them in creating environments where students can feel more comfortable and confident when using the target language.

When it comes to the integration of AI in language teaching, it might be said that it has unlocked new opportunities for boosting learners' oral communication skills. Teachers must look for varied ways to assist their students in reducing their language problems and barriers. In this case, AI resources may encourage learners to have more motivation, engagement, and willingness to participate in class oral activities. In the end, Boumaza (2024) explained that "English learners may encounter many language difficulties when they communicate in oral sessions, AI advanced technology boosts their self-confidence to face their fears and communicate effectively and efficiently" (p. 341). This represents a clear example of what students and teachers can use in the language learning process, that is, by the utilization of AI-generated tools, the main goal, oral proficiency can be achieved.

### **Implementing AI Chatbots in the EFL Context**

Language learning now requires the implementation of different approaches, techniques, and strategies that can help EFL learners achieve their learning goals. With the use of AI in the English class, these students have the possibility to change traditional methods to modern ones, especially to those that are related to the new technological resources teachers are putting into practice for more hands-on ways to grasp a language. One example of AI implementation is the introduction of chatbots. But what are they? From a teacher's perspective, they would be defined as those simulated human interactions students can have with a programmed computer, that is, teachers and students can set activities online which the latter can practice English with. In this way, students can feel more motivated and comfortable talking to an avatar or an artificially made person. This might give students the courage to interact with the bots, use language properly and effectively, pay attention to their use of language, and, above all, receive feedback from the AI to improve their performance as language users. Chatbots are pedagogical resources that can serve to expose students to real English contexts, offer feedback, and provide real language usage; they have different pedagogical uses, and they can also be adapted to the students' English levels and needs to promote communicative competence.

For giving and exemplifying the pedagogical usage chatbots provide, in their study, Kim et al. (2021) specifically supported that

AI chatbots have encouraged EFL students to practice speaking. There is no denying that students in EFL fields benefit from interacting with the chatbots. Above all, speaking practice with chatbots resembles face-to-face conversation, and its benefits in oral proficiency are similar to those in face-to-face conversation. (p. 731)

Moreover, these AI tools are always available; sometimes the users will have to pay, but if the universities where they study offered them the chance to use them for free, that would be the ideal situation so that students will not have to spend money on that, which may represent an extra expense for them. So, the said AI automated systems might give students solutions to the language problems they usually face, and these same AI-generated tools can assist students at any time and place. For EFL teachers, this is a great relief as they would like to interact with their students consistently and constantly, but unfortunately it is what they can do, so these new technologies provide that opportunity to keep working on the target language. If universities do not provide the chatbot service for language learning, then students and teachers can investigate which types of online learning tools they can access for free and take advantage of that. There should not be excuses in this sense, and students must also be committed to look for what is best for them.

Regarding those software applications, Dávila et al. (2024), in their study, stated that there is “effectiveness of chatbots and virtual assistants in conversational practice. These systems offer students the opportunity to interact in simulated environments in a realistic manner, which contributes significantly to the development of fluency and confidence when speaking” (p. 3833). Even though this represents virtual assistance, English learners can improve their speaking skills by putting into practice and implementing their already acquired knowledge in simulated situations in which they can feel they are learning. In fact, chatbots are designed to train students better, especially when they are having difficulties in oral communication courses at the university. For example, after students talk to a virtual assistant, the program immediately stores the information given by the student, and then it provides the feedback they need to correct their mistakes and learn from them. This is part of the benefits that language users can get from AI-generated language learning and teaching innovations. Thus, chatbots are highly recommended for students to master English in the EFL class.

### **Other AI Speaking Environments to Develop Oral Competence**

There has been a thorough discussion about using AI at the university language class as this essay focuses more on the classroom context; however, students can also learn a language outside the classroom setting on their own – by putting into practice what they have been learning formally. As a result, EFL learners have more chances to practice the target language with a variety of AI-powered tools that are not part of what is being offered in college such as video-gaming, gamification, and language-related apps to mention some. There are other simulated speaking settings that students can rely on to develop their oral communication skills. For instance, students can find options such as general language communities online, municipal language labs, private classes, among others. Therefore, at a university level, there should not be any limitation to be immersed in or be part of a speaking environment to develop the expected language skills.

To deepen this issue, Rusmiyanto et al. (2023) explained that “the integration of Artificial Intelligence (AI), in developing English language learners' communication skills, holds great promise for enhancing language learning outcomes” (p. 756). So, if AI-powered oral activities are supported, at any setting, students can work well on how to improve their abilities to be able to effectively communicate in English. What they sometimes lack is the exposure or immersion in English situations, especially because it is usually hard to find native speakers whom they can practice with. Nevertheless, with the implementation of AI, students do not have to depend on other people, yet they can access AI platforms so that they are more in contact with the language they want to learn.

It is necessary to say that most language learners prefer to be part of a language class, such as the ones they take at the university, but there are more options they might take advantage of to develop oral competence. Of course, the idea is to stick to and benefit from simulated speaking environments, but learners should not be limited to only think about learning in formal settings or situations; there are more options or ways to learn, especially if the concern is to concentrate on oral communication skills.

### **Challenges and Limitations of AI in Oral Communication Courses in College**

When talking about the challenges in using AI in the oral communication courses, teachers and students might say that the issue sometimes has to do with the lack of commitment state universities have

in investing in new and modern ways to teach languages. Recently, there have been budget cuts, for example, from the government, and that cause risks in the students' formal education so that universities are limited to offer what is currently in their hands. Another point to ponder is the little training language teachers receive to use more technologically advanced tools for language teaching. As well, there is no cooperation between teachers and students to work together in the implementation of these new AI-powered resources. Unfortunately, these are some aspects that need to be overcome to help students be more confident, motivated, and proficient when it comes to language use.

In terms of the limitations, language facilitators still use books and teacher-centered classes to teach languages, and that is not presently working; students need more practical ways to put what they know into practice. Another aspect to consider is the use of real-life situations and materials that students can enjoy while learning; that puts them more in contact with language opportunities. Indeed, teachers must be creative to design materials with the available AI resources so that students can ludically learn a language. In terms of this, Waly and Zakiyyah (2024) said that "while AI-based learning brings valuable resources, it should be integrated with significant teacher involvement to balance its impact on students' skills development" (p. 250). The teachers' creativity is fundamental, and that will demonstrate that they can also have the capacity to build new AI-generated tools for their students' language involvement. In other words, teachers can also create their own materials by using AI to assist students in developing their communicative competence. One more limitation to state is that the government is cutting university education budget to invest in other areas; that represents a lack of access to technological tools that may help students learn language more effectively.

In the end, IA is a great tool, and teachers and students must understand that it only represents a mechanism to assist them in the teaching and learning process; AI does not have to be seen as something that will do everything for the users. It brings new forms to learn, and that is the aspect that users must keep in mind. In this specific context, Vera (2023) concluded that the personalized nature of AI tools, the immediate feedback they provide, and the interactive learning experiences they offer have resulted in enhanced student motivation, improved language proficiency, and increased confidence in using English. Thus, AI-generated tools offer many opportunities to improve oral communication skills, but

all language users need to comprehend how to benefit from them to achieve the set learning goal, and that is be more efficient, effective, and proficiently competent in English as a foreign language for communicative purposes. AI may bring positive outcomes; however, teachers and students ought to know how to implement it inside and outside the EFL classroom.

## Conclusions

In terms of the implementation of AI in oral communication courses at the UNA, Campus Liberia, it was essential to carry out an analysis about how this technological tool can help teachers and students in EFL classes, which can result in maximizing the advantages and positive outcomes that it can bring to the teaching-learning praxis. In this sense, Merdassi and Belmekki (2024) mentioned that Artificial Intelligence “is reshaping EFL education by offering innovative tools to enhance language learning” (p. 72). This was proved throughout the whole essay as the writer explained the reasons why AI needs to be used or implemented in the EFL context. It can be read that there are benefits and positive results once teachers and students start relying on AI-generated resources, and some examples of them are chatbots, online applications, etc.

Regarding the sections presented in the essay, it must be said that AI is aimed at helping students carry out learning tasks and simulate real-life situations. AI is essential because it personalizes language learning and offers teachers new teaching strategies. Moreover, AI helps give students feedback based on their language performance and promotes learning engagement and learning autonomy. Towards its pedagogical uses, AI supports language practice and assessment as it is aligned to students’ oral communication skills and needs. Other important points to make are that AI offers significant oral practices in the classroom, boosts students’ pronunciation, fluency, and accuracy, exposes them to real-language situations, and provides ongoing feedback. In addition, AI empowers students by giving them autonomous opportunities to work on their oral proficiency and competence; AI aligns with different communicative approaches, and it presents AI-generated tools such as chatbots, which learners can implement in their learning process to refine their speaking skills. Finally, AI might present limitations; despite them, teachers and students can take advantage of it to increase the latter performance in the English class. In general, AI supports students, and it is relevant to students’ language learning expectations.

Furthermore, Vera (2023) said that "AI technologies assist in teaching grammar, vocabulary, pronunciation, and speaking skills through the use of machine learning, natural language processing, and other advanced techniques" (p. 72). Thus, AI can transform the current teaching practices, and educators cannot go against it, but they can give themselves the chance to use it in their everyday teaching responsibilities.

In conclusion, AI needs to be aligned with the students' needs and learning styles; teachers can opt for adapting AI tools to what students require for a more successful English language development. AI represents a challenge in education, and teachers and students are not the exceptions; they need to work together to find solutions to the communicative problems that might be encountered in the oral communication courses. So, AI is here, and teachers need to know how to implement it to take advantage of what it brings. This is how language teachers can justify its importance and use the teaching praxis that takes place at university oral communication courses; it can transform the teachers' perspectives of how English classes need to evolve for students to become better EFL users.

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# Beyond the Screen: Enhancing Adult Learners' Engagement in Virtual EFL Classrooms

Karol Chavarría Chaves<sup>1</sup>

Universidad Nacional

Costa Rica

[karol.chavarria.chaves@est.una.ac.cr](mailto:karol.chavarria.chaves@est.una.ac.cr)

## Abstract

The use of virtual classrooms in English as a Foreign Language (EFL) has increased over the years, offering flexibility and access to more opportunities for adult learners to learn. However, it has also come with important challenges, such as technological difficulties, isolation, and attention problems, which affect engagement and, consequently, language learning. Therefore, this essay aims to examine some strategies to enhance engagement in virtual EFL adult classrooms to ensure that learners are involved, actively participate, and develop their language skills in an appropriate online setting. It explores how engagement is understood in a virtual environment, the need for pedagogical shifts in online EFL education, and strategies to enhance engagement, including interactive and collaborative learning, scaffolding techniques, artificial intelligence (AI), gamification, real-world relevance, and fostering a supportive online community. These strategies help to fulfill the specific needs of virtuality and create a more engaging learning experience. This essay also highlights the importance of further research on emerging technologies and individual learner differences to continue improving virtual language education.

**Keywords:** adult learners, engagement, English learning, virtual EFL education

## Resumen

El uso de aulas virtuales de inglés como lengua extranjera (EFL en inglés) ha aumentado con los años, lo cual ofrece flexibilidad y acceso a más oportunidades de aprendizaje para los estudiantes adultos. Sin embargo, también ha conllevado importantes desafíos, como dificultades tecnológicas, aislamiento y problemas de atención, que afectan la

1. Holder of a Bachelor's Degree in English Education for I and II Cycles, Language Specialist at Foundever and virtual teacher at the Language Academy, helping adults improve their English to qualify for jobs at the company

participación y, en consecuencia, el aprendizaje de idiomas. Por lo tanto, este ensayo busca examinar algunas estrategias para mejorar la participación en aulas virtuales de EFL para adultos, al garantizar que los estudiantes se involucren, participen activamente y desarrollen sus habilidades lingüísticas en un entorno en línea adecuado. Explora cómo se entiende la participación en un entorno virtual, la necesidad de cambios pedagógicos en la educación en línea del EFL y las estrategias para mejorarla, incluyendo el aprendizaje interactivo y colaborativo, técnicas de andamiaje, inteligencia artificial (IA), gamificación, relevancia para el mundo real y el fomento de una comunidad en línea de apoyo. Estas estrategias ayudan a satisfacer las necesidades específicas de la virtualidad y a crear una experiencia de aprendizaje más atractiva. Este ensayo también destaca la importancia de seguir investigando sobre las tecnologías emergentes y las diferencias individuales de los estudiantes para seguir mejorando la educación virtual de idiomas.

**Palabras clave:** Aprendizaje de inglés, educación virtual, estudiantes adultos, participación.

## Introduction

Education has been transformed due to the rapid growth of technology. Virtual environments have provided new opportunities for adults to learn English, simplifying the challenge of finding time to study, even with the demands of an adult's busy life. Kravchyna (2021) explained that distance learning offers flexibility, accessibility from anywhere, cost-effectiveness, and the possibility of an individual approach to teaching. Adults need the flexibility of schedules and location. Avoiding transportation to a physical classroom reduces time and costs, and it also helps to meet individual needs through different techniques used in virtual classes. Throughout this essay, adult participants will be consistently referred to as "learners" or "students" to maintain clarity and avoid repetition.

However, despite virtual classrooms having many advantages, they also present unique challenges that can affect student engagement and consequently language acquisition. Kravchyna (2021) identified difficulties such as a lack of social interaction, technical difficulties, resistance to modern technologies, and maintaining focus as some of the obstacles that can be faced during virtual classes. These challenges particularly affect students when taking virtual courses since there are important differences when compared to face-to-face lessons. Therefore, it can

negatively affect the engagement not only during class but also with the course material, the interaction with classmates and teachers, and overall their learning outcomes. When students are not engaged enough, they might find it difficult to stay motivated, participate, and practice their language skills, which is essential for language acquisition. This highlights the importance of implementing strategies that enhance engagement to create a more supportive and interactive online learning environment.

For this reason, the main objective of this essay is to analyze and propose strategies that help foster engagement in virtual EFL adult classrooms. Strengthening engagement in online learning is of particular interest because it directly impacts the success of adult learners, who often balance their studies with work, family, and other responsibilities, so staying connected and motivated in a virtual class can be harder for them. In this way, educators can ensure that adult learners participate actively in practicing and developing their language skills in an online class. Engagement is essential when learning a language because it directly affects communication skills, motivation, and the opportunity for students to meet the need for practice to develop fluency and confidence. Martin and Bollinger (2018) highlighted that “Student engagement increases student satisfaction, enhances student motivation to learn, reduces the sense of isolation, and improves student performance in online courses” (p. 205). This demonstrates that engagement is beneficial and necessary for student success in a virtual classroom.

As stated by Farrel (2021), “teaching and learning a language is a lot different from doing face-to-face lessons than online learning environments and as such they understood that they should not try to replicate one mode for the other” (p. 126). This points to the need to explore and adjust instructional strategies specifically designed for a virtual learning environment and not just transferring traditional methods to an online format. Pretending that online learning is just the same as face-to-face is a common misconception that significantly affects the learning process. Virtual classes require a shift in pedagogical approaches to adapt to the specific characteristics of digital learning spaces and to meet the needs of adult learners. Barrett (2010) highlighted that the number of students enrolled in online programs is increasing. Consequently, this topic is relevant to higher education institutions that desire to keep offering online options for students but want to maintain their commitment to quality education.

It is important to emphasize that teaching English in a virtual environment requires educators to carefully design, analyze, and implement strategies that are targeted specifically to this context so that students can be effectively engaged. As Barrett (2010) explained “online educators have had to learn new ways of implementing and nurturing learning for their virtual student populations. The key to success is our ability to think, visualize, and implement” (p. 20). In other words, educators need to leave behind the idea of finding a way to fit their face-to-face plans into virtuality and instead, innovate to foster an engaging online environment. Consequently, based on experience as an online teacher, this essay intends to explore best practices to generate engagement, such as digital tools, gamification, collaborative learning, scaffolding techniques, and real-world applications, to provide valuable insights for educators who are willing to offer high-quality virtual EFL classes.

### **Understanding Engagement in Virtual Learning**

Engagement plays such a fundamental role in shaping the experience of a virtual class, student attrition, outcomes, and the effectiveness of the learning process. Martin and Bolliger (2018) analyzed engagement as a critical element in online learning because it involves taking into consideration active participation and real connection with peers, instructors, and course content. This implies that virtuality demands intentional efforts from educators to build rapport and connect meaningfully to overcome the absence of physical presence. Martin and Bolliger (2018) also emphasized that engagement enhances satisfaction, motivation, and performance, while reducing feelings of isolation in the online learning environment. This reflects the importance of engagement in dealing with the challenge of emotional detachment and in inspiring students with a sense of achievement, commitment, and achieving better outcomes.

However, to generate this involvement, there are different types of engagement that must be present in the class. Martin and Bolliger (2018) described one type as “learner-to-content engagement.” They defined it as an interaction in which students feel connected personally and intellectually with the course materials. This suggests that offering the option of virtuality requires analyzing the materials that are going to be used, among all the different options that virtuality might offer, to make sure that they are relevant and meaningful to generate this type of engagement. The second type that these authors explained is “learner-to-instructor engagement.” Martin and Bolliger (2018) specified that

educators play a crucial role because their presence, guidance, and support can influence the way students feel in class. This indicates that there is a need for interaction beyond the screen, where instructors should be intentional in connecting and not just delivering content.

The third and last type that Martin and Bolliger (2018) mentioned is “learner-to-learner engagement”. They explained that the interaction between students is essential to building a sense of community within the class. This means that when planning a virtual class, there must be activities that can give the opportunity for students to connect with their peers and not just to practice content or develop a skill. Fostering engagement requires understanding its complexity and its key elements.

Expanding on this, Farikah et al. (2023) also supported the idea that engagement is a concept that includes different dimensions, such as behavior, emotions, and cognition. This shows that understanding engagement requires studying and considering its complexity to be able to strengthen it in virtual environments. They explained that behavioral engagement involves active participation in learning activities and involvement in the learning process through their behaviors. A personal example of behavioral engagement can be seen when a student is always on time, submits all homework assignments, and actively participates in all activities. Farikah et al. (2023) described emotional engagement as the way students feel during the learning process with their teachers, classmates, content, and institution. From my teaching experience, it becomes evident that students are emotionally engaged when they enjoy working with their classmates or show excitement about the subject, project, or task.

Lastly, Farikah et al. (2023) defined cognitive engagement as how much effort and time students put into understanding and mastering what they are learning. Experience in virtual classrooms suggests that when students show cognitive engagement, they are curious, critically think about a topic, ask questions, research extra material, and apply concepts to real-life situations. These engagement dimensions that they mentioned are important to consider. For this reason, educators must be intentional when planning virtual lessons to make sure that these elements will be covered since they collectively contribute to effective student engagement.

Furthermore, Dixson (2010) described engagement as a cornerstone to have meaningful connections between students, instructors, and course content. She mentioned that all these valuable interactions influence course completion rates. This reflects that engagement helps

students stay motivated and committed to achieving their goals. Based on my experiences as a virtual language teacher, I have seen that consistency, commitment, and long-term exposure are necessary to improve language learning. Therefore, engagement is essential for student retention. Consequently, fostering it can also be a practical strategy for supporting program completion as well as for student success.

Overall, these perspectives reinforce that engagement in virtual learning is not a desirable outcome but a prerequisite for effective EFL education. Engagement must be acknowledged, researched, and cultivated through thoughtful course design, responsive instruction, and a supportive community.

### **The Need for Pedagogical Shifts in Online EFL Education**

Traditional teaching methods are not adequate for virtual courses. Farrell (2021) pointed out that traditional face-to-face methods do not work well in virtual environments. He argued that online classes require students to take more responsibility for their learning to avoid disengagement. Hence, educators must rethink students' participation, for example, collaboration in breakout rooms, spaces for challenging tasks, and taking the time to think about creative ways to maintain student engagement. Additionally, educators must reflect on their practice and work collaboratively among instructors to make sure that the needs are met and that the shift is evident whenever teaching an online course. Farrell (2021) also suggested that teachers need to develop technological skills to use the digital tools correctly and help students when needed. As a result, institutions should also include education programs that incorporate teacher training specifically for online teaching to support a more flexible, interactive, and learner-centered experience online.

Instructor presence plays an essential role in promoting engagement in digital environments. Bigné et al. (2018) found that active teacher involvement helps to maintain students' emotional connection with the course and increases motivation. Their study emphasized that when students perceive the instructor as accessible and responsive, they are more likely to participate and persist in their learning. As discussed before, the connections in virtual environments play a very important role that must be taken seriously among instructors. It makes a difference to avoid feelings of isolation when learning online. Dixson (2010) also

emphasized the value of presence, stating that meaningful communication between teacher and learner is vital in online education. Her study highlighted that the instructor's presence is vital for students' engagement. It is a challenge for educators since it requires an effort to connect and fulfill this key need. For example, a warm tone, regular feedback, and encouraging reflection and interaction help students feel connected.

To carry out these pedagogical shifts, teacher preparation is critical. Much is expected from teachers in every situation, and they usually cope with what has been asked. However, as Barrett (2010) explained, educators often lack training in designing and facilitating learning in digital environments. This means that knowledge about technical tools alone is not going to be enough to achieve good results. Instead, there should be adequate training to help educators adapt to the demands of virtual classrooms in the best way possible, and not just doing the minimum or transforming a face-to-face class into a virtual one. Farrae (2021) supported this view, noting that many instructors are unfamiliar with effective strategies for online teaching. As a result, teachers should participate in programs to develop the necessary skills to enhance their teaching practices, activities, interactions, and techniques for virtual environments. Engagement demands that educators must have a shift in how teachers design learning experiences, best practices to communicate with classmates, and also to build online communities that can share experiences that foster meaningful engagement.

### **Strategies to Enhance Engagement in Virtual EFL Classrooms** ***Interactive and Collaborative Learning***

As supported by several authors in the sections before, engagement in virtual EFL classrooms is significantly influenced by how much the learners can interact with one another and with the course content, but in a very meaningful way (Bigné et al., 2018; Dixson, 2010; Farikah et al., 2023; Martin & Bolliger, 2018). According to Dixson (2010), students in online courses consistently reported higher engagement levels when the course design included frequent opportunities for interaction, not only with the instructor but especially among peers. Her study suggested that student-student interaction and student-instructor interaction are correlated with higher engagement. Dixson's (2010) findings suggested that doing activities is not enough; it requires quality and intentional design of the connections that will be fostered during the

virtual lesson. Thus, planning interactive and collaborative learning activities is a good strategy to foster engagement since students are going to have a successful learning experience.

Building on this idea, Martin and Bolliger (2018) conducted a study to investigate the importance of engagement strategies in online learning but specifically the strategies related to learner-to-learner, learner-to-instructor, and learner-to-content interactions. Some valuable strategies, such as group work, peer discussions, instructor presence, regular communication, timely feedback, discussion boards, chat sessions, and video conferencing, were recommended to implement in order to build on interactions and create engaging environments. This reflects that when using interactive and collaborative learning, students can feel motivated to participate and engaged with the class.

Martin and Bolliger (2018) pointed out in their study that when students were encouraged to exchange their ideas or had opportunities to apply content collaboratively, they reported higher satisfaction with the lesson. This shows that it is worth taking the time as educators to plan interactive and collaborative activities so that students can feel satisfied with the course, create a sense of community, and consequently, be engaged to have a successful outcome when learning.

In parallel, Britt (2015) explored several interactive strategies that can enhance student participation and engagement in online learning environments. Some of these strategies are solving real-world problems collaboratively, case studies, group projects, debate forums, and role-playing exercises. It is important to note that the lesson design is essential to help students feel engaged enough to practice language meaningfully in online environments. For example, role-playing exercises foster relevant and meaningful practices where students work together to simulate authentic communicative contexts that are especially important in the language learning classroom.

Moreover, Jeong (2019) stated that collaborative learning activities in online communication can lead to more dynamic classroom interactions that promote language development and meaningful social interactions among learners. This reflects the idea that when students participate in group tasks, they can learn from one another, and they will have more ownership of their learning process, which leads to more engagement and motivation to keep learning the language. Jeong (2019) concluded in her study that online collaborative learning activities improved students' English performance, confidence, and classroom

interaction. This is essential because learners tend to feel isolated not only because of virtuality but sometimes due to the learning process. They might think that they are the only ones struggling with the language or making mistakes; however, when working and learning from peers, they can feel a sense of community working towards the same goal of learning English.

In conclusion, the thoughtful integration of interactive and collaborative learning creates a supportive environment in which learners feel engaged enough to express themselves, take risks, and, as a consequence, improve their language skills. The inclusion of these strategies offers opportunities for adult EFL learners to tackle challenges related to motivation, language anxiety, and autonomy. Students value genuine, well-structured, and purposeful opportunities to interact with peers and content. Therefore, educators need to try to innovate the pedagogical strategies to transform online classrooms into interactive, collaborative, and inclusive learning spaces.

### ***Scaffolding Techniques***

In virtual EFL environments, scaffolding serves as a useful strategy to foster learner autonomy, motivation, and engagement. Nguyen (2022) explained that scaffolding in EFL classrooms helps learners learn more effectively because it includes breaking down complex tasks to gain mastery of the required knowledge or skills. This means that students can have frequent opportunities for small successes and celebrate small progress, which will lead to strong engagement since they will reach a higher level of competence with the right amount of support and at the right time.

Nguyen (2022) mentioned that there are two types of scaffolding within online learning: content and technical scaffolding. Content scaffolding involves helping students understand the lesson better by giving extra examples or helping them to connect the new information with what they already know. Technical scaffolding is about teaching students how to use online tools and platforms for learning. For example, showing students how to navigate the platform or software that they are going to be using, sharing documents, or basic tech troubleshooting. Both types involve trying to make the students feel as comfortable as possible and not overwhelmed or disengaged by any difficulty.

Moreover, Nguyen (2022) explained that scaffolding in language teaching plays a key role because it helps students learn better through various strategies that provide metacognitive, cognitive, and affective

support. According to the author, metacognitive scaffolding helps learners think about how they learn and stay focused, cognitive scaffolding makes hard tasks easier, and affective scaffolding addresses emotions, motivation, and reduces frustration during learning. This highlights the need for educators to consider learning, the way students learn, and how they feel throughout the process to generate engagement.

Additionally, Nguyen (2022) emphasized the importance of additional forms of scaffolding due to online language teaching, such as technical scaffolding and content scaffolding. Technical scaffolding helps students use digital tools effectively, and content scaffolding supports the idea of helping students connect ideas from their first language to the target language. This further emphasizes that virtuality requires adjustments, and scaffolding must respond to its unique challenges to help students engage better.

Instructors need to master scaffolding strategies to offer opportunities for students to feel more comfortable, celebrate small wins, and engage with the English course. Nguyen (2022) explained that for online English language teaching, educators should be ready to use scaffolding techniques when using synchronous or asynchronous learning. Synchronous sessions require careful scaffolding design and organization to manage challenges such as large groups, technical issues, limited teacher observation, and student distractions. For example, using a platform like Zoom for a whole-class discussion can be chaotic if too many students speak at once. This is why it is important to be ready to divide the class into smaller groups and apply cognitive scaffolding techniques to help students practice and learn more from the activity.

Furthermore, teachers can also use scaffolding to present the course materials to help students have a better learning experience. The quick accessibility and digital version of materials can lead to overwhelming learners, so it is essential to select learning materials carefully and present them using a scaffolding technique. Nguyen (2022) described the importance of scaffolding materials to support the learners' process and enhance interactivity. This author mentioned using hypermedia-embedded platforms to facilitate access, supplementary materials like mind maps to summarize subject-matter knowledge, authentic materials including memes, videos, and articles, and interactive tools such as Google Docs. These are just some examples that the author mentioned; however, the objective is that the educator can carefully select the ones that are the best according to the student's needs so that

they can start with ones that are easy and manageable and eventually present more challenging ones without losing their class engagement due to frustration or demotivation.

Overall, scaffolding techniques can be a very powerful tool to maintain engagement in a virtual EFL classroom. It is important to notice that effective scaffolding in online settings depends on how well they are aligned with students' needs and the course structure. These strategies can support students and teachers to enjoy the learning process without feeling overwhelmed by technical issues or content. Instead, scaffolding gives the opportunity to find their own pace to enjoy the process without losing engagement.

### ***Artificial Intelligence as an Engagement Tool***

Artificial intelligence (AI) has had a quick growth and a huge impact in many areas, including education, over the past few years. It can be a powerful tool for enhancing engagement in virtual EFL classrooms for adult learners. Ghafar et al. (2023) explained that AI technologies promote the creation of personalized learning environments by adapting content, pace, and feedback to be easily used for the individual needs, interests, and skill levels of each learner. According to them, this technology supports the development of practical language skills and engagement in English language learning. Building on this, in practice, it is common to see that learners enjoy using AI because it gives the opportunity to practice English in low-pressure and comfortable settings without feeling judged. Also, some AI gives immediate feedback, which helps to keep improving, and that can reduce anxiety and promote confidence to help feel engaged with the process.

In addition, Ghafar et al. (2023) noted that several AI tools enhance English language learning. They mentioned some examples, such as Duolingo which gamifies learning, ELSA that uses speech recognition to improve pronunciation with personalized feedback, Google Translate, text-to-speech for converting text into audio to help with pronunciation and listening skills, English ABLE for grammar learning through assessment-based environments, Orai for improving public speaking by analyzing speech patterns and providing feedback, and chatbots for conversational practice. These are just some examples that the authors mentioned, but every day new tools are released that can be useful for learning a language.

In my experience as a virtual teacher, I have seen that even AI that is not fully created for education can be adapted for learning processes. For example, prompts can be provided for students to practice conversations with real-time feedback with platforms such as ChatGPT or Gemini. Another useful tool, as seen in classroom practice, is Character.ai, which allows educators to customize characters that are designed to act like real people with different accents, tones of voice, and traits to hold a conversation, answer questions, or role-play based on how it was created.

Complementing this perspective, Wang (2019) emphasized that AI has the power to transform and enhance engagement within EFL classrooms. This author pointed out that AI helps to create more interactive and varied classes because this can include voice, text, audio, visuals, and even graphical user interface interactions. This shows that AI can be an engagement tool because it can increase authenticity and create a more interesting, different, and enjoyable atmosphere for practicing the language. Additionally, Wang (2019) stressed that AI systems have the advantage that they can provide immediate feedback for students to correct their mistakes in real-time. This reflects the idea that AI can help improve language skills and, at the same time, motivate and engage adult learners with an innovative and interactive experience.

Furthermore, Wang (2019) pointed out that AI can also help educators to customize lesson plans according to the learners' needs. From experience, it is common to listen to teachers complain about time constraints to plan, test, and design lessons. Therefore, AI is also a good tool for educators to facilitate the process of developing engaging lessons. This also highlights the importance of finding tools and not excuses to personalize activities, feedback, content, and everything needed during class.

In conclusion, AI is a very useful tool that can transform virtual EFL classrooms by offering the opportunity to practice language skills in an interactive, independent, and useful way. The focus on personalization and accessibility with AI tools boosts engagement by providing meaningful ways to practice and a better quality of learning in virtual EFL environments.

### ***Gamification***

Pratiwi and Waluyo (2023) examined the use of gamified digital tools in online EFL classrooms. Their study focused on strengthening language learning autonomy and engagement through digital resources

such as Google Forms, Quizizz, Quizlet, Kahoot!, and Socrative. Their research showed that the use of those tools in digital classes was more effective than traditional methodologies because learners had more improvement when using them. This suggests that if gamification elements are included, it leads to motivation and engagement. Through classroom experience, it becomes evident that most adult learners enjoy and feel more motivated when points, leaderboards, and student-centered experiences are included in virtual settings. Pratiwi and Waluyo (2023) also stated that the design of online EFL courses needs to focus on learners' interests, foster meaningful interactions through well-chosen digital tools. This confirms that administrators and educators need to invest time and resources in finding the digital tools that best suit the learners' needs to adapt gamification in their virtual lessons. This investment will enhance the learners' experience and engage them with the learning process.

Moreover, Chan and Lo (2024) conducted a review of studies to explore how gamification has been integrated into EFL and English as a Second Language (ESL) classrooms. Their research examined that gamification has a positive impact on students' engagement. They mentioned that learners participated more, had lower anxiety levels, and were more motivated. This reinforces the idea that it is worth including gamification during the lessons because it can positively impact learners' emotional and behavioral engagement. Another advantage noted by Chan and Lo (2024) is that gamified tasks offer immediate feedback, allowing learners to monitor their progress, correct mistakes, and clarify doubts. This means that using gamification allows learners to take ownership of their progress, which is especially important for adults. Chan and Lo (2024) recommended that educators design gamified activities carefully, always considering learners' cognitive development and learning objectives. By following this recommendation, it is implied that instructors can ensure an increase in engagement and motivation in their lessons.

Overall, these studies emphasized that careful design of gamified lessons with well-selected digital tools can boost learners' motivation, autonomy, and active engagement in virtual EFL classrooms for adults. Experience in the classroom shows that games and competitions can affect the attitude and engagement of adults during virtual classes. Gamification can highly impact an EFL virtual class, so it is worth trying and applying it to enhance the learning experience.

### ***Real-World Relevance***

Incorporating real-world relevance into online learning environments is a key strategy for strengthening student engagement. Britt (2015) argued that authentic activities that closely resemble real-life tasks help learners apply abstract ideas in practical settings to make the experience more meaningful and relevant. According to her, these activities help students connect their learning to real-world applications, and as stated before, having strong connections helps with engagement. In addition, she emphasized that real-world relevance tasks usually lead to collaboration, which is another important strategy to keep strengthening engagement. This strategy helps create learning conditions that are relevant and engaging for adults who greatly benefit from practical and purpose-driven instruction in a virtual EFL classroom.

Building on this perspective, Mehrpouyan (2023) explored some real-world relevance strategies. The author mentioned the need to allow students to create videos, podcasts, or live performances to make learning more dynamic and engaging. Another strategy is to use themes that resonate with students to make more meaningful and engagement the target topic or skill.

Mehrpouyan (2023) mentioned, as some findings, the importance of using multimedia tools and interactive activities like forums, mini-projects, and video presentations to make content more engaging and relatable. This implies that whenever adults understand and experience the applicability of their knowledge, it positively transforms classrooms into more meaningful learning environments. Experience in the virtual classroom shows that authentic tasks help adult learners connect abstract concepts to practical use, and they also promote deeper thinking and collaboration. Moving beyond the screen towards a more connected experience requires designing lessons that reflect the realities, interests, and goals of adult learners. Real-world relevance creates learning environments that feel purposeful, impactful, personal, and engaging.

### ***Fostering a Supportive Online Community***

As mentioned before, feelings of isolation are one of the many challenges that students can face during virtual classes. Therefore, fostering a supportive online community is a good strategy to mitigate this obstacle. Martin and Bolliger (2018) emphasized that a supportive online community enhances engagement in virtual classrooms. They

pointed out that the interaction between learners is crucial to prevent isolation and boredom. This means that if virtual classes include more activities that help students to get to know their peers and connect with them, they will be more engaged and less tempted to be distracted. These authors mentioned some strategies that are useful to create an online community: icebreaker discussions, collaborative group work, peer assessment, discussion boards, blogs, and social media platforms. This shows that there are many options to use and innovate during the virtual lessons. Creating an online community requires effort in designing classes that have a welcoming and interactive environment so that students feel comfortable participating and collaborating with their peers. A common scenario in language classrooms is when a student is afraid of making mistakes when using the target language. However, if students feel safe and supported by their peers and instructor, they will be more willing to participate and learn from mistakes rather than feeling embarrassed. Therefore, building a supportive online community should be an essential aspect to work on beyond just content.

Furthermore, Martin and Bolliger (2018) claimed that collaborative learning supports relationship-building among peers, strengthens analytical skills, and encourages knowledge sharing, which are essential for fostering deeper learning and engagement. However, educators must be flexible since some learners might not enjoy group activities. They acknowledged that some students prefer private communication or see some of the group activities as less useful. This highlights the importance of flexibility when designing engagement strategies for diverse learners.

Similarly, Alabbasi (2022) emphasized the importance of creating a strong sense of community in online learning environments to improve student engagement. The study highlighted that interaction, teamwork, and collaboration correlate with students' engagement levels. This means that it is important to prioritize meaningful connections among students and between students and teachers to build a supportive classroom environment that will positively impact learning outcomes due to engagement.

Alabbasi (2022) also suggested that minimizing lecture time and using more dynamic, interactive teaching methods can further improve engagement by encouraging students to share ideas and respond to feedback in real time. It is often observed in virtual classes that learners need and enjoy opportunities to share experiences, communicate, and connect with peers. If learners feel comfortable and supported, they will feel satisfied and engage in virtual classrooms. Building a strong

classroom community helps move instruction beyond the screen, tackles feelings of isolation, improves learning outcomes, and reduces dropouts because learners will develop a sense of belonging and will have a more human-centered experience that impacts their learning experience.

## Conclusion and Suggestions

Engagement is a critical factor in the success of a virtual EFL classroom for adults. Without engagement, students might attend a class but will not be involved or practice enough to improve their language skills. Engagement directly impacts learners' motivation, participation, and ability to develop language skills. It also helps to overcome obstacles such as technological issues, difficulties maintaining focus, and feelings of isolation (Kravchyna, 2021). Without deliberate strategies to foster engagement, learners might find it more difficult to interact with course materials, peers, and instructors. Therefore, their learning process might be slowed down. An informed virtual course design is needed for every virtual class. Being intentional when adding activities and strategies is essential for educators to help students maintain engagement and consequently have better learning results. Nevertheless, learner satisfaction should also be a factor to consider. Learners need to enjoy the process and learn how to learn because it is a lifelong journey.

According to my experience as a virtual teacher, I believe that online teaching is the right fit for any teacher who is open to flexibility, creativity, and the willingness to let go of old habits from face-to-face classrooms. As explained throughout the essay, engagement takes effort and patience, but it is possible. I have seen how rewarding it can be when students connect, participate, and grow in a virtual space. Teachers who are open to learning and adapting can definitely succeed in this environment. Engagement is not optional. It is not a desirable outcome. It is a prerequisite for effective online education, particularly in language learning contexts. In virtual EFL classrooms, where learners face linguistic, cognitive, and emotional demands, engagement plays a critical role in sustaining learning. As educators, engagement should be seen as a priority, and new methods and strategies specifically tailored to the virtual environment must be explored because, as Farrell (2021) noted, replicating face-to-face teaching methods in online settings often fails to meet the needs of learners.

Overall, this essay identified several strategies that can enhance engagement in virtual ELF classrooms to raise awareness among educators to consider more intentional and well-suited planning for

virtual environments. Interactive and collaborative learning activities, such as peer discussions and group projects, have been shown to foster deeper involvement and build a sense of community among learners (Dixson, 2010; Britt, 2015; Jeong, 2019). Scaffolding techniques also play a vital role, helping students manage complex tasks through a balance of cognitive, emotional, and technical support tailored to the online context (Nguyen, 2022). Emerging technologies, particularly AI tools, add another layer of engagement by offering personalized feedback, immersive experiences, and low-pressure opportunities for language practice (Ghafar et al., 2023; Wang, 2019). Similarly, gamification has proven effective in boosting motivation and learner autonomy through game-like elements and instant feedback (Chan & Lo, 2024; Pratiwi & Waluyo, 2023).

Incorporating real-world relevance, through authentic tasks and media-rich content, helps learners connect language use to practical contexts, making learning more meaningful (Britt, 2015; Mehrpouyan, 2023). Finally, creating a supportive online community through structured interaction and consistent communication reduces isolation and encourages active participation (Alabbasi, 2022; Martin & Bolliger, 2018).

However, future research should deepen and explore more best practices to keep engaging students. In addition, it is important to investigate how individual differences influence engagement to personalize strategies and understand the correlation between successful strategies with different cultural backgrounds, language proficiency, and digital skills. When it comes to digital tools and AI technologies, it is important to keep evaluating new resources as they continuously evolve.

Finally, exploring the role of emotional and social factors in virtual learning environments can offer valuable insights to better understand how to support adult learners facing challenges such as language anxiety or lack of motivation. Exploring those areas can help shape better, more connected, and meaningful EFL virtual classrooms.

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# Enhancing Student Motivation through Game-Based Learning and Meaningful Classroom Interactions in English Courses at *Centro de Estudios de Idiomas Conversacionales*

Ericka Hernández Salazar<sup>1</sup>

Universidad Nacional

Costa Rica

[ericka.alejandra0126@gmail.com](mailto:ericka.alejandra0126@gmail.com)

## Abstract

This essay explores how game-based learning (GBL) and meaningful classroom interactions can enhance student motivation in English as a Foreign Language (EFL) courses, particularly within diverse contexts like *Centro de Estudios de Idiomas Conversacionales* (CEIC). The central thesis asserts that combining these strategies fosters motivation. Drawing on frameworks such as Self-Determination Theory and the L2 Motivational Self System, the essay emphasizes the value of autonomy, competence, and relatedness. Key arguments include the adaptability of GBL (both digital and analog), the need for contextualized teaching based on learner profiles and digital literacy, and the importance of fostering respectful teacher-student and peer relationships. The conclusions highlight that well-structured GBL and supportive interactions can increase intrinsic motivation, foster classroom belonging, and reduce anxiety. Ultimately, the essay emphasizes the importance of analyzing learners' needs and profiles to design relevant and responsive strategies that promote engagement in mixed-age EFL classrooms.

**Keywords:** classroom interaction, English as a Foreign Language, Game-Based Learning, mixed-age groups, student motivation

## Resumen

Este ensayo explora cómo el aprendizaje basado en juegos (GBL en inglés) y las interacciones significativas en el aula pueden mejorar la motivación de los estudiantes en cursos de inglés como lengua extranjera (EFL en inglés), especialmente en contextos diversos como el

1. English teacher at the *Centro de Estudios de Idiomas Conversacionales* (CEIC), Universidad Nacional, and language acquisition teacher in the International Baccalaureate Primary and Middle Years Programmes. Holds a Bachelor's degree in English Teaching from Universidad Nacional and is currently pursuing a Master's degree in Education with an emphasis on English Language Learning at Universidad Nacional.

Centro de Estudios de Idiomas Conversacionales (CEIC). La tesis central afirma que la combinación de estas estrategias fomenta la motivación. Con base en en marcos como la teoría de la autodeterminación y el sistema del yo motivacional L2, el ensayo enfatiza el valor de la autonomía, la competencia y la conexión. Los argumentos clave incluyen la adaptabilidad del GBL (tanto digital como analógico), la necesidad de una enseñanza contextualizada en relación con los perfiles de aprendizaje y la alfabetización digital, y la importancia de fomentar relaciones respetuosas entre profesorado, alumno y compañeros. Las conclusiones destacan que un GBL bien estructurado y las interacciones de apoyo pueden aumentar la motivación intrínseca, fomentar la pertenencia al aula y reducir la ansiedad. Finalmente, el ensayo resalta la importancia de analizar las necesidades y los perfiles de los estudiantes para diseñar estrategias relevantes y adaptadas que promuevan la participación en aulas de EFL para estudiantes de edades mixtas.

**Palabras clave:** Aprendizaje basado en juegos, grupos de edades mixtas, inglés como lengua extranjera, interacción en el aula, motivación estudiantil.

## Introduction

Motivation is a complex but essential factor in the language learning process. While it can seem abstract, it is something many educators deeply long for in their students. For the purpose of this essay, motivation is defined as the internal drive that leads learners to engage with and persist in language learning, and it involves both effort and purpose, shaped by personal goals and the learning environment, including classroom dynamics and social interactions (Gardner, 2007; Ryan & Deci, 2000). Understanding how to support and sustain this motivation is key for crafting meaningful and engaging experiences for foreign language learners.

At *Centro de Estudios de Idiomas Conversacionales* (CEIC), an external linkage program of Universidad Nacional de Costa Rica, motivation becomes especially relevant due to the diversity of its student population. CEIC offers a 13-level English program, including two levels focused on pronunciation and a final one centered on conversational skills. While children are placed in separate groups, adolescents and adults often share the same classroom, creating a dynamic mix of ages, personal objectives, backgrounds, and proficiency levels. Additionally, the

institution offers both regular and intensive courses, in virtual and in-person formats, which requires instructors to adapt their approaches to meet varied learner needs.

While CEIC's learner diversity enriches the classroom environment, it can also pose challenges for enhancing motivation. Variations in age, prior experience, and learning pace may impact students' sense of progress and connection, which are key components of motivation as defined earlier. As such, it is important to identify strategies that cater to this heterogeneity, ensuring that all students feel supported throughout the learning process.

Therefore, maintaining student motivation in diverse classrooms requires strategies that make learning interactive, meaningful, and enjoyable. Two effective approaches that contribute to this are Game-Based Learning (GBL) and purposeful classroom interactions. GBL refers to the use of analog (non-digital) or digital games designed or adapted with specific educational objectives. These are commonly associated with features such as collaboration, problem-solving, communication, and, at times, competition (Reinhardt & Thorne, 2020; Plass et al., 2015; Plass et al., 2020). At CEIC, instructors are granted flexibility to tailor activities to the varied needs of students. Thus, this adaptability allows GBL to be adjusted for different proficiency levels by offering varied roles or tasks, enabling all learners to participate meaningfully. Moreover, the social and collaborative dimensions of games can enhance learners' emotional connection to the classroom, which is particularly valuable at CEIC, where fostering a supportive and motivating environment is essential given the range of student profiles.

Interaction, meanwhile, represents another dimension of the classroom experience that is closely tied to motivation. According to Brown and Lee (2015), interaction is "the collaborative exchange of thoughts, feelings, or ideas between two or more people" (p. 259). Considering the aforementioned contribution, the following definition is proposed for this composition: classroom interactions refer to the verbal or non-verbal exchanges that take place between teachers and students or among peers, whether these occur intentionally or emerge spontaneously. Since such interactions are unavoidable in an English as a Foreign Language (EFL) classroom setting, it becomes particularly relevant to consider them when discussing student motivation. In fact, rather than being merely a passive or spontaneous part of the lesson, classroom interaction can be intentionally designed to support learners emotionally and cognitively, helping sustain their motivation over time and reinforce social integration.

Thereby, this essay argues that combining game-based learning with intentional classroom interaction can effectively support and sustain motivation in CEIC's EFL classrooms and similar EFL settings. To support this claim, the essay examines relevant theoretical frameworks and outlines key considerations for implementing these strategies in ways that promote inclusive, engaging, and motivating learning environments. While doing so, it provides educators with essential insights they can adapt to the specific needs, profiles, and dynamics of their own classrooms.

### **Motivation in EFL Contexts**

A common question language educators ask when becoming acquainted with students is: why do you want to learn the language? Even if such a question might be easily perceived as a lightweight icebreaker with little to no thought behind it, the reality is quite different since gaining insight into students' rationale represents a meaningful way to have a better understanding of the student population one will be working with to grasp their wants and needs. Understanding the reasons for which a particular individual chooses to learn a new language can be beneficial to establish strategies that accompany their goals. Nonetheless, it is worth mentioning that the orientations that make learners study a new language do not necessarily imply that they will be able to become motivated. Indeed, Gardner (1985) established a clear distinction between orientation and motivation stressing that

Orientation refers to a class of reasons for learning a second language. Motivation refers to a complex of three characteristics which may not be related to any particular orientation. These characteristics are attitudes toward learning the language, desire to learn the language and motivational intensity. (p. 54)

However, it is impossible to deny that orientations may influence motivation even if not guaranteed. Hence, addressing the why behind learning a new language may lead to a correlation between orientations and sustained motivation. Gardner (2007) established that "the teacher, the class atmosphere, the course content, materials and facilities, as well as personal characteristics of the student (such as studiousness, etc.,) will have an influence on the individual's classroom learning motivation" (p.11). Within CEIC, where students vary widely in age, learning goals, and personal circumstances, such contextual influences are particularly

relevant. Furthermore, significant responsibility for student's motivation can also be placed upon educators as they are the ones who facilitate lessons and hold the threads when it comes to the creation of the lesson plans and evaluations. Therefore, teachers who work in diverse classrooms must be aware that their own planning and responsiveness may directly affect learners' motivation.

Ryan and Deci's Self-Determination Theory (SDT) further elaborates on motivation by considering its extrinsic and intrinsic constructs. Understanding SDT is valuable for educators to assimilate the relevance of the need for autonomy in lesson planning and class facilitation in order to contribute to motivating students. Ryan and Deci (2000) explained that intrinsic motivation is impelled by authentic interest and fulfils our needs for competence and autonomy, making it fully self-determined. Extrinsic motivation, though aimed at external outcomes, can become more self-determined through internalization and integration. Hence, facilitators must design lessons that connect with real-life situations and cultivate a classroom atmosphere where students feel empowered to make choices and express their ideas. This sense of autonomy is essential for nurturing motivation driven by personal relevance and interest, as explained by Ryan and Deci. In a setting like CEIC, providing opportunities for choice and self-expression not only encourages greater participation but also strengthens learners' emotional connection to the learning process.

Lastly, according to Dörnyei (2014), L2 motivation can be understood through a three-part model known as the L2 Motivational Self System, which was proposed by the same author. Dörnyei continued to explain that it includes the Ideal L2 Self, representing the learner's internal aspiration of who they want to become as an L2 user, the Ought-to L2 Self, illustrating the qualities one feels obliged to develop because of outside exceptions, and the L2 Learning Experience, depicting the motives that arise from the students' current environment and experiences. At CEIC, teachers must address students' varied aspirations. For instance, some learners may be driven by a desire to study abroad (Ideal L2 Self), while others may feel pressure to learn English for work (Ought-to L2 Self). Helping students visualize their future selves and connect daily classroom experiences to those goals can strengthen their engagement.

Even though this section presents three major theoretical models related to foreign language motivation, the intention is not to argue in favor of one over the others. Instead, the goal is to highlight these perspectives as valuable references that can serve as a foundation for educators to reflect on and decide which model may best fit the needs of

their specific group. In a context like CEIC, it becomes difficult and even limiting to generalize or favor a single theory since what works well with one group may not resonate with another.

What is important to emphasize, however, is that all of these models, despite using different terminology, share a common concern for helping learners engage with the language learning process in a personally meaningful way. Whether it is Gardner's notion of the relevance of the learning environment, Ryan and Deci's emphasis on autonomy and internalization, or Dörnyei's focus on the learner's ideal self, each perspective points toward the importance of students finding personal value and relevance in their learning. Based on my teaching experience at CEIC, when students feel that what they are learning aligns with their goals or interests, their engagement and persistence tend to increase. For that reason, rather than promoting a fixed approach, this section presents a range of theoretical tools that educators can draw on and adapt to foster more purposeful and student-centered classes.

### **Game-Based Learning (GBL) and Its Impact on Motivation**

Games are often associated with children, parties, or even just hobbies, but depending on the complexity and intention of the game, it can serve different educational purposes that address the interests and needs of people from different ages, and they could potentially improve motivation in the classroom. There is often a misconception between the concepts of gamification and GBL, Deterding et al. (2011) proposed that "Gamification' is the use of game design elements in non-game contexts" (p. 10). In contrast, Cornellà et al. (2020) asserted that at its core, GBL uses games as a medium for learning; thus, the game becomes a tool through which specific concepts can be explored and internalized. Whether during gameplay or upon its completion, teachers are encouraged to guide reflection on both the experience itself, and the educational content being addressed. Importantly, despite their differences, both approaches can enhance participation, encourage persistence, and support meaningful learning when thoughtfully implemented.

Having established this difference, it is pivotal to understand that both gamification and GBL aim at boosting motivation, but the process of each is quite different, which does not mean that one is more effective than the other; the use of one or the other depends on the educational purpose. For instance, Plass (2019) noted that gamification mostly uses extrinsic rewards and the overall task prevails mostly unaltered while GBL utilizes a complete range of game features and does require

modifications and redesigning to make it more appealing and engaging. Hence, in this essay the focus is on GBL due the malleability it allows to adapt the game to the content, creating a meaningful learning experience for students in mixed-aged settings.

Games can be far more complex than one might assume. Think about the game called Mafia, which is often played at parties. Its main premise relies on a battle of deceit and deduction between two groups: the Mafia and the civilians. The Mafia acts in secret in order to eliminate the civilians one by one without being discovered, while the civilians must work together to identify and vote out the Mafia members. This game is a perfect example of how role-playing can be incorporated into GBL to create a space where students immerse themselves in socially meaningful interactions, engage in real-time negotiation and persuasion, and strategize with their classmates, all while using the target language. Such game dynamics reflect CEIC's commitment to a student-centered approach by promoting active involvement from learners who might not usually participate in traditional formats, thereby fostering a more inclusive and responsive classroom culture.

A digital example of a game that can be effective for learning is Minecraft, as it can motivate students through open-ended activities that encourage independence. Its immersive and cooperative features promote participation and communication, and its adaptability allows educators to customize lessons to students' interests; for instance, at CEIC, particularly in earlier levels, students could collaborate by building and labeling parts of a house to practice vocabulary related to rooms, furniture, and prepositions of place. In addition, more tech-savvy learners, often those with prior gaming experience, can be intentionally paired with those who may struggle more. This not only supports peer learning but also promotes inclusive participation, and this type of activity combines creativity with purposeful language use in a meaningful and contextualized environment.

Salen and Zimmerman (2004) established, "Playing a game means making choices and taking actions. All of this activity occurs within a game-system designed to support meaningful kinds of choice-making. Every action taken results in a change affecting the overall system of the game" (p. 58). Therefore, game dynamics can mirror real-life situations in which communication and interactions are co-related and learners experience outcomes while they need to keep pushing forward. This highlights how games can be powerful tools for immersive and authentic

engagement. Importantly, because games are highly modifiable, they offer a malleability that allows teachers to adapt them to specific content and learner needs. This flexibility makes it possible to work collaboratively with students to design or adjust games accordingly, strengthening the teacher-student communication at CEIC. GBL, therefore, not only draws on a full range of game elements but also encourages creativity and co-construction of experiences, making it an appealing strategy for improving motivation.

Digital Game-Based Learning (DGBL) offers a range of benefits. Szegedine (2020) remarked that when digital games mimic real-world situations, promote problem-solving, and convey reality in varied ways that cater to students' interest, they can effectively support learning. Building on this idea, digital games create opportunities for immersive learning experiences that go beyond traditional formats by allowing pupils to interact with language in dynamic, engaging contexts. Moreover, depending on the learners and their interests, DGBL can be highly rewarding and motivating as they also consider varied learning styles. Besides their entertaining features, digital games offer structured environments where students can actively apply language, take risks, and explore content in ways that feel relevant and personalized.

Just as digital games have their own benefits, analog games do as well. For example, they do not require the use of technology, which makes them more accessible and inclusive in a wide range of contexts, especially in face-to-face settings. For instance, CEIC focuses on conversational competence, so analog games represent powerful tools for promoting negotiation of meaning, particularly in in-person classes. In fact, Maratou et al. (2023) conducted interviews with educators and game designers across Europe, and the authors expressed, "The interviewees confirmed that analogue GBL promotes a variety of soft skills that otherwise are hard to induce using traditional methods of teaching. These skills could include collaboration and communication, creativity, problem-solving, and decision-making" (p. 80). The face-to-face nature of analog games fosters immediate social interaction, cooperation, and emotional connection, all of which are important to promote motivation, and they are also pivotal for improving language proficiency.

When designing, adopting or adapting a game, many aspects must be considered. For example, establishing an effective goal is fundamental. In fact, Salen and Zimmerman (2004) mentioned, "The goal is the ostensible reason for playing, but the goal is never easily attained; rather,

it is the obscure object of desire, the carrot held just out of reach, pulling players forward through the varied pleasures of game play” (p. 342). Aspects such as objectives or even narratives can make a difference in the investment of students in the game and their motivation to participate in it. Additionally, the culture of “failure” in games is something to consider in the design. Ryan and Rigby (2020) highlighted, “Punishments for failure in games are usually small and temporary—in schools and organizations, they can be demeaning and costly. Instead of punishing repeated efforts, games reward retries and persistence. Educators have much to learn from games’ less controlling frameworks” (170). Based on my personal classroom observations at CEIC, adult learners often experience greater anxiety around failure, driven by the fear of being judged. Hence, introducing games can help reduce this anxiety by reframing failure as a normal and valuable part of the learning process. It is essential for educators to communicate this perspective clearly so that students begin to see setbacks not as personal shortcomings, but as opportunities for growth and improvement.

### **Student-Teacher Interactions and Their Impact on Motivation**

Interactions are unavoidable in a classroom setting, and instead of attempting to vanish them in the classroom, educators must take advantage of them to strengthen the teaching and learning processes. If one places oneself in a classroom, two main interactions or moments of contact are likely to occur: teacher-student and peer interactions, both of which are equally important. van Herpen et al. (2024) found that positive relationships with teachers and peers during the first time frame increased study effort and engagement, which remained strong in the second time frame, ultimately enhancing academic performance. Thus, as students and teachers cooperate, they build rapport, which can increase their intrinsic motivation and sense of belonging in the classroom.

According to Henry and Thorsen (2018), “In a contact moment, no matter how fleeting it might be, the teacher and student become present to one another, and open and willing for a connection to take place” (p. 219). Considering the amount of time spent with learners, it is important to make them feel safe and avoid attitudes that may hinder the learning process and motivation, such as dismissing students’ contributions, or applying excessive correction without encouragement. Indeed, Ryan and Deci (2000) argued that when students perceive their teachers as

supportive and respectful, they are more likely to adopt the goals and expectations set within the classroom. In this light, cultivating emotionally supportive relationships can become a foundation for student motivation and a deeper sense of belonging. Moreover, positive interactions not only foster better classroom dynamics but also help learners view challenges as opportunities rather than threats, ultimately deepening their commitment and persistence in language learning tasks. Additionally, from my personal experience, it is also natural to feel more attuned to certain students than others, depending on personality, background, or communication style. Being mindful of these tendencies is essential to ensure that all students receive equitable attention and support, regardless of how easily a connection is formed.

### **Peer Interactions and Their Impact on Motivation**

The relationships students develop with their peers are central to both their motivation and overall learning experience. A classroom environment that fosters collaboration and mutual support nurtures a stronger sense of relatedness, making students feel more connected and engaged. As Cantillano (2024) explained, involving students in group discussions, collaborative problem-solving, and peer interactions enhances their grasp of the language and fosters motivation. In turn, these shared experiences allow students to encourage one another, reinforcing both their linguistic skills and their confidence throughout the learning process.

When discussing the factors that influence motivation in EFL settings, one must acknowledge that although teacher-student rapport is valuable, it represents only one of the many aspects to be considered in a classroom setting. For instance, Sayyad (2024) concluded that while teacher-student rapport is significant, it may not necessarily be the most critical factor influencing classroom engagement and interaction. Instead, other aspects, including institutional training practices, effective classroom management strategies, and peer relationships, may exert a stronger influence on student participation and overall classroom dynamics. Thus, it is essential for educators and researchers to adopt a holistic approach, considering all the dynamics that happen in class to make them as positive as possible. This perspective aligns with the need to consider not only teacher influence but also the role of peer interactions and classroom culture, particularly in mixed-aged groups.

Based on my own classroom experience at CEIC, I have observed that students across a wide age range sometimes struggle to connect due to differing interests, energy levels, or classroom attitudes. For instance, some adult learners have expressed frustration with the behavior of teenagers, as teens tend to group with peers their own age, while adults often gravitate toward other adults. However, when interactions are not left to chance but are instead encouraged through well-planned tasks and purposeful grouping, collaboration tends to improve. Learners often discover they have more in common than expected and begin to adapt their communication to work more effectively with one another, which ultimately makes the classroom environment more enjoyable and inclusive.

Further, in-person interaction continues to offer distinct advantages in language learning settings, especially when the goal is to promote communication and real-time collaboration. Gao and Shi (2023) found that in face-to-face classes, students were better able to read body language, which fostered cooperation and comfort in communication, and they also had the advantage of easily forming groups, making friends, and accessing the teacher for help. Thus, having cues can help reduce tension and support more balanced participation. That said, in virtual environments, it becomes especially important to design opportunities for real-time interaction, like breakout rooms, for students to experience some of the immediacy and social connection typically found in physical classrooms.

While positive peer interaction can enhance motivation and classroom engagement, the opposite is equally true: negative social dynamics can significantly hinder motivation. Furrer et al. (2014) stated, “Coercive interactions with classroom peers (e. g., pressure to cheat, not appear “too smart,” withhold views for fear of rejection) can erode participation and damage feelings of safety and acceptance in the classroom” (p. 109). Thus, such dynamics can undermine the psychological need for relatedness and potentially prevent learners from expressing themselves at their fullest. Since CEIC favors spoken interaction and participation, this sense of relatedness is particularly important. If students do not feel comfortable or accepted by their peers, they may hesitate to engage in communicative tasks, especially those that require personal input or collaboration. For this reason, it becomes increasingly important to restate the value of intentional interaction

design in the classroom, where grouping strategies and collaborative tasks are planned not just for content coverage but also to support emotional safety and inclusion.

### **Essential Considerations for Implementing Game-Based Learning and Fostering Classroom Interaction**

Implementing GBL and fostering meaningful classroom interaction within CEIC's program requires careful attention to mediation, technology use, social dynamics, and student agency. Each of these dimensions can significantly influence how students engage with learning and sustain motivation. In terms of mediation, some of my students have shared that in other levels they have taken, lessons do not always feel centered around their needs, even though that is the intended approach. Regarding technology, while digital tools are available, not all learners feel confident using them. Moreover, socially, many students are not used to interacting with peers during lessons, particularly if they come from more traditional learning backgrounds. In addition, some of my students have mentioned that student agency is not always actively encouraged. Therefore, to ensure that GBL and classroom interaction truly support motivation, the following components must be considered.

#### ***Establishing Clear Objectives***

Establishing a clearly defined learning objective is important to guide instruction and foster motivation. When both educators and pupils understand the goal behind a game, such as practicing a specific grammar structure, expanding vocabulary, or improving fluency, they are more likely to have meaningful participation. Clark and Nguyen (2020) explained, "The actions, consequences, and feedback of a game should be congruent with learning objectives or desired performance outcomes" (p. 472). Making learning goals explicit not only clarifies the purpose of the activity but also supports mediation, as it centers instruction around learners and shows them how the task contributes to their progress. For example, a scavenger hunt can reinforce vocabulary by helping students form visual and tangible associations with target words. Learning objectives give the game direction and relevance, showing students that their efforts contribute to growth. Without clear goals, games may become merely superficial or fail to encourage language development. Thereby, articulating specific, achievable goals transforms games into motivating tools that promote both enjoyment and purposeful language use.

### **Profiling Learners and Evaluating Digital Literacy Skills**

Another pivotal step to consider before implementing GBL activities is identifying learners' backgrounds, needs, and learning contexts. This includes assessing language proficiency, learning goals, Digital Literacy (DL), as well as, students' interests and preferences. By understanding the learners' profile, educators can craft inclusive and engaging experiences. In addition, classroom interactions are central to GBL; games that boost collaboration, turn-taking, and collaborative problem-solving create authentic opportunities for meaningful and contextual communication. Such interactional dynamics are essential not only for language development but also for sustaining learner motivation, which can lead to high levels of engagement and increased student retention within the CEIC program.

DL is also decisive for GBL as it affects whether a game should be digital or analog, and how complex it can be. According to Nguyen and Habók (2022), "DL can be understood as the knowledge, skills, and attitude needed when handling technological devices to create, communicate, collaborate, search, and evaluate the information for specific purposes in the digital era" (p. 55). Therefore, DL involves more than being able to use technological tools; in fact, it requires an intentional, ethical, and critical use of digital resources. Nguyen and Habók (2022) also found that, despite widespread access to digital devices and generally positive attitudes toward technology, students' actual use of digital tools for language learning remained limited. This finding highlights a critical distinction: students may be digitally connected but not digitally competent.

Considering the above, digital game selection must be based on a realistic understanding of learners' DL profiles. In fact, through my own experience implementing game-based learning with digital tools, I faced a learning curve that made me realize the importance of starting with simple interfaces, providing clear progressive instructions, building on existing knowledge, and offering timely support to prevent cognitive overload and disengagement, ensuring a supportive environment for all learners.

### **Providing Effective Scaffolding**

Scaffolding is essential for making GBL and classroom interactions effective and inclusive, particularly in varied EFL groups since learners in these settings often differ in language proficiency and confidence. Bruner

(1978) described scaffolding as the support a caregiver provides by simplifying tasks, focusing attention, and modeling language, allowing the child to participate in communication. He also noted a process called "extension," where the caregiver broadens the contexts and functions in which language is used. In the context of classroom games and classroom interactions, this can be translated to clearly explaining rules, breaking down guidelines into manageable steps, and demonstrating expected interactions before the activity begins.

In interactive tasks such as pair work, group discussions, or roleplays, scaffolding also involves providing language tools like conversation starters, visual prompts, or even vocabulary banks. These supports enable learners to focus on using the target language rather than figuring out what to say or how to engage. Without instructional clarity and proper support, activities risk confusion or unequal participation. Scaffolding ensures that both games and classroom interactions foster meaningful language practice in a supportive, low-anxiety environment.

### ***Applying the Principles of Universal Design for Learning (UDL)***

The Universal Design for Learning (UDL) framework offers a valuable approach to designing instructions that are both accessible and inclusive. One core principle of UDL is providing multiple means of engagement, referring to the affective connection learners create with the learning experience. Thus, students are more willing to participate when the tasks are related to their identities, interests and when they can establish connections with their personal lives. To achieve this, it could be useful to ask learners for their preferences and suggestions to adapt the games to their interests. In addition, providing students with the chance to choose game roles gives them a sense of autonomy. As the Center for Applied Special Technology (CAST, 2024) noted, when students are invited to bring their authentic selves into the classroom, they become more emotionally invested and engaged in learning. Thereby, creating choices and personalized games and classroom interactions support motivation by creating a sense of agency needed to support students' personal goals.

Another principle of UDL is providing multiple means of representation, which refers to presenting information through various formats to address the different ways in which learners process and make sense of information (CAST, 2024). For instance, written instructions can

be paired with audio recordings, graphic representations, oral explanations, gestures or live demonstrations to help students grasp game rules and/or instructions better, this is particularly important given the varied linguistic levels often present in a single classroom, a situation frequently encountered at CEIC. Moreover, color-coded materials, cue cards, and glossaries can help reduce cognitive overload, allowing all learners to better grasp and follow the rules of the game without feeling overwhelmed.

Finally, UDL's third principle, multiple means of action and expression, focuses on diversifying the ways in which students are able to demonstrate their understanding and communicate their ideas. In games, this can be supported by offering flexible response options, which is feasible given that CEIC grants teachers the autonomy to mediate their classrooms as they find suitable. In fact, digital platforms like Genially can also support this flexibility through the incorporation of multiple response modes within a single game. For example, in a Genially board game students might land on a space that prompts them to choose between answering a grammar question, performing a challenge, or finding an object in the classroom; all tasks designed to activate different types of learning.

### **Choosing Between Analog and Digital Games: Context Matters**

Analog and digital games offer different advantages and limitations, but both can be valuable tools for promoting motivation in the classroom. Moreover, they can be effectively combined with classroom interactions to foster engagement and participation. However, the decision to use one format over the other depends entirely on the context, such as the characteristics of the learner population and whether the class is face-to-face, virtual, or hybrid. As it was previously mentioned, in settings with mixed-age groups, the facilitator must have a clear understanding of students' profiles, needs, and preferences. For this reason, Table 1 presents a comparison of the features of both types of games to support educators in making informed and context-appropriate choices.

**Table 1**

*Game-Based Learning in EFL: Key Features of Analog and Digital Games*

<b>Category</b>	<b>Analog Games</b>	<b>Digital Games</b>
<b>Resource Availability</b>	They do not require technological devices, rely on affordable materials such as dice, cards, boards, and printed visuals, and do not need internet access, making them ideal for low-resource contexts.	They require access to digital devices (e.g., tablets, laptops, or smartphones), online platforms, and often a stable internet connection, particularly for multiplayer games.
<b>Interactions</b>	They encourage physical interaction, movement, and peer collaboration, while also promoting social-emotional learning through negotiation, turn-taking, and shared decision-making. Additionally, they often support whole-class engagement by incorporating team-based dynamics.	They allow for solo, pair, or group play, and can be either synchronous or asynchronous depending on the platform. Participation is adaptable to each learner's pace and to various class formats, whether face-to-face or online. In virtual classes, these games can facilitate interactive learning experiences despite the physical distance.
<b>Contribution to Motivation</b>	They promote active participation and meaningful peer interaction through hands-on tasks. As students are able to rely on one another in real time, the learning environment becomes less intimidating, which helps build confidence.	Digital games enhance motivation by integrating interactive challenges within immersive environments. Also, elements such as rewards and leaderboards tend to boost extrinsic motivation, while problem-solving tasks embedded in meaningful game scenarios foster intrinsic motivation by making the learning experience enjoyable, engaging, and stimulating.

<b>Adaptability &amp; Accessibility</b>	<p>They are highly flexible and can be created from scratch using simple, low-cost materials, or adapted to align activities with learners' real-life contexts and experiences. Additionally, tasks can be adjusted in real time based on students' participation and evolving needs, fostering a more responsive and personalized learning environment.</p>	<p>Many digital platforms allow for the customization of content, difficulty levels, and visual design. Depending on the platform, accessibility features such as subtitles, audio narration, embedded videos, and visual cues can support diverse learners by offering multiple ways of accessing and processing information. However, ensuring true inclusivity requires evaluating whether the digital game is appropriate for the specific needs and realities of the group, making sure it does not unintentionally reinforce existing inequalities</p>
<b>Classroom Setting</b>	<p>They are best suited for physical classrooms that allow space for movement, discussion, and face-to-face interaction. These games can be seamlessly integrated into learning stations or group-based activities.</p>	<p>They are adaptable to face-to-face, blended, and virtual environments; however, their implementation in face-to-face settings depends on the resources available at the institution.</p>
<b>Digital Literacy</b>	<p>They do not rely on digital skills, making them accessible to all learners regardless of their technological background. They allow students to focus on interpersonal communication, collaboration, and spoken interaction.</p>	<p>They require a basic level of digital competence to navigate instructions, interact with the platform, and complete tasks. While this can be challenging for some learners, it also offers valuable opportunities to build digital skills that are increasingly essential in</p>

		today's world.
<b>Teacher Monitoring</b>	They allow teachers to easily observe interactions, clarify rules in real time, and provide immediate verbal feedback. This facilitates differentiated support based on students' needs, while peer feedback emerges organically.	Monitoring in digital games often depends on the features available within each platform. Teachers might need to intentionally plan moments for feedback, reflection, and clarification, as these may not occur naturally during gameplay. Also, some platforms include progress tracking tools, which can support formative assessment.
<b>Scaffolding Options</b>	Support strategies include visual aids, sentence stems, cue cards, and task cards adapted to varying proficiency levels. The teacher's physical presence enables real-time modeling and prompting.	Built-in scaffolding features like hints, tiered levels, adaptive feedback, glossaries, or replay functions can guide learners at their own pace. Customizable scaffolds promote learner autonomy and differentiated instruction.
<b>Examples</b>	<p><b>Classic games:</b> Charades, Pictionary, Bingo, Taboo, Tic-Tac-Toe with prompts.</p> <p><b>Interactive storytelling:</b> Storytelling dice, roleplays, escape rooms.</p> <p><b>Collaborative tasks:</b> Jigsaw puzzles, scavenger hunts, classroom rallies, Mafia.</p>	<p><b>Quiz-based:</b> Blooket, Quizizz, Wordwall, Baamboozle.</p> <p><b>Simulation and exploration:</b> Minecraft, The Sims, Animal Crossing.</p> <p><b>Creative and social:</b> Digital escape rooms, Gartic Phone, Jeopardy-style games.</p>

Note: Autor's own elaboration.

It is imperative to keep in mind that although digital literacy may initially appear as a limitation, it can actually become an opportunity when students have access to the necessary resources. In such cases, educators can begin introducing digital tools gradually, helping learners develop the skills to use technology critically, responsibly, and ethically. At the same time, while digital tools can be incredibly powerful, it is just as

important to diversify our strategies. Ideally, both analog and digital games should be included, when possible, as each offers different ways to enhance classroom interaction. Interestingly, in today's tech-saturated environments, students are often so accustomed to screens that returning to more traditional, unplugged games can actually feel refreshing.

## Conclusions

Given the complexity of teaching in environments like CEIC, where age gaps and learner diversity are the norm, motivating students demands mediation strategies that break away from traditional instruction. This essay has synthesized how GBL and meaningful classroom interactions can serve as powerful tools to cultivate engagement, persistence, and a sense of community among learners. In fact, it was established that GBL allows instructors to create playful and purposeful learning settings where both teenagers and adults can participate at their own level, and it helps learners negotiate meaning, collaborate, engage, and promote creativity and autonomy regardless of differences. Likewise, intentional classroom interactions can promote meaningful participation among students who might otherwise hesitate to engage due to confidence gaps or social barriers.

Moreover, theoretical frameworks such as Self-Determination Theory and the L2 Motivational Self System reinforce the importance of autonomy, relatedness, and personal relevance. This essay encourages to address motivational needs at CEIC and similar contexts through the intentional use of adaptable games and interaction strategies that respond to learners' varied profiles, stressing that if implemented thoughtfully, these approaches do not just entertain; they actively support motivation.

Additionally, a key distinction emphasized throughout the essay lies between gamification and GBL. While both aim to increase engagement, gamification often relies on game elements and external rewards within otherwise unchanged tasks, whereas GBL entails full integration of games into the learning process, offering deeper opportunities for autonomy and competence. This differentiation becomes critical in classroom design, based on the needs of each group and whether the aim is to foster an internal or external drive.

Another crucial element is the choice between analog and digital games, which depends heavily on learner profiles, access to resources, and format. As shown in Table 1, analog games can foster spontaneous

interaction, social bonding, and reduce technological barriers, which makes them ideal for CEIC's in-person classes. Digital games, on the other hand, offer immersive environments and can promote autonomy and creativity, particularly when DL is scaffolded appropriately. The choice is not about privileging one over the other but about identifying what aligns best with the students' context. Interestingly, even students accustomed to screens often find unplugged games refreshing and engaging when purposefully implemented. Moreover, the cultural dimension of failure in games was addressed as a transformative element, especially for adult learners who often fear judgment. By reframing failure as experimentation, games can help normalize mistakes and support perseverance in language learning.

Likewise, intentional classroom interactions emerged as a crucial factor in motivating learners. At CEIC, where students may initially struggle to connect across age lines, meaningful interaction through structured tasks can improve collaboration and classroom cohesion. In peer dynamics, designing inclusive grouping and fostering emotional safety can help learners feel more comfortable participating, particularly when sharing personal experiences or expressing themselves in the L2. Likewise, teacher-student interactions that are respectful, encouraging, and responsive help students feel seen and supported, reinforcing their willingness to engage and persist in learning tasks.

Importantly, the role of educators as facilitators of interaction and motivation is central. Applying UDL principles, offering scaffolding, and understanding learners' DL levels are essential steps in creating engaging, accessible, and relevant experiences for all students. These actions help ensure that motivation is not left to chance but deliberately cultivated. Overall, this essay reinforces that GBL and intentional classroom interaction are not peripheral activities, but central strategies for building motivating and inclusive environments at CEIC. To support their equitable and effective implementation, continued teacher development and institutional backing are crucial. Future studies could explore the long-term impact of these strategies on learner autonomy and L2 identity development.

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# Learning Objects to Increase EFL Students' Participation

Yuritza De los Ángeles Marchena Guevara<sup>1</sup>  
Universidad Nacional  
Costa Rica  
[yuritza.marchena.guevara@est.una.ac.cr](mailto:yuritza.marchena.guevara@est.una.ac.cr)

## Abstract

This essay focuses on the creative and innovative use of Learning Objects (LOs) to foster EFL students' participation, mainly during tasks that require them to participate orally. It also illustrates how LOs provide flexibility for diverse schedules, adaptability for all types of learning styles, and learner-centered design that successfully addresses common participation obstacles such as low motivation, language proficiency, and lack of confidence. In fact, a variety of theoretical frameworks support the arguments proposed throughout the whole essay, including Communicative Language Teaching (CLT), Task-Based Language Teaching (TBLT), and the eclectic approach. Finally, it is emphasized how vital it is for teachers to be trained in the critical and pedagogical use of these technological resources to ensure their effectiveness. Finally, the essay claims that LOs are more than just digital tools; they turn into innovative essential elements or tools that effectively reach inclusive, participatory, and meaningful instruction in English language learning environments.

**Keywords:** adaptability, benefits, LOs, participation, technology

## Resumen

Este ensayo se centra en el uso creativo e innovador de los objetos de aprendizaje (OA) para fomentar la participación de los estudiantes de inglés como lengua extranjera (EFL, por sus siglas en inglés), principalmente en tareas que requieren su participación oral. También, ilustra cómo los OA ofrecen flexibilidad para diversos horarios, adaptabilidad a todo tipo de estilos de aprendizaje y un diseño centrado en el alumno que aborda con éxito obstáculos comunes a la

1. English Teacher at Clover Hills Educative System (CHES); English Teacher at FUNDATEC; holder of a Bachelor's Degree in English Teaching and a Master's Degree in Education with an Emphasis on English Learning both from Universidad Nacional (UNA,) Costa Rica.

participación, como la baja motivación, el dominio del idioma y la falta de confianza. De hecho, diversos marcos teóricos respaldan los argumentos propuestos a lo largo del ensayo, incluyendo la enseñanza comunicativa de idiomas (CLT, por sus siglas en inglés), la enseñanza basada en tareas (TBLT, por sus siglas en inglés) y el enfoque ecléctico. Finalmente, se enfatiza la importancia de que el profesorado se forme en el uso crítico y pedagógico de estos recursos tecnológicos para garantizar su eficacia. Finalmente, el ensayo afirma que los OA son más que simples herramientas digitales; se convierten en elementos o herramientas esenciales e innovadores que logran una instrucción inclusiva, participativa y significativa en entornos de aprendizaje del inglés.

**Palabras clave:** Adaptabilidad, beneficios, OA, participación, tecnología.

## Introduction

One of the most common challenges for teachers in the modern EFL classroom is encouraging active student participation, especially in speaking exercises. Despite the increasing diversity of language learners, many students still struggle with some issues such as low self-esteem, limited vocabulary, fear of making mistakes, and lack of motivation, all of which restrict their willingness to speak in class (Liu, 2012). Passive classroom behavior, which directly undermines the communicative goals of language learning and leads to disengagement, is frequently the result of these problems. Finding instructional resources and methods that support language development while also enabling students to engage in meaningful and active participation is, therefore, crucial.

Learning Objects (LOs) are reusable, digital teaching materials created to meet particular learning objectives. Many of the shortcomings of conventional EFL instruction are successfully addressed by LOs, which are adaptable, multimodal tools. Similarly, by providing students with multiple opportunities to engage with and produce language, it can be carefully crafted to increase confidence, facilitate differentiated learning experiences, and enhance engagement (Başal & Gürol, 2014). More significantly, LOs provide EFL teachers with the chance to create engaging, student-centered activities that improve motivation and fluency because they are pedagogically developed tools that may include real-life communication scenarios, interactive elements, and authentic language problems. In other words, they are more than just digital information, rather they act as a link between innovative technology and good pedagogical practices.

This paper addresses the advantages or benefits of incorporating technology into EFL instruction showing how it has been emphasized more and more in recent research, especially in relation to improving learner autonomy, scaffolding language input, and establishing inclusive environments that accommodate a variety of learning styles; authors such as El-Sabagh (2021), and Castro (2024) support those ideas. Moreover, it is described how LOs can function as organized sections that focus on scaffolding instruction that lowers anxiety caused by speaking in another language, offer prompt feedback, and promote repeated practice; aspects that are critical for developing oral competence. In addition, the implementation of LOs into established teaching methods like Communicative Language Teaching (CLT) and Task-Based Language Teaching (TBLT) allows to appreciate their value in fostering fluency and competence when speaking, so authors such as Avazmatova (2022) and Kosim et al. (2024) serve as support for those ideas.

On the other hand, teachers must receive sufficient training to use and implement these innovative tools effectively. To do so, they must choose and modify LOs to meet students' needs, reach curriculum goals, and address classroom situations. Thus, in the absence of such training, LOs run the risk of being underutilized or out of alignment with educational objectives. Authors such as Hamidi et al. (2011) and Wiley (2008) justify why teacher training is vital in the process of integrating LOs into classroom instruction. Therefore, this essay seeks to examine and explore the theoretical foundations and general conditions that support the effective use of LOs in ESL speaking instruction, in addition to their practical applications.

### **The Challenges of Fostering ESL Students' Participation**

Addressing students' lack of active participation in the classroom has been an ongoing difficulty for English teachers. Over the years, researchers have focused on analyzing the challenges that most ESL students face, affecting their willingness and ability to participate in classes. As an example, Liu (2012) explained that when learners do not answer questions or interact with their classmates, "these behaviors are frequently interpreted by teachers and researchers as a lack of motivation, cultural differences, low proficiency in target language, pursuit of perfection, peer pressure, fear of losing face, habit, lack of confidence, and so on" (p. 34). Thus, to create a welcoming, encouraging, and productive learning environment, it is crucial to comprehend the

underlying causes of this lack of involvement. Considering these factors, low proficiency in the target language and a lack of confidence are the most common issues, making it necessary to address them. By acknowledging how they interfere with students' participation, it is possible to determine the best method to address them successfully.

### **Motivation**

Motivation plays an important role in the process of learning and teaching a second language. It is an aspect that influences teachers' and students' behaviors, attitudes and interests. To illustrate, Hussain et al. (2020) stated that "without motivation, learners may not start the act of learning at all and for those who have started to learn, they may not be able to maintain their learning once they face hardships in the process" (p. 17). Then, through the process of learning English, it might arise both complex and simple aspects that cause students insecurity to produce sentences or express their ideas, so it means that if pupils are more productive and self-assured while sharing their thoughts and opinions on many subjects, it is because they are highly inspired and motivated.

On the other hand, while learning a second language like English, speaking is crucial for students to practice and produce ideas, sentences, and words in the target language. It is clear that through this process, both complex aspects of the target language will be addressed by the pupils, and that is why they must be motivated to learn. Ihsan (2016) explained that motivation "cannot be seen, but there is a psychological construct; behavior or effort, attitudes, interest, values or desire. Motivation can be seen as the successful aspect when learning a target language deals with speaking the language" (p. 32). It is an aspect that can be perceived through students' behaviors in classroom activities. If pupils are not motivated enough, they do not participate as expected, as they are not interested in practicing the language, which generates negative attitudes towards the topics.

Considering how the levels of motivation might influence learners both positively and negatively, it is essential for educators to carefully select, design, adapt, or create resources that encourage students' motivation to learn, practice, and produce ideas using the target language, thereby avoiding students' non-participation.

### ***Low Proficiency in the Target Language***

Students are frequently reluctant to participate in discussions or activities when they have difficulty understanding or expressing themselves in the target language. This inability to communicate effectively may result in several problems that prevent them from actively participating in the class. For example, Riadil (2020) mentioned that “students who are poor in speaking ability tend to have a lack of vocabulary, grammar, and pronunciation, which belong to linguistic problems. Those problems disturb students in improving their speaking ability” (p. 32). Clearly, low proficiency can lead ESL learners to believe that their contributions are unimportant or unworthy, which can lower their desire to engage. As a result, they might decide to stay silent in class rather than face the risk of making a mistake, feeling that they are “not good enough” to contribute.

In addition, “English language competency is influenced by vocabulary insufficiency along with other factors of language learning” (Khan et al., 2018, p. 409). For instance, some pupils may be unwilling to participate as they are not prepared with the necessary vocabulary to produce ideas related to the topic, and this happens because some students struggle with memorizing vocabulary due to the multiple meanings of a single word. In other words, it will be difficult for students to learn vocabulary if they are unwilling to put in the effort.

Therefore, from a previous experience involving the process of designing a learning object, it can be said that scaffolding activities help students address low proficiency because during that time, it was possible to see how they moved gradually from simple tasks such as word recognition to more complex ones like building sentences orally, gaining confidence to use the target language. Thus, it is an aspect that might be reached through the implementation of LOs in the process of learning because teachers will have the chance to design LOs prioritizing that each section includes scaffolding exercises in which each section or stage builds upon the one before it.

### ***Lack of Confidence***

One of the most frequent and significant obstacles preventing EFL students from actively participating in speaking tasks is the lack of confidence. The fear of using a foreign language in public may be frustrating or overwhelming for many pupils. According to Akbari and Sahibzada (2020) “due to low self-confidence many psychological

barriers such as feeling of insecurity, fearfulness, having anxiety, and feeling yourself apart from the society are possible barriers that may arise for a student during the class" (p. 2). In other words, the lack of confidence affects students' capacity to participate in learning activities directly and it is not just a personal problem, so students who are anxious about their language skills or who fear criticism from others are more likely to avoid speaking assignments or participate passively in class discussions. Enhancing ESL students' confidence involves more than just reducing their speaking anxiety; it also entails giving them the courage to take risks as they progress through their language learning process, making methods, tools, and strategies crucial to overcome these obstacles successfully.

As part of the solutions to foster self-confidence among EFL students, Christie and Listyani (2018) said that "there are some strategies to encourage students' self-confidence in speaking, such as group discussions, games, role-play, collaborative learning, podcasting, language learning strategies, and demonstration. Those strategies can be successfully implemented in learning language, especially in speaking skills" (p. 145). Based on it, it is possible to say that LOs are excellent sources in which those activities might be addressed in a more significant way to help students avoid such feelings of fearfulness, improving their confidence.

### **Understanding Learning Objects (LOs)**

Learning Objects (LOs) have emerged as a key component of contemporary teaching methods, especially in English as a second language courses. They provide instructors with an effective method to enhance student involvement, create a more dynamic learning environment, and meet the diverse needs of students. Learning objects are digital resources that are designed or adapted to simplify learning and teaching. According to Başal and Gürol (2014),

LOs are small chunks of content that are used in facilitating learning. Normally, text books include much information on a given subject related to the language. However, the aim of LOs is to present the lesson subject more effectively by parceling it into digestible pieces for learners. (p. 63)

It means that each learning object is designed to fulfill a certain learning objective, including speaking practice, grammar rules, or vocabulary acquisition. One of the main features of a learning object is its

adaptability since it can be adapted across varied teaching settings, modified according to proficiency levels and combined to different instructional methodologies. Then, it allows them to be employed separately or in combination with a more comprehensive teaching approach. To illustrate, one resource that can be implemented independently for homework is an interactive video; however, in a bigger class session that includes oral exercises such as role-plays or pair conversations, the same LO might also be used as a fundamental resource. Quizzes, digital flashcards and mini-lessons about grammar are examples of common learning objects that facilitate or simplify individualized learning.

### **Benefits of LOs**

Contemplating the fact that in a classroom, all students might have diverse needs and learn differently, LOs become an excellent source for English teachers since they can make sure that every activity within the learning object meets the needs of their pupils. Thus, this flexibility, interactivity, adaptability to different learning styles, accessibility, and capacity to create a more stimulating and inclusive learning environment are the reasons why LOs might increase EFL students' participation.

Firstly, it might be challenging to meet the diverse needs of different learning styles in a regular classroom such as proficiency levels, visual support, hands-on experiences, and auditory resources. Nonetheless, Learning Objects are designed to incorporate multiple media types, including text, audio, video, and interactive components, making them suitable for a variety of learning preferences. Castro (2024) suggested that "VLOs facilitated multisensory learning. By incorporating audio, visual, and kinesthetic elements, these tools cater to various learning styles, making the vocabulary acquisition process more comprehensive and effective" (p. 68). For instance, while auditory learners can participate in spoken language practices or audio-based tasks, visual learners can benefit from videos and diagrams included in Learning Objects. Interactive games and simulations can be used by kinesthetic learners, who learn best through hands-on experiences. All students will be able to interact with the material in a way that best suits their own preferences.

Secondly, promoting active learning and interactivity is another principal advantage of Learning Objects. Through the years, passive learning has been a common practice in traditional teaching approaches

such as lectures, practices based on worksheets and textbook-based sessions, in which pupils only absorb knowledge without actively participating in it. According to Vakhtina and Palkova. (2015),

LO in traditional learning environment mediates learning activities of students and has a one-sided channel of interaction with them. Educator simultaneously is a source of information and an organizer of educational interactions of students. He also selects and develops LO, organizes perceptual actions of students. (p. 662)

In other words, they are designed to be interactive, encouraging students to engage directly with the content they are interested in. Some varied activities such as multimedia presentations, drag-and-drop exercises, simulations, and quizzes might be included depending on students' interests and needs. On the other hand, Castro (2024) claimed that "learning English through VLO allows teachers to teach quickly and affordably, giving students the opportunity to learn effectively and improve different skills/sub-skills in a creative way" (p. 3). Undoubtedly, including learning objects as a method to increase interactivity in the class ensures the possibility to make a more concise shift from traditional classes into more dynamic learning environments.

Thirdly, accessibility is another benefit since learning objects enhance online or mixed learning settings. LOs are especially useful because they can be accessed from any location with an internet connection. This accessibility ensures that, regardless of their location, EFL students can access instructional materials with a single click. Başal and Gürol, (2014) indicated that "LOs present a variety of choices to the language teachers and learners. Given their characteristics, they are reusable, sharable, accessible, durable, and searchable; they are a new kind of learning material especially applicable in web-based distance education" (p. 63). It means that Learning Objects will become increasingly important as technology in education continues to grow, ensuring that language instruction is efficient, inclusive, and accessible to all students.

### ***LOs: Learning Styles and Adaptability***

Teaching and learning a language are complicated due to the variety of students, goals, methods, and resources used as well as the classroom procedures and performance criteria. Due to these aspects, it is impossible for a single approach to yield the best results under all

conditions. Moreover, there is an important view in relation to how students learn and how it influences their participation in the class which shows that each student has his or her own way to learn. Pashler et al. (2008) defined the concept of learning styles as how “individuals differ in regard to what mode of instruction or study is most effective for them” (p. 105). It can be said that learning styles influence how students comprehend, internalize, and apply new information. As shown by Ünsal (2018), “learning styles are the most important components of the learning-teaching process. Although they are not the only effects of learning to happen at different levels and as they are a multi-dimensional concept, they have been discussed from different perspectives” (p. 186). In other words, a previous evaluation among EFL students could provide a better vision of how to involve students according to their learning styles.

For this reason, interactive exercises that assess vocabulary or grammar skills provide students with an immediate understanding of their strengths and weaknesses, enabling them to focus on specific areas for improvement. LOs that integrate speech recognition software allow students to practice pronunciation and receive immediate feedback on their performance. El-Sabagh (2021) mentioned that when resources are adapted to their learning styles, they “are more likely to enjoy learning if they are provided with a variety of instructional materials such as references, interactive media, videos, podcasts, storytelling, simulation, animation, problem-solving, games, and accessible educational tools in an e-learning environment” (p. 20). In brief, every learner may engage with and benefit from the content regardless of their preferred learning style because of the flexibility of Learning Objects (LOs), which accommodate the diverse learning needs and preferences of students. For instance, some pupils could learn well with visual material, while others would do better with kinesthetic or auditory approaches.

### **Role of Technology in Enhancing EFL Learning**

The use of technology in the classroom has grown significantly as education continues to change in the digital age. “Today, various informational and communicational technologies have the ability of facilitating the education and learning process” (Hamidi et al., 2001, p.370). In other words, the role of technology in education has evolved, transforming the way learning and teaching occur. Moreover, this shift is significant when it comes to teaching English as a foreign language (EFL), since technology can improve language learning's efficiency and

accessibility. To illustrate, Panagiotidis et al. (2023) demonstrated in their article that “the use of technology in the foreign language classroom can undoubtedly have a positive effect on increasing students’ motivation and eventually lead them to better learning outcomes” (p. 77). Thus, it means that students, particularly those in EFL classes, benefit from the implementation of technology to facilitate certain activities, such as individualized and dynamic learning experiences that enhance their engagement and subject comprehension as educational institutions adopt digital resources.

Particularly, when working virtually learning management systems (LMS), interactive whiteboards, and digital classrooms are examples of cutting-edge technologies that have transformed traditional teaching into more creative teaching methods. For instance, Hamidi et al. (2011) mentioned “today technology-based education is attainable at the universities of developed countries. Smart schools have made a leap in virtual learning. On-line learning and remote training are among new education forms in the new century” (p. 370). Evidently, the flexibility to learn at any time, from any location, and at one’s own pace has revolutionized education, particularly for non-traditional learners like working adults or those residing in underserved or rural areas. Finally, technology has changed how educators present lessons in the classroom. As it was previously mentioned, LOs have emerged as useful digital tools that encourage students’ participation not only at home but also in high school. Thus, LOs work particularly well for those learners who have different schedules due to their flexibility and adaptability which are aspects that increase student autonomy giving them the chance to take control of their education outside of the classroom.

### **How LOs Support EFL Learners in Speaking Activities**

In EFL contexts, learners’ reluctance to produce spoken language without adequate scaffolding is one of the biggest obstacles to speaking. When oral production is taken into consideration when designing learning objects (LOs), they can offer the support that is required. For instance, instead of just serving as passive content, they foster active speaking environments that allow students to practice and internalize language (Başal & Gürol, 2014). Then, having experienced the process of designing a LO, make it possible to say that guided dialogue exercises, voice response exercises, and digital role-plays give students the chance to practice vocabulary, intonation, and pronunciation in relevant contexts.

Additionally, taking into consideration that speaking in a language that is not the mother tongue increases people's insecurity, LOs that include voice-recording tasks might make students feel relaxed in a setting in which they can make mistakes and grow from them without the direct fear of criticism that comes with in-person classroom interactions. Thus, LOs might be used to foster confidence and progressively reduce the hesitancy and anxiety that frequently prevent oral participation.

Similarly, an advanced learner can select more challenging speaking tasks, such as debates or role-plays, while a shy student might prefer to practice voice recordings privately instead of participating in pair conversations. In fact, this flexibility enables each learner to engage in speaking practices that match their comfort level by gradually building oral confidence. For example, El-Sabagh (2021) emphasized that learners' autonomy and relevance are both enhanced by personalized learning paths in LOs. In the context of speaking, offering students options such as choosing subjects that interest them and adjusting the level of difficulty of the oral task makes them more invested in their own development, as this sense of control boosts motivation and promotes self-directed learning. Therefore, personalization turns LOs into dynamic, learner-responsive platforms that directly aid in the development of speaking skills. Students are more likely to remain interested, participate actively, and see speaking practice as an integral aspect of their language learning process when they see their interests and communicative objectives represented in speaking activities, whether through topic-based discussions, personalized dialogues, or self-paced oral tasks.

Moreover, a great example of LOs in practice is a video task based on speaking prompts, as it allows students to share their point of view or suggest solutions to certain topics, putting new vocabulary into practice through real-world situations. When speaking tasks involve individualized sentence construction or narration, it closes the gap between passive vocabulary knowledge and active oral usage. For example, in her high school study, Castro (2024) showed that virtual language instructors who design LOs focused on vocabulary development greatly increased their students' speaking fluency. Considering this, asking students to record videos minimizes anxiety while promoting increased linguistic accuracy by giving students the time and space to prepare their answers, practice, and edit their speech before submitting it in its final version. It also enables teachers to monitor vocabulary growth, provide personalized feedback on pronunciation, grammar, and fluency, as well as evaluate speaking abilities more successfully over time.

### ***Influence of LOs in EFL Engagement***

Learning objects (LOs) offer a variety of ways to increase engagement by providing interactive, customized, and goal-oriented experiences that capture learners' interest and motivation. LOs are dynamic learning environments that can adjust to the needs of learners and encourage active, sustained participation in speaking activities. El-Sabagh (2021) demonstrated that “using an adaptive model in an adaptive e-learning environment will encourage, motivate, engage, and activate students' active learning, as well as facilitate their knowledge construction, rather than simply taking in information passively” (p. 19). Designing LOs with pertinent, real-world contexts that relate to learners' interests and experiences might improve engagement because learners will have the chance to use language in meaningful ways through scenario-based speaking exercises.

In addition, learner autonomy is a crucial element of engagement. To illustrate, LOs that give students options for speaking partners, task types, and levels of difficulty enable them to take responsibility for their education. Particularly in language learning, intrinsic motivation is a potent engagement booster that is supported by this autonomy. Effective LOs, according to Castro (2024), should be learner-centered and flexible, offering not only content but also a framework that encourages experimentation and self-paced development. This highlights how beneficial LOs are as support networks that incorporate motivation, inclusion, and interaction with the delivery of content. Discussion boards and shared audio recordings are examples of tools that facilitate peer interaction and contribute to the development of a classroom community, even in online or hybrid learning environments. Students' willingness to speak up and participate greatly rises when they feel supported by interactive resources and connected to their peers.

### **Integrating Learning Objects into Pedagogical Approaches**

In today's EFL classrooms, learners have complex and varied needs that are frequently not met by strict adherence to a single teaching methodology because it is no longer pedagogically adequate due to the diversity of students' motivation levels, cultural backgrounds, learning preferences, and language proficiency. All students have different learning styles and contexts which no one teaching approach can adequately address because of that the eclectic approach is particularly useful in this situation since it “encompasses various methods, and a single method can be employed within multiple approaches” (Valledor et

al., 2023, p.11). Considering this information, the adaptability and flexibility of LOs makes them ideal for eclectic pedagogy. They might be useful for achieving a variety of educational objectives such as grammar, vocabulary and conversational skills as well as address learners' demands creatively and interactively increasing their participation.

Equally important, the incorporation of LOs into instruction might also be based on communicative, learner-centered approaches, specifically Task-Based Language Teaching (TBLT) and Communicative Language Teaching (CLT). It is important to define the type of LO such as video-based simulation, speaking prompt generator or interactive quiz that would be implemented. Avazmatova (2022) stated that CLT, and TBLT all encourage peer collaboration, the use of language in real-world situations, and the completion of tasks that call for active communication. Clearly, both approaches emphasize on using language as a tool for authentic, meaningful communication, giving fluency, interaction, and pragmatic competence priority over decontextualized grammar classes or memorization techniques.

Indeed, with an emphasis on meaning negotiation, strategic competence, and contextual language use, CLT encourages students to use the target language in everyday contexts. To illustrate, Thamarana (2015) highlighted that "the communicative approach is concerned with the unique individual needs of each learner. By making the language relevant to the world rather than the classroom, learners can acquire the desired skills rapidly and agreeably" (p. 95). Clearly, if learning objects are aligned with CLT, it will provide students with communicative tasks with a specific goal like interactive storytelling or simulated dialogues. For instance, through a digital role-play that entails advising travelers or resolving scheduling conflicts, learners must be able to use vocabulary while simultaneously adapting their language to the situation.

On the other hand, TBLT organizes instruction tasks that reflect real-world purposes. Kosim et al. (2024) stated that "the main steps in TBLT involve planning authentic tasks that mirror real-world language use, implementing these tasks in the classroom to promote active communication among students, and reflecting on and evaluating the outcomes achieved" (p. 150). Based on it, by carefully designing LOs these tasks might be divided into pre-task, during-task, and post-task phases. For example, learners might build the necessary language input during the pre-task phase by using vocabulary flashcards, watching instructional videos, or completing listening exercises that portray real

scenarios. Then, in the during-task phase, students could engage with one another through collaborative problem-solving tools or simulations to accomplish a task, like organizing an event or discussing a problem. Lastly, the post-task phase might incorporate audio recordings, reflection exercises, or feedback rubrics to assist students in assessing their performance and establishing learning objectives for the future.

### **The Importance of Training Teachers to use LOs Effectively**

Learning Objects (LOs) provide a lot of opportunities to enhance ESL speaking instruction; however, teachers' knowledge, confidence, and digital mastery are necessary for their successful use in the classroom. Nowadays, the most modern digital platforms implemented in the educational field may not work as expected if they are not utilized or used pedagogically effectively. Therefore, educators must investigate before choosing LOs to guarantee that those digital learning resources actually support instructional effectiveness, communicative competence and learner engagement. Hamidi et al. (2011) expressed that teachers must be capable of designing, evaluating, and modifying technology for pedagogical purposes before implementing it into the classroom. This goes beyond simply having access to digital tools. Undoubtedly, instructors must receive training on how to link LOs to particular learning objectives, like vocabulary growth, precise pronunciation, fluency building, or pragmatic language use in speaking exercises, in addition to the technical aspects of digital platforms.

Critical digital literacy is another essential component of training, encompassing the ability to assess whether a learning environment is inclusive, culturally relevant, accessible, and aligned with the objectives of students. Lowe et al. (2010), for instance, discovered that when teachers felt secure in their ability to choose resources that aligned with students' communicative needs and real-world interests, student engagement with LOs increased. To assist educators in becoming astute users and producers of educational materials, teacher training programs should incorporate reflective practices such as peer collaboration, digital tool audits, and classroom-based inquiry.

Furthermore, teachers can modify content over time and in various contexts thanks to LOs' adaptability and reusability, as noted by Wiley (2008). Nevertheless, this advantage can only be achieved if educators are prepared to modify, adapt, and reuse LOs instead of utilizing them

as static content. Both technical proficiency (such as editing multimedia) and pedagogical vision are needed for this (knowing how to transform a grammar-focused LO into a communicative speaking task).

The last requirement is that training be continuous and established in institutional and school cultures. One-time classes are not enough. For teachers to experiment, share, and get assistance in LO integration, they require consistent, cooperative opportunities. As demonstrated by Castro (2024), the effectiveness of LO-based instruction in vocabulary and oral fluency development was primarily dependent on the teacher's ability to scaffold and direct the learning process, a skill that is developed through practice and reflection.

## Conclusion

Considering the previous studies that were mentioned through the whole essay, it is feasible to conclude that LOs have the potential to greatly boost or foster learners' participation. Thinking about how difficult it is for students to participate in oral tasks, LOs can be implemented into classroom instruction to reduce the lack of confidence, peer pressure and low proficiency, which are the barriers that commonly affect EFL students. In addition, whether using LOs provides a dynamic environment to replace all traditional teaching methods, whether using customized tasks, simulations or software to voice recording, LOs offer a dynamic environment that can completely replace conventional teaching techniques because they are more than just digital content. In other words, they are pedagogical frameworks that allow educators to scaffold instruction, motivate students, and help them become more independent when using the target language orally.

Furthermore, incorporating LOs into popular pedagogical models such as CLT and TBLT also enhances their instructional strength. As previously mentioned, task completion and real-world communication are prioritized in these frameworks, and the structure of well-designed LOs easily fits into them. In particular, the TBL cycle's pre-task input, task execution, and post-task reflection stages allow for the integration of LOs, demonstrating how technology can be easily incorporated into communicative approaches without sacrificing pedagogical authenticity.

Importantly, the effectiveness of LOs depends on teacher expertise and preparation. According to Hamidi et al. (2011), the presence of technology in the classroom does not ensure that learners are gaining any useful knowledge. Then, it reinforces the idea that only with

pedagogical reasoning and careful implementation, tools like LOs can only be successful and reach their full potential. As a result, educators need to be prepared to use digital tools as well as be able to evaluate, modify, adapt and incorporate them into their particular teaching environments. Thus, teachers must have a clear understanding about how to scaffold tasks, match LOs with communicative objects and monitor students' progress. In the absence of this planning, LOs might be used inadequately, reducing their educational value.

At the institutional level, it highlights the need for a system that offers professional development because it enables teachers to grow professionally from being content providers to digital curriculum designers. Wiley (2008) emphasized the relevance of giving teachers the flexibility to modify, reuse, and recontextualize LOs to address changing classroom needs. Furthermore, educators can further collaborate and participate in workshops and reflective practice, fostering a professional culture in which LOs are not only effectively used but also continuously improved and contextualized.

Lastly, implementing Learning Objects into ESL instruction is not merely a convenience or a fad; rather, it is a pedagogical requirement for modern and contemporary classrooms. As evidenced by theory and practice, LOs provide the structure, flexibility, adaptability, and interactivity needed to encourage students' involvement in speaking tasks. Clearly, with the support of effective teacher preparation and communicative approaches, they become successful tools to reach educational equity and engagement. In brief, the future of EFL teaching will depend not only on the tools and resources available, but also on how thoughtfully and carefully they are applied because together with vision and purpose, LOs are more than just creative and innovative tools that catch pupils' attention, they become a method to enhance learning as well as ongoing transformation process.

## Limitations

Although this paper shows how Learning Objects (LOs) might improve EFL students' engagement in speaking exercises, it is important to recognize certain limitations. "LOs itself are not good or bad, but the ways to implement them and the learning environments created around them determine their pedagogical value" (Nurmi & Jaakkola, 2005, p. 64). Firstly, the gap in teachers' technical proficiency is a significant issue; many may not have the knowledge or self-assurance to successfully use LOs into task-based and communication activities. To illustrate, use of LOs as

static presentation tools instead of student-centered resources in which students can scaffold tasks more meaningfully. Secondly, some educational institutions, especially those with limited resources, lack of digital equipment and infrastructure are part of the limitations. For example, lacking enough computers, tablets, or reliable internet access, which prevents LOs from being effectively integrated. Thirdly, the different levels of digital literacy among pupils are another barrier. For instance, while some students have little trouble navigating online platforms, others may find it difficult to engage with LOs on a technical level, particularly those who have had no prior exposure to technology.

### Recommendations

1. Get training to use LOs both technically and pedagogically to effectively integrate them into diverse approaches.
2. To conduct a needs analysis might be essential to determine students' competency levels, learning preferences and digital abilities.
3. To anticipate potential obstacles to access could help educators assess the technological resources that are currently available, such as devices and internet connectivity.
4. Teachers should give students detailed instructions and clear technical guidance throughout LOs implementation so they can concentrate on the activities rather than having problems with the platform.

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# Challenges in Teaching and Planning in Costa Rican Public Schools: The Reality of the Action-Oriented Approach

Karen Daniela Ruiz Juárez<sup>1</sup>

Universidad Nacional

Costa Rica

[karen.ruiz.juarez@est.una.ac.cr](mailto:karen.ruiz.juarez@est.una.ac.cr)

## Abstract

This essay examines the challenges faced by Costa Rican public school teachers in implementing the Action-Oriented Approach (AOA) within the English language curriculum. Planning is a fundamental and demanding aspect of teaching that requires considering multiple factors such as syllabus demands, diverse student needs, and limited resources. Through interviews with ten English teachers from the Guanacaste region, this paper explores their understanding of the AOA, their planning experiences, and the practical barriers they face, including overcrowded classrooms, lack of training, inadequate materials, and rigid curricular structures. Combining insights from research and the author's teaching experience, this paper argues for changes to strengthen English instruction in public education in Costa Rica, aiming to drive urgent reforms that improve language learning. These reforms include better teacher training, increased access to resources, and more flexible syllabi. The goal is to raise awareness and support for educators striving to deliver meaningful English instruction in challenging public-school environments.

**Keywords:** Action-Oriented Approach (AOA), English language teaching, Costa Rican public schools, lesson planning, teacher challenges

## Resumen

Este ensayo analiza los desafíos que enfrentan los maestros de escuelas públicas costarricenses al implementar el enfoque orientado a la acción (AOA, por sus siglas en inglés) dentro del plan de estudios del idioma inglés. La planificación es un aspecto fundamental y exigente de la enseñanza que requiere considerar múltiples factores, como las

1. Holder of Bachelor's Degree in Primary Education with an Emphasis on English, UCR, a Licentiate Degree in Teaching, USJ, a Master's Degree in Education with an Emphasis on University Teaching, UNA, a Master's Degree in Education with an Emphasis on English Learning, UNA; teacher of Foreign Language (English) in Primary Education at the Ministry of Public Education since 2006 and academic Professor of the Primary English Teaching major, University of Costa Rica, Guanacaste Regional Branch, Liberia Campus

demandas del plan de estudios, las diversas necesidades de los estudiantes y los recursos limitados. Por medio de entrevistas con diez profesores de inglés de la región de Guanacaste, este escrito explora su comprensión del AOA, sus experiencias de planificación y las barreras prácticas que enfrentan, las cuales incluyen aulas superpobladas, falta de capacitación, materiales inadecuados y estructuras curriculares rígidas. Al combinar conocimientos de la investigación y la experiencia docente de la autora, este trabajo aboga por cambios para fortalecer la enseñanza del inglés en la educación pública en Costa Rica, con el objetivo de impulsar reformas urgentes que mejoren el aprendizaje de idiomas. Estas reformas incluyen una mejor formación docente, un mayor acceso a los recursos y programas de estudios más flexibles. El objetivo es crear conciencia y apoyo a los educadores que se esfuerzan por brindar una enseñanza de inglés significativa en entornos desafiantes de las escuelas públicas.

**Palabras clave:** Enfoque orientado a la acción, enseñanza del idioma inglés, escuelas públicas costarricenses, planificación de lecciones, desafíos docentes.

## Introduction

Planning is an everyday demanding teaching task that allows educators to organize lesson goals, instructional strategies and approaches to follow, assessment methodologies, and the resources needed in order to achieve the expected outcomes. The effectiveness of this assignment depends on successful learning experiences with the students, and allows teachers to overcome the possible challenges and take the necessary actions to ensure learning. However, although we, as teachers, know the importance of planning to organize our teaching and ensure meaningful learning, it is becoming increasingly complicated for most teachers. To plan effectively, we need to take into consideration the syllabus demands, approach, universal design for learning strategies for the variety of learners in our classroom, the resources available, the environment, and time, among others.

Likewise, teaching in Costa Rican public schools faces multiple challenges for teachers, including overcrowded classrooms, limited access to resources, and rigid curricular structures. The lack of motivation to learn and absenteeism are everyday issues teachers have to deal with. According to Tetteh (2018), students who attend regularly

benefit from structured learning environments and improve language learning in contrast to those who miss classes frequently. Also, according to Chaves (2022), public school teachers often manage large class sizes, which demand personalized instruction and classroom management. Additionally, it is popularly known that rural schools lack access to modern technology, making it difficult to integrate innovative teaching methods. The Ministry of Public Education (MEP, 2020) also emphasized that the strict national curriculum limits teachers' flexibility in adapting lessons to students' diverse learning needs, impacting engagement and effectiveness. This syllabus requires the use of the Action-Oriented Approach (AOA) in the pedagogical mediation process, making the teaching and planning job exhausting and challenging in public school scenarios. This essay explores the difficulties that Costa Rican teachers face in implementing the AOA, including a lack of resources, inadequate training, traditional practices, and structural barriers. It stands up for necessary reforms to enhance English language education.

This paper aims to share teachers' opinions of the AOA related to the knowledge and experience they have planning, the challenges they face in their practice, as well as the success or failure of the application of the methodology with their students. To gather teachers' opinions, ten teachers from ten different schools in the Guanacaste Region were interviewed with some of the following questions. First, if teachers understand the Action Oriented Approach. Second, if they know how to plan, and finally, explore some of their teaching practices regarding planning. In some of the experiences heard from teachers, it's been considered that implementing AOA in Costa Rican public schools is challenging due to traditional practices, a lack of teacher training, and insufficient resources. As an English teacher for about 19 years in the Ministry of Education of Costa Rica and as a professor of the Didactic courses in Primary Education in English at the University of Costa Rica in Guanacaste, I must say that to fully integrate the AOA in the classroom, teachers have to work very hard on the preparation of resources, printed and digital materials, technological tools, better infrastructure of classrooms and syllabus flexibility is needed.

Secondly, this essay aims to raise a voice for the Costa Rican teachers who face diverse and complicated challenges with no clear leadership from the Ministry of Education of Costa Rica. Arias (2022) supported that one of the challenges of English as a foreign language

is the limited classroom language opportunity for the learners to practice the language. Also, Chaves (2022) supported in his survey that teachers spend plenty of hours planning, which many educators consider a consuming duty without economic benefits. Besides these facts, I often listen to teachers complaining about the syllabus and the little time they have for teaching, the lack of understanding of the AOA planning, the difficulties they as teachers have to finish a complete AOA sequence of tasks in a week or the interruption of classes because of extracurricular activities and, little time for teaching.

Despite these challenges, Costa Rican educators continue demonstrating resilience and dedication to their students. However, to fully implement AOA and improve English language teaching, urgent reforms are needed. These include better training opportunities, increased classroom resources, better syllabus flexibility, and stronger institutional support. Without these changes, the effectiveness of English language teaching in public schools will continue to be limited, and both teachers and students will struggle to teach and learn English in the public educational system. Raising awareness of these issues is crucial for advocating change, hoping that Costa Rican teachers receive the support and recognition they deserve in their efforts to enhance English language education.

### **Teachers' Perspectives on the Action-Oriented Approach (AOA)**

Since 2017, with the implementation of the new English curriculum for primary and secondary education in Costa Rica, most teachers have been trying to familiarize themselves and adapt their teaching to the new, demanding approach. The Ministry of Education of Costa Rica (MEP) has promoted a shift in language teaching through the adoption of the Action-Oriented Approach (AOA). This new approach was created by the Common European Framework of Reference for Languages (CEFR) to emphasize real-life communication through well-designed tasks to enhance learning and learners' autonomy. But, besides many of its benefits, most teachers have many difficulties in planning and understanding the practical use of the approach, the didactic sequence, and the multiplicity of factors they need to take into account to teach in a diversity of contexts and learning needs.

There is a big group of teachers who have been trained in the pedagogical use of the approach, but they argue that the theory is extensive, requires a lot of time to implement, and that they do not quite understand the purpose of some tasks. It is important for many

teachers to try and follow the scope and sequence provided by *caja de herramientas*<sup>2</sup> at Mep webpage, make some little changes of resources and decide to teach the content in the ways they have always based their teaching in but honestly do not follow the didactic sequence understanding what to plan and what to do in every moment.

Some others, mentioned that although they understand some parts of the didactic sequences, they think it is too long and that the class time is very short and they cannot finish a complete didactic sequence so what they do is teach contents following some other methodologies and in the worst cases improvising strategies without any theoretical foundation related to a language principle of methodology. They argued that to be prepared to teach a lesson using the proposed approach, they would not have any social life because the demands of a single lesson plan take time, resources, and preparation.

Also, there is a third group who is new at teaching in public education that does not have a clear idea that what they are doing is an Action Oriented Approach. They have not had any formal training by MEP authorities regarding planning and teaching with the AOA, and besides, they have received some guidance from teachers with experience and research on the web to learn more about the approach, but not a modeling version to watch to be able to understand the approach. It is well known that the information about this new approach is limited, and the CEFR has not provided a comprehensive pedagogical guide. However, it does outline the foundation of the Action-Oriented approach by emphasizing that language learners are “social agents” who develop communicative competence through real-life tasks.

By focusing on the previous comments of ten teachers who participated in the survey about teaching perspectives of AOA, about the effectiveness of the approach question, some teachers mentioned that they always use strategies from the action-oriented approach, and few of them associate what they do with effective results. Some positive comments from one teacher were motivation when using the AOA strategies to teach vocabulary, and from another teacher, listening strategies were carefully designed for his students. Others refer to more challenges and effective aspects such as: little time to teach with AOA, difficulties in having students interested in the tasks and designing

2. A platform designed by the Ministry of Public Education of Costa Rica which provides teachers with useful resources. For more information, visit <https://cajadeherramientas.mep.go.cr/app/>.

exercises, collaborative tasks, limited time and resources, lack of materials, and facing day-to-day class situations, and getting students to participate.

### **Understanding the Action-Oriented Approach in the MEP Syllabus**

The term Action-Oriented Approach (AOA) describes the CEFR's strategy for enhancing clarity and consistency in the complex areas of language use and teaching. It offers a strong framework that connects individuals to their social environments and emphasizes real-life scenarios along with their consequences and outcomes. Therefore, reproducing real-life situations and assigning tasks, while taking into account different resources and capabilities for the learners to be able to develop their abilities, is the major goal (Piccardo & North, 2019). They are advocating language learning through practical use and encouraging students to apply their language skills in a meaningful context by focusing on communicative competence and fostering linguistic and cognitive development (Council of Europe, 2001).

When it comes to lesson planning with the Action-Oriented Approach, teachers need to promote an environment related to the scenario in which students in most school scenarios will be immersed for a minimum of six weeks, which is the duration of a unit from the syllabus to be followed by the MEP teacher in Primary and Secondary Education (not all MEP scenarios are the same; some exceptions are the specialty programs in secondary). To do so, teachers must provide students with sufficient opportunities to visualize and imagine the scenario, vocabulary, goals, and expected outcomes to achieve. Without this initial step, it becomes very difficult for students to develop the strategies and tasks necessary to engage meaningfully in class. This is because they will not be connected to the situations the teacher is creating for them to perform the different tasks. By engaging in these tasks, students build both broad and focused communication skills, shifting from simply studying the language to using it in real, dynamic, and genuine interactions (MEP, 2016).

According to the Council of Europe (2001), tasks are defined as: any purposeful action considered by an individual as necessary to achieve a given result in the context of a problem to be solved, an obligation to fulfill, or an objective to be achieved. This definition would cover a wide range of actions such as moving a wardrobe,

writing a book, obtaining certain conditions in the negotiation of a contract, playing a game of cards, ordering a meal in a restaurant, translating a foreign language text, or preparing a class newspaper through group work. (p. 10)

In light of this, in an AOA-based class, teachers need to consider the purpose or goal of every well-designed task. Moreover, these tasks need to be challenging yet achievable for students. In addition, the use of appropriate and engaging resources is essential to draw students' attention and support their learning process. For example, some tasks may require the use of information gaps or guiding questions that help students perform activities through a scaffolding process.

Tasks are set in contexts that learners might face in everyday life situations or scenarios. As a result, tasks in this approach often involve the creation of a product as part of the performance. This product may be a blog entry, a recipe for a traditional healthy dish, or an environmental project, in which "not only the specific outcome but also the process is fundamental because it leads every little product to one final result" (MEP, 2016). Thus, the scaffolded process of activities, from the simplest to the most complex, is taken into account. Although this learning process is typically carried out over just four sessions, a final product is expected from students, which reinforces the importance of tasks in the learning process within the Action-Oriented Approach.

In this view of learning, students are regarded as active participants who take responsibility for their own learning progress, recognizing communication as a social act aimed at achieving particular goals. Importantly, the responsibility of assigning students this active role lies with the teacher, who must design the scenario and involve students in it. The AOA "views users and learners of a language primarily as 'social agents', i.e., members of the society who have tasks to accomplish in a given set of circumstances, in a specific environment, and within a particular field of action" (Council of Europe, 2001, p. 9). Additionally, "The learner/social agent is not an empty vessel but a whole person with values, beliefs, an identity, and a language. Furthermore, they possess knowledge and experience that can be used to face the challenge of learning a language. Consequently, this prior knowledge and experience provide points of reference and categories for organizing new learning" (MEP, 2016, p. 29). This holistic perspective, therefore, highlights the importance of personal experience in language acquisition and aligns with the national curriculum's communicative and humanistic vision.

The teacher's role, therefore, is to be a facilitator and help the learner become autonomous. In this process, "the teacher may take different roles such as coach, resource person, advisor, organizer, and facilitator for the learner's successful completion of the tasks" (MEP, 2016, p. 27). Correspondingly, regarding the use of technology, the teacher's role is to implement diverse and relevant methodologies and ICT tools to empower learning and action research. In doing so, they can design effective, communicative tasks and contexts that help develop the learners' knowledge, skills, and attitudes for communication in English (MEP, 2016).

MEP's syllabus considers technology an essential part of a globalized world, one where young learners are naturally immersed. As such, its implementation in English classes is no longer optional but necessary. This, in turn, demands that teachers be prepared to adapt to the context and needs of today's students. In support of this, the internet is considered a "fundamental tool for providing students with real input for listening and reading tasks, such as podcasts, radio broadcasts, online television, movies, and songs. Additionally, mobile phones can be integrated to create real exchanges for listening and speaking activities" (MEP, 2016, p. 27).

Some strategies used by the Action-Oriented Approach involve students carrying out projects or mini-projects as a means of producing the four language skills. While completing these tasks, learners may seek and manage information through digital technologies, collaborate on shared documents online, make classroom presentations, and publish their work on the internet, both inside and outside the classroom (Ipek & Acar, 2023). These projects, therefore, play a key role in allowing both teachers and students to put into practice the language skills learned throughout the unit. In many cases, technology is highly regarded as a valuable and engaging resource by both parties.

### **Challenges in Implementing AOA**

As mentioned before, one of the challenges teachers face when implementing the action-oriented approach is time constraints. Teachers struggle a lot to complete the full AOA sequence. First, many situations interrupt the class time, such as extracurricular activities such as art festivals, sports championships, and science fairs. Second, civic acts about holidays and important celebrations in the country are known as *ephemerides*, as well as congresses of labor organizations. Finally, the time to complete a sequence. It is fundamental to describe what a

complete sequence of AOA in MEP's planning means. It includes the following stages: Pre-Teaching, Pre-Task, Task Rehearsal, Task Completion, and Task Assessment. Every stage is going to be described next to take into consideration how the development of the sequence affects teachers' time to finish the process.

1. The Pre-Teaching Stage: During this time, teachers do a warm-up activity, then share the goal of the day, and develop a task to activate the students' prior knowledge. For example, the teacher may ask students questions about some pictures related to a specific topic or scenario, brainstorm ideas, or review sentence structures, among others. In this stage, the teacher must stimulate students' knowledge; they must be creative and motivating, and if they do, results can be better in the later stages. Next, modelling, in this task teacher should model to students the structures and contents to be taught during the class is more like presenting on a little stage the topic, and finally, clarifying, which means using some assessment strategies to make sure students comprehend what was modelled or presented before (MEP,2016). Those might be questions about what was presented to see if students could replay or comprehend.

2. Pre-Task: During this stage, the teacher prepares students with some basis to be able to develop the rest of the tasks. Here, the teacher reintroduces the objective and expected result of the task, helping students tap into their prior knowledge to complete it again. Key language and sentence structures are revisited and presented as phonological components. Whenever possible, students are encouraged to engage in practical, hands-on activities or combine this phase with interactive videos of engaging games related to the topic, once again emphasizing the key vocabulary. Also, as communicative competence needs to be developed, listening, reading, speaking, and writing skills are selected by the teacher to plan tasks according to the goal and the skill or skills to be performed. Here, the pre-task activities vary according to the skills (MEP, 2016). Most of the time, this is done in a different class than the pre-teaching stage because of time, so it is like a repetition of the pre-teaching, but in a shorter way, preparing students for the next task.

3. Task-Rehearsal: As the name implies, in this task, the major goal is to rehearse the part of the language that needs to be learnt by the students. So, the activities or strategies developed to practice the language are arranged for students to practice speaking, listening, reading, or writing. In this stage, students need to have all the vocabulary and structures necessary to solve the task using all the resources they have. For example, students may rehearse a presentation or revise a written report, interview their classmates, etc (MEP, 2016).

4. Task Completion: In the task, the main goal is for students to complete a strategy already designed by teachers. At this point in the class, students are expected to be familiar with the vocabulary, language structures, or different parts of speech, for example, to fill in the blanks when listening to an audio, a podcast, a song, etc. At this stage, it is important to support, monitor, and encourage the students while solving a task, keeping in mind that they do a part of the task by themselves, following the provided clues (MEP, 2016).

5. Task Assessment: This task is for teachers to determine if students reach the expected goal or determine in what stage of learning they are. Teachers should carefully design the task assessment, taking into account the previous scaffolded process. Some ideas involve strategies where a product might be seen in any of the skills. It is also an opportunity for teachers to provide rubrics for assessing students' task performance and move progressively to self-assessment and peer assessment. A post-stage of task assessment is the post-task, where additional practice and feedback are provided in areas requiring improvement, such as listening, writing, speaking, reading, vocabulary development, and awareness of phonemic patterns (MEP, 2016).

Another challenge is the workload; in a previous study about the challenge of teaching English in the post-era language teaching methodologies of Chaves (2022) he pointed out that one of the heaviest challenges for teachers is the amount of work they have on their plates, referring to the responsibilities teachers have on their hands such as planning, and I could add some others like creating materials, finishing reports, designing materials, rubrics, tests, specialized material for taking into consideration universal designs of learning for some students with specific learning needs, etc. All of those are already overwhelming,

charging teachers with pressure and stress and, much more importantly, limiting their spare free time and their families. Workload affects teachers emotionally and mentally, often leading to stress and burnout (Skaalvik & Skaalvik, 2017). This continuous overload not only impacts their performance in the classroom but also takes a serious toll on their overall well-being and work-life balance.

Student engagement is one of the most pressing issues teachers face today, especially in public education. In a saturated era of digital content and constant need to be connected, students are often exposed to plenty of distractions that make it difficult for them to concentrate, follow learning goals, and have and maintain study habits. Most of them, since they were born, were exposed to technological devices such as smartphones, tablets, and other screen devices, which have influenced their attention span and cognitive development. Studies have shown that constant digital stimulation can negatively impact the prefrontal cortex, the area of the brain responsible for executive functions such as focus, planning, and impulse control (Small & Vorgan, 2008). Moreover, research suggests that excessive screen time may reduce sustained attention and make it more difficult for students to engage deeply in learning tasks (Radesky et al., 2020). As a result, teachers face difficulties in motivating students and designing attractive materials and activities that can fulfill students' expectations, especially when students' goals are far removed from learning what is proposed in the syllabus or the target language.

It is a fact that not all students have the facility of learning a second language. According to the multiple intelligences theory, individuals with strong linguistic intelligence are typically more capable of acquiring and using language effectively, which can facilitate second language learning. However, those with lower linguistic intelligence might require different instructional strategies, such as visual or kinesthetic support, to enhance their learning (Gardner, 2011). Demanding teachers use more techniques to make English as a second language attractive and motivating for those types of students.

### **Structural and Systematic Challenges in Costa Rican Public Schools**

Costa Rica's public education system faces several structural and systematic challenges. UNESCO (2020) supported in its study that the digital divide among countries is the lack of government investment and the social inequities that have been dragging on for years. In Costa Rica, this is a reality because although Costa Rica has committed to allocating 8% of its GDP (Gross Domestic Product) to education; however, according

to *Programa Estado de la Nación*, the allocation has been below almost half of the target in recent years (2023). Also, according to the *Noveno Informe Estado de la Nación (Programa Estado de la Nación, 2023)*, published after the COVID-19 pandemic, students show a huge gap in learning in comparison to previous years in different areas of learning. One of the biggest problems during the pandemic was the lack of technology for most students around the country. The technological devices available were very few to provide students with the necessary equipment to have a qualified education during the pandemic.

Technological limitations have persisted even five years after the pandemic. The education budget has continued to decrease, and government investment is still poor to the population's demands. Some of the technological limitations presented today at the Ministry of Education schools are the lack of access to technological devices, such as plasma screens, video projectors, sound equipment, and a fast and reliable Internet service, as well as some other modern teaching tools. In the implementation of the Action-Oriented Approach, the use of technology is fundamental for its everyday use. Language learning in this approach relies on the use of technology to fully involve students in real-life scenarios. Technology, according to the MEP syllabus, acts as a crucial tool to facilitate communication, accessing information, and creating authentic learning experiences within the AOA framework (MEP, 2016). In contrast to the expected, teachers deal with the limitations stated before to provide students with authentic scenarios provided in videos and other technological resources that MEP's planning templates suggest. Most of the time, teachers use their own personal resources to provide students with authentic scenarios because MEP does not equip teachers with the necessary tools, and they need to be able to do their job effectively.

Regarding other types of resources as printed and digital materials to support AOA-based instruction, the limitations are even wider because a teacher should select from whatever book or internet website resource to provide input and printed material to students to rehearse, complete, read, and watch because teachers do not have books, booklets, or printed materials for their students. Schools allocate from the budget some resources for teachers, such as white sheets, markers, etc, which depend on each learning community, budget, and principal, but the reality is that they are always few. The Political Constitution of the Republic of Costa Rica (1949) stated that preschool and basic education are free and compulsory. Besides, this provision ensures that all citizens have

access to a basic level of education without financial barriers. There still exist a lot of barriers, which at the end are in charge of the teachers' personal budget due to the lack of resources, which is unfair and very demanding for teachers to do their job.

According to most of the teachers interviewed, many of them expressed that the syllabus limited their flexibility because it was very extensive, and they did not have enough time to cover all the content, especially considering the specific challenges they face in the classroom, such as large classes, learning difficulties, and time constraints. These factors made it difficult to implement personalized instruction, meaningful activation of prior knowledge, and proper scaffolded pedagogical instruction. Furthermore, a 2023 study about the teachers' perception of the English curriculum change in Costa Rica revealed that participants perceived the materials provided by the AOA were not adapted to the time for instruction they had, for example they said that AOA plan suggested a video that lasted fifteen minutes, but that particular teacher had just three lessons per week and that specific teacher did not have internet access at their school. Moreover, some teachers commented on minimal support and unclear leadership from educational authorities that denied help, resources when needed (Vargas et al., 2023). Notably, even after nine years of having a new syllabus and pedagogical approach, teachers still do not have access to official textbooks or instructional references, nor the appropriate support and leadership from their authorities. There are very few training workshops, and as the interviewed teachers answered, the workshops received more in giving information, based on theory and an end-to-do list for teachers, than modeling and giving strategies to make everything work in their teaching practice.

### **The Need for an Educational Reform**

Teacher training and professional development play a crucial role when implementing a new curriculum or educational reform. I was part of the first training for teachers on the English Syllabus for primary education, organized by MEP. I remember receiving a couple of training sessions to understand the syllabus and following its theoretical foundation, based on the Action-Oriented Approach, but it took me two to three years to become familiar with the pedagogical didactic sequence. Even though I had some guidance at that time, many teachers have reported no preparation and a lack of clear guidance for its practical application. This gap in training shows the urgent need for more effective

and practical professional development that goes beyond theoretical understanding to include hands-on strategies, classroom modeling, and contextual adaptation.

Furthermore, there is a need for teaching opportunities to continue learning, reflection, and peer collaboration. There are few spaces for the teacher to reflect on their teaching practices, and teachers should have paid lessons to plan and organize their lessons. Having time to reflect on their practices, either positive or negative experiences, allows teachers to understand the purpose of their calling, the guiding principles under their teaching experiences, and helps teachers overcome the challenges they face, preventing burnout and traditional teaching methods (Machost & Stains, 2023). Teachers need opportunities for reflection to continue learning and have methodological support. Generations are changing, students are coming with sensory overload, which makes it harder for teachers to capture their interest in learning, and MEP is not providing the methodological support to prepare them for the actual challenges.

For these reasons, there is a need for policy change and institutional support at the Ministry of Education of Costa Rica to fully direct the Costa Rican population to the bilingual path they are dreaming of (Vargas et al., 2023). To do so, it is fundamental to consider a more flexible curriculum to allow adaptation to students' needs or update the one that is currently being used. Also, investing in classroom resources and technological tools, and providing MEP with stronger leadership nationally and locally to approach the entire primary and secondary education around the country.

But what does it mean to have a more flexible curriculum that allows for the educational needs? Students may not have the expected level of English if they do not have the quantity and quality of input required. According to Gass et al. (2020), both the quantity and quality of language input are crucial for successful second language acquisition. They argue that learners benefit most from exposure to rich, meaningful input that is frequent and contextually embedded, as it promotes deeper processing and long-term retention. This aligns with the principles of the Action-Oriented Approach (AOA), which emphasizes learning through real-life communication. As Little et al. (2017) stated, the AOA fosters autonomy, collaboration, and authentic language use by encouraging learners to participate actively in goal-oriented tasks. However, in the classrooms, related to quantity and the authentic use of the language,

the expected goals do not correspond to the time dedicated to teaching, for example, the quantity of lessons dedicated to English as a subject in most educational centers.

Regarding quality, there is a double discourse between the aspirations of the curriculum and the actual government investment in bilingual education, and education in general, because the resources provided are insufficient. Teachers often rely on their materials and face increasing workloads, while simultaneously managing the complex social, economic, cognitive, and learning needs of their students. This disconnection between policy and practice has led to frustration and burnout among educators, as well as concerns about the effectiveness of bilingual implementation (Vargas et al., 2023). Due to those facts, there is a need for stronger leadership from the Ministry of Education to improve the quality of education in the National System, making political changes and providing institutional support.

## Conclusion

The implementation of the Action Oriented Approach in Costa Rica's public education system continues to present significant challenges for teachers. They face a complex landscape when implementing the Action-Oriented Approach in public schools. The structure of the AOA sequence, although pedagogically rich, is often difficult to complete due to time constraints caused by frequent interruptions to class time and an already demanding schedule. Each stage of the AOA, pre-teaching, pre-task, task rehearsal, task completion, and task assessment, requires thoughtful preparation and execution, yet teachers are also burdened with excessive workloads that include planning, materials creation, administrative tasks, and adapting lessons to meet diverse student needs. Moreover, teachers must manage the growing student disengagement and disinterest in a digitally overstimulated world, while also addressing the challenges of learners with varying cognitive and linguistic capacities.

Consequently, these realities demand more than isolated efforts by teachers; they require systemic change. Increased investment in teacher training, technological resources, and curriculum support is essential. Educational authorities must recognize teachers not just as implementers of policy but as key actors in educational reform. Supporting and empowering them is not only fair, it is fundamental to the success of bilingual education and the full realization of the Action-Oriented Approach in Costa Rica's public schools. If teachers are treated professionally, with increasing support, training, and resources toward education, better instructional results are going to be achieved.

This essay intends to argue in favor of changes to strengthen English instruction in the Costa Rican Educational System. Due to the current condition of public education and the many challenges it faces, there are more private institutions, and there is a growing preference for more families to consider private education as an option. But besides, families are free to choose, and private institutions provide better curriculum opportunities to learn. The reality is that the majority of students in Costa Rica cannot afford private education and still deserve a qualified bilingual education. This may provide learners with the skills they need to survive and be productive in this world. Which is what MEP originally dreamed and stated, “the national vision for the teaching of English is to empower Costa Rican citizens to become bilingual through the development of communicative competence” (MEP, 2016, p. 9). To turn that vision into a reality, the government must strengthen public education by investing in equitable reforms, resources, and support systems that ensure no student is left behind.

Ultimately, achieving the dream of a bilingual Costa Rica through public education requires more than curriculum innovation –it demands commitment, equity, and sustained support. The Action-Oriented Approach offers a solid pedagogical framework, but without addressing the systemic barriers teachers face daily, its potential is useless. Ensuring that all students, besides of socioeconomic background, receive a high-quality English education is not only a matter of justice but a national cause. It is time for policymakers, educational leaders, and communities to prioritize public education, value the work of teachers, and invest in the conditions necessary for real change. Until then, Costa Rica can truly fulfill its vision of empowering its citizens through bilingualism and open doors to a more inclusive, competitive, and connected future.

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# Flipped Learning as a Tool in TEFL to Enhance Higher Education Beginner Students' Engagement with Listening Resources Outside the Classroom

Sirlen Johanna Vargas Méndez<sup>1</sup>

Universidad Nacional

Costa Rica

[sirlen.vargas.mendez@est.una.ac.cr](mailto:sirlen.vargas.mendez@est.una.ac.cr)

## Abstract

This essay explores the implementation of the Flipped Learning Model (FLM) as a tool to enhance the English listening skills of beginner university students outside the classroom in a TEFL context. Recognizing that listening is a cognitively demanding skill often constrained by limited class time, the FLM offers a flexible and student-centered approach that promotes autonomy, metacognitive awareness, and active learning. Drawing from literature and classroom experience, the proposal outlines a structured model that includes initial and final assessments, an orientation session, pre-class tasks guided by top-down and bottom-up strategies, and metacognitive strategies. The use of authentic materials such as YouTube, TED Talks, podcasts, and TikTok is emphasized for real-world exposure to the English language. Key recommendations include incorporating assessments for making informed decisions, encouraging metacognitive reflection through journals, and grading pre-class tasks to enhance accountability. The essay concludes that a thoughtfully implemented FLM can foster more independent, reflective, and proficient listeners in higher education EFL programs.

**Keywords:** flipped learning, higher education, learner autonomy, listening skills, TEFL

## Resumen

Este ensayo explora la implementación del modelo de aprendizaje invertido como herramienta para mejorar las habilidades de comprensión auditiva en inglés de estudiantes universitarios principiantes fuera del aula, en un contexto inglés como lengua extranjera. Al reconocer que la comprensión auditiva es una habilidad

1. Licenciada en English Teaching as Foreign Language from the University of Costa Rica; instructor of English at the University of Costa Rica, Caribbean Campus

cognitivamente exigente, a menudo limitada por el tiempo limitado de clase, el aprendizaje invertido ofrece un enfoque flexible y centrado en el estudiante que promueve la autonomía, la conciencia metacognitiva y el aprendizaje activo. Con base en la literatura y la experiencia en el aula, la propuesta describe un modelo estructurado que incluye evaluaciones iniciales y finales, una sesión de orientación, tareas previas a la clase guiadas por estrategias descendentes y ascendentes y estrategias metacognitivas. Se enfatiza el uso de materiales auténticos como YouTube, charlas TED, podcasts y TikTok para la exposición real al inglés. Las recomendaciones clave incluyen la incorporación de evaluaciones para la toma de decisiones informadas, el fomento de la reflexión metacognitiva a través de diarios y la calificación de las tareas previas a la clase para mejorar la rendición de cuentas. El ensayo concluye que un aprendizaje invertido implementado con cuidado puede contribuir a la formación de oyentes más independientes, reflexivos y competentes en los programas de EFL de educación superior.

**Palabras clave:** Aprendizaje invertido, autonomía del estudiante, educación superior, habilidades de escucha, inglés como lengua extranjera.

## Introduction

Based on my experience as a university instructor, I have observed that beginner English students often struggle with developing their listening skills. This difficulty is expected, as listening is often regarded as one of the most challenging skills to develop. Limited classroom time further hinders progress. For this reason, it is crucial that students engage in listening practice outside of class autonomously. In fact, independent learning is one of the essential skills that university students must develop both for academic success and lifelong learning. However, beginners frequently lack the knowledge to find and use appropriate resources effectively, relying solely on classwork, which limits their learning and creates dependency. Thus, a guide is needed to help them become autonomous learners and engage with the language beyond the classroom. Drawing on my experience and recent research, this essay proposes Flipped Learning as a solution to this issue, as its core principles align with the identified needs. Successful implementation requires consideration of several key concepts.

## Listening

Listening is a complex skill that requires interpretation, meaning, and comprehension. As learners listen, they interpret sounds and identify keywords from "the flow of speech to construct meaning. They also make guesses about what they are going to hear next and check the new information against their predictions and knowledge of the world" (Nemtchinova, 2020, p. 2). Therefore, listening involves more than just understanding words; learners must also decode accent, pitches, and intonation (Heredia-Arboleda et al., 2024). These processes are not separate; they happen simultaneously and are interrelated with one another, which is why this skill is regarded as one of the most difficult to develop in an English as a Foreign Language (EFL) context. Moreover, Rost (2024) explained that learners need a clear understanding of these processes involved and must develop metacognitive awareness to manage their comprehension and learning efforts.

## Metacognition

As previously discussed, listening is considered a cognitively demanding skill as it involves numerous micro-processes. Metacognition focuses on the process rather than the product. The implementation of metacognitive strategies can help learners gain intentional control and self-regulate their listening development. Flavell (1979) defined metacognitive knowledge as "knowledge or beliefs about what factors or variables act and interact in what ways to affect the course and outcome of cognitive enterprises" (p. 907). Building on this, Goh and Vandergrift (2021) explained that through metacognitive instruction, teachers can guide students to learn how to listen (process-focus), including the use of strategies. Therefore, in this approach, teachers not only present listening tasks, but also help students reflect on how they plan, monitor, problem-solve and evaluate their listening efforts. Based on Goh and Vandergrift (2021), metacognitive strategies consist of four main phases:

**Planning:** Listeners prepare themselves, set goals, and strategies. To plan for the successful completion of the listening task, based on Goh & Vandergrift (2021), listeners can:

- bring to consciousness their knowledge of the topic and any relevant cultural information;
- analyze the text genre and recall how information might be organized in it;
- anticipate words and/or ideas that they may hear;

- determine where to pay attention and decide on how much detail to find, based on their purpose for listening, in order to direct listening efforts;
- predict what they will hear, based on information brought to consciousness and any relevant contextual information. (p. 116)

**Monitoring:** During this phase, students actively check their comprehension and progress and make adjustments as necessary. According to Goh and Vandergrift (2021), listeners can:

- evaluate continually what they understand;
- verify predictions and accept the fact that they do not need to understand every word;
- assess their level of comprehension;
- verify progress in their comprehension of the desired information and necessary details;
- determine whether the approach to understanding the text is working or not. (p. 116-117)

**Problem-Solving:** As learners monitor their comprehension and face challenges, they need to adjust their approach to the task or employ specific strategies. According to Goh and Vandergrift (2021), learners can:

- adjust their approach by activating more appropriate strategies as required (e.g., revise predictions or adjust their inferences to reflect new possibilities);
- make inferences about the meaning of a chunk of text they did not understand by deducing from the information they are confident they have understood;
- ask for clarification, if the listening context allows for this. (p. 117)

**Evaluating:** This final component entails reflecting on the learning experience. Listeners can:

- reflect on difficulties encountered;
- reflect on the effectiveness of the strategies used;
- reflect on the success of problem-solving efforts. (Goh & Vandergrift, 2021, p. 117)

### **Listening Approaches**

There are various cognitive strategies in the nature of listening. In this proposal, I will focus on the bottom-up and top-down strategies. Nemtchinova (2013) explained that the bottom-up processing “refers to

deriving meaning from individual lexical, grammatical, and pronunciation features...leading to overall comprehension" (p. 6). This approach views listening as a process in which learners begin with the smallest units of language such as phonemes, syllables, and words and gradually build up to understanding larger chunks of meaning like phrases, sentences, and entire passages. According to Nemtchinova (2020), for develop bottom-up processing, students could be asked to:

- distinguish individual sounds, words boundaries, and stressed syllables;
- identify thought groups;
- listen for intonation patterns in utterances;
- identify grammatical forms and functions;
- recognize contractions and connected speech; and
- recognize linking words. (p. 26)

On the other hand, Nemtchinova (2020) explained that top-down processing relies on the listener's prior knowledge and experience to make sense of what they hear. Instead of focusing on decoding individual linguistic elements, this approach emphasizes understanding the overall meaning by using context clues. To develop top-down processing, students could be asked to:

- listening for gist, main ideas, topic, and setting of the text;
- listening for specific information;
- sequencing the information;
- predicting;
- guessing; and
- inferencing. (Nemtchinova, 2020, p. 26)

### **Listening Stages**

Listening tasks are composed of three stages: pre-listening, while-listening, and post-listening. Nemtchinova (2020) explained that pre-listening tasks are designed to activate students' vocabulary and knowledge on a particular topic. The purpose of these activities is to improve comprehension, increase confidence, and motivation for further listening to the passage. In addition, it is crucial that students know why they are listening, as Nemtchinova (2020) said that having a purpose helps students listen more effectively. Some examples of pre-listening activities include:

- providing the title of the text;
- brainstorming keywords;

- previewing vocabulary;
- previewing comprehension questions;
- providing background information, and
- discussing images related to the text or topic. (Nemtchinova, 2020, p. 38)

While-listening activities allow students to practice both bottom-up and top-down listening skills. Some examples include:

- identify grammatical forms and functions;
- recognizing connected speech;
- listening for specific information;
- summarizing the conversation;
- answering comprehension questions; and
- ordering information. (Nemtchinova, 2020, pp. 26-27)

Lastly, post-listening activities allow learners to extend and deepen comprehension and develop critical thinking skills. Some examples of post-listening activities are:

- role-playing and acting out simulations;
- analyzing the tone of the listening and the emotions conveyed by the speakers;
- responding to the content;
- paraphrasing or summarizing;
- discussing their use of strategies; and
- working on vocabulary. (Nemtchinova, 2020, p. 39)

### **Authentic Listening Materials**

As I have observed, it is most helpful when learners are exposed to authentic listening early in their language learning journey. Authentic listening involves the language native speakers use in real-life situations (Nemtchinova, 2013), such as in YouTube videos, TED Talks, podcasts, TikTok, among others. Selecting these types of resources helps students develop their skills in decoding different accents, varying speed rates, regional dialects, and more. Additionally, a study by Treve (2023) found that the use of authentic materials enhances learner's vocabulary acquisition, cultural understanding and overall language proficiency in real-life contexts. Therefore, students learn beyond vocabulary and grammar and also gain a deeper understanding of culture, customs,

social norms, and ways of thinking of the native countries where English is spoken, which all contribute to better communication skills in the target language.

### **Flipped Learning**

As summarized by Zain (2022), the Flipped Learning Model (FLM) consists of reviewing content outside the classroom while using class time for discussion and application. This approach changes the dynamics of a traditional classroom by shifting the focus from passive content delivery to active learning. In a flipped setting, students come to class already exposed to foundational material, such as vocabulary, grammar structures, or listening strategies, allowing classroom time to be used more effectively for interactive tasks, clarification, and guidance. This shift is particularly beneficial in the development of listening skills, as it provides students with the opportunity to engage with input at their own pace before class and then practice and refine their comprehension through meaningful interaction and teacher feedback in class. Consequently, the FLM not only promotes greater autonomy and responsibility but also creates space for deeper cognitive and metacognitive engagement with listening content.

According to Walsh et al. (2021), to apply "flipped learning effectively, instructors incorporate four pillars into their educational practice (F.L.I.P.): Flexible Environment, Learning Culture, Intentional Content, and Professional Educator" (p. 2). I consider these pillars to also be the benefits of applying the model in the EFL classroom. The first pillar is a flexible environment, which refers to the possibility of students selecting when and where they learn if they comply with the deadlines (Walsh et al., 2021). Therefore, learners can engage with listening tasks at their own pace and time, and class time is no longer a limitation. As mentioned earlier, listening implies various simultaneous microprocesses, and sometimes it takes time for students to fully process. This model allows students to focus on each process at their own speed. Moreover, my students have mentioned several advantages they have found with this flexible environment, as they can manipulate the information in different ways to be able to understand it: repeating as many times as needed, slowing down, enabling subtitles, looking up words they do not know, among others.

The second pillar is the learning culture, which refers to a shift from an instructor-centered to student-centered approach. As higher education educators, one of the key points that we must foster in our

students is learning autonomy. As explained by Saeed (2021), learner autonomy is one of the key abilities that contribute to lifelong learning for language learners, and the university is the environment where they learn to take responsibility. When students are encouraged to take ownership of their learning, they take an active role in their learning process and become less dependent on the teacher. As instructors, we provide students with the available resources and explain how to use them to learn to listen, but it is their responsibility to engage and follow the process. Lastly, as Caruso and Verdina (2024) stated, in language learning, it is crucial that students understand the importance of constant work outside the classroom to gain language proficiency.

The third pillar is intentional content, which must be directly aligned with learning targets (Walsh et al., 2021). The instructor is responsible for selecting the appropriate content for the flipped and face-to-face components. In the flipped portion, this may include the audios, videos and the strategies to follow that introduce foundational knowledge. The face-to-face sessions should focus on applying, analyzing, or extending that knowledge through active learning strategies. This careful selection and scaffolding of content empower students to become more autonomous and prepared participants in their learning process.

The fourth pillar is the professional educator. Walsh et al. (2021) explained that the teacher's role changes to that of a facilitator who actively supports and guides the learning process. This involves observing, monitoring progress, adjusting instruction based on students' needs, offering timely feedback, and conducting ongoing formative assessment. It is essential that both teachers and students understand and respect this new dynamic. Teachers must continuously reinforce students' roles and responsibilities, especially their commitment to complete the pre-class tasks and fully engage in the process.

## Literature Review

This section presents a selection of studies relevant to the development of the present essay. The aim of this review is to identify key insights from their implementation that can inform and strengthen the design of the current proposal. In addition, it highlights examples of potential listening resources that teachers could incorporate into their practice.

## Use of YouTube

A study by Rudneva et al. (2020) explored the use of the Flipped Learning Model (FLM) to improve students' listening comprehension in English for Academic Purposes (EPA) and English for Specific Purposes (ESP) at university level. Students engaged with authentic EPA/ESP listening materials, YouTube videos related to class content, and completed listening quizzes followed by in-class discussions. The study used pre-tests and post-tests to measure improvement, and the results indicated positive outcomes.

First, I would like to point out the use of YouTube videos as a valuable resource in language learning. It offers an immense variety of content ranging from interviews, vlogs, educational channels and more, and it is easily accessible from any device which is convenient for students to engage with language input anytime and anywhere, supporting flexible and autonomous learning. In addition, many videos include the option to enable subtitles, which can support comprehension linking spoken and written forms of the language in real time. Additionally, the visual context such as gestures, facial expressions, and situational cues can greatly aid comprehension. Another advantage is that once the students start using it, it will start suggesting related content, which could be helpful for sustaining interest and engagement. Therefore, YouTube offers multiple benefits that learners can utilize to enhance their listening skills.

Second, I would also like to emphasize the practice implemented by Rudneva et al. (2020) of providing a hands-on-oriented class. Since learners might be novice with the Flipped Learning Model, it is imperative to impart an introductory session that clearly explains how the model works, including objectives, expectations, learner responsibilities, access to materials, and more. Moreover, including a hands-on section ensures that students not only understand the theoretical aspects but also gain practical experience. To achieve the best outcomes with FLM, it is crucial that students fully comprehend what they are doing and why, as this understanding directly impacts their engagement and success.

Third, the authors noted that since the receptive part of the learning occurred off-site, the classroom time was allocated for the development of critical thinking skills (Rudneva et al., 2020). They mentioned the time was used to assess general understanding of the content presented in the flipped portion and engage in active tasks such as discussions and debates. Furthermore, from my point of view, the assessment part can be

further enriched by guiding students to reflect metacognitively on the strategies they used on the planning, monitoring, problem solving and evaluating phases, in order to establish action plans for their improvement.

### **Use of TED Talks**

Puspita and Amelia (2020) investigated the use of TED Talks (Technology, Entertainment, Design conferences) to enhance university students' learning autonomy and listening skills. Participants completed a pre- and post-intervention questionnaire on their autonomy. Throughout the study, students were required to watch a maximum 6-minute TED Talk video per week and maintain a listening journal. The results showed a positive impact, with students gaining more control over their own learning and increasing their autonomy.

First, I would like to refer to the use of TED Talks. They can be easily accessed through their official website, which include transcripts, or YouTube channel. TED Talks also offer a wide variety of topics, speaking styles, and time lengths that can suit different English proficiency levels. In addition, they are often considered more academic and a model for public speaking purposes, which are additional benefits for university students. In my professional practice, I have chosen to use TED Talks partly for these reasons.

Second, the use of a journal is interesting because it allows students to reflect on the process from start to finish. Furthermore, Al-Jarf (2021) conducted a similar study, implementing also the use of a listening journal; however, in her study, the journal played a more central and purposeful role. Students were required to reflect on their successes, strengths, and weaknesses, with the goal of identifying specific listening skills that needed to be improved. I find this implementation particularly valuable as the journal has a specific purpose that will also actively contribute to the learner's improvement. Through ongoing reflection, students become more aware of their learning processes and can focus on specific areas of improvement.

Third, the author noted an increase in learner autonomy as students gained more control and responsibility over their learning, developed greater metacognitive awareness, relied less on the teacher, and overall became more motivated. In addition to that, 67% of the students in the study mentioned that they have watched more TED Talk videos after the assignment concluded (Al-Jarf, 2021). This is such a positive outcome from the study as it indicates that students learned how

to access and use the resource and continued engaging with it independently, which will contribute to their listening skills learning and autonomy to do so beyond the classroom.

### **Use of BBC Learning English Podcasts**

Davydenko (2021) conducted a study using BBC Learning English podcasts to enhance university students' listening skills in an English as Foreign Language context. The study was "based on Action Research, which aim[ed] at investigating the impact of regular practice of listening to podcasts on the development of listening skills" (Davydenko, 2021, p. 27). Davydenko (2021) used a questionnaire, initial and final testing, and observation to gather the data. The results were positive, achieving students' increased motivation, better comprehension, and greater engagement with the material. In her study, she mentioned three points worth highlighting.

First, Davydenko (2021) applied a questionnaire both before and after the intervention. She applied the initial questionnaire with the intention of learning the participants' attitude towards the listening skill and the podcast she planned to implement, and the second one served to draw conclusions based on the experience. In fact, one student expressed some concerns that the researcher, Davydenko (2021), acknowledged as valid and highlighted as suggestions to be reviewed later. I find this practice noteworthy because it can be implemented in the proposal both as a diagnostic assessment at the beginning of a course to better understand students' perceptions, interests and needs, and as an exit assessment to evaluate outcomes and gather learner feedback. In fact, this practice may empower students to feel valued and active participants of their learning process.

Second, in the implementation phase of the research, Davydenko (2021) in fact recognized the importance of metacognitive awareness for listening comprehension. The study incorporated both the top-down and bottom-up strategies using a structured three-stage approach: pre-listening, while-listening, and post-listening. Each of these stages had its own purpose and corresponding set of activities. Although low-level participants initially had some difficulties with the structure, they gradually became more skilled and independent. This finding is encouraging as it involves part of the structure that I intend to propose in this essay.

Third, Davydenko (2021) suggested that teachers be selective when choosing podcasts by considering the students' interests, needs, learning

objectives and the duration (p. 34). This is a crucial consideration, and I believe that the diagnostic assessment at the beginning of the course can be an effective way to gather information about learners' interests and needs. A study by Mukhtorova (2024) reinforced this idea, noting that when content aligns with learners' interests, it fosters sustained motivation and long-term engagement. Another insight by Mukhtorova is the incorporation of interactive transcripts, vocabulary exercises and gamified learning as tools to enhance the learning experience.

### **Use of TikTok**

TikTok is a social media platform that has gained much attention in recent years among youngsters. The inclusion of this resource in the literature review is due to its popularity, easy accessibility, and diverse content. It contains many authentic listening materials that can be used for language learning purposes. Contreras-Moscol et al. (2025) conducted a study to investigate the effectiveness of integrating TikTok within a flipped classroom framework to improve listening skills in English as a Foreign Language (EFL) university learners. Statistical analysis revealed that 75% of students responded positively to the integration, with particularly strong results in vocabulary recognition and understanding of cultural context. There are three points worth reviewing from this study.

First, I would like to refer to the characteristics of this listening resource. TikTok is a free and easily accessible platform that features short-form video content on a wide variety of topics, making it appealing and relatable to students. As noted by Fadhin (2020), the platform includes useful features such as auto-captioning, repetitive viewing options and exposure to diverse accents from all around the world and unscripted language in context. Because of its informal nature, TikTok also reflects real-life speech patterns, slang, and intonation, offering a contrast to more traditional and scripted listening materials. Additionally, TikTok is algorithm-driven, meaning that it adapts content recommendations based on users' viewing behavior (Yang, 2020). These features make TikTok a personalized, accessible, and user-friendly tool for listening practice.

Second, the intervention was structured in three phases: pre-listening that engaged students with vocabulary and context-building activities. Then, the listening phase which provided guided viewing of selected TikTok content, comprehension checks and focus on specific listening sub-skills such as identification of main ideas, details, etc. Lastly, the post-listening phase which developed application tasks to reinforce

learning (Yang, 2020). This is a structure that has been mentioned in other studies and has proven to be effective in a flipped classroom framework as it provides students a step by step on how to use the resource.

Third, one of the key findings of this study is that the success of using TikTok as a learning tool largely depends on careful content curation and clear instructional guidelines (Yang, 2020). According to the study, the content selection should be based on factors such as linguistic relevance, cultural appropriateness and alignment with learning objectives. Although TikTok offers abundant authentic materials, it is essential for teachers to carefully select videos that meet these criteria. For instance, Contreras-Moscol et al. (2025) used a video focused on climate change by Greta Thunberg, which students found very beneficial for its "real-world" language usage rather than scripted educational content. Additionally, as previously discussed, it is equally important to provide students with structured guidelines on how to engage with the resource effectively to maximize its educational value.

### **Reinforcing Accountability**

One additional factor that I consider essential in the implementation of Flipped Learning is accountability. For the Flipped Classroom Approach to be effective, students' engagement is crucial. In my experience, while some students engage proactively with assigned tasks, others do not, which presents a significant challenge. This issue was examined by Kaye and Kim (2023), who emphasized the importance of assigning homework to enhance accountability. In their study involving first-year university students, they applied concept maps and multiple-choice-based question-and-answer assignments. The results were positive: students indicated statistically significantly more satisfaction and perceived learning due to the information integration and synthesis. Ultimately, this leads to more consistent effort and better learning outcomes throughout the course.

Similarly, Arslan (2020) addressed this topic and said that the use of a quiz could serve as an incentive to hold students accountable for completing assigned activities (p. 46). According to the study, students have reported that online knowledge checks are beneficial due to their immediate feedback and simplicity, which allow learners to verify their understanding of the content. This tool is also valuable for the instructor to gather data on students' understanding and progress that can be further reviewed in the face-to-face session. In addition, Arslan (2020)

highlighted the benefits of automatic grading for both providing feedback and obtaining performance data. These insights are useful and potentially applicable through the Learning Management System (LMS) used by the university or alternative public platforms such as Kahoot or Mentimeter. Finally, the author noted that in a flipped curriculum, pre-class assessments typically account for 10–15% of the overall course grade. I believe this weighting can further motivate students to remain consistently engaged and accountable throughout the course.

## Proposal

As previously discussed, listening is one of the most challenging skills to develop in English learning because it involves various micro-processes that are often perceived as overwhelming by beginner students. Classroom time restriction further hinders that development. However, as university students and language learners, it is essential that they continue to practice and engage with the target language beyond the classroom through autonomous learning. To address these challenges and promote learner autonomy, this proposal presents a structured implementation of the Flipped Learning Model (FLM) in the TEFL context. FLM is a model that has gained considerable recognition in recent years as it changes the learning culture from an instructor-centered approach to a student-centered one, fostering students' autonomy and responsibility for their own learning. Drawing on research findings and classroom experience, the proposed model will include three key components: orientation, assessment methods, and pre-class tasks.

## Diagnostic Assessment

Following the practice by Davydenko (2020), the first step in the implementation is that the language instructor applies a diagnostic assessment at the beginning of the learning process. The purpose of this assessment is to gather information about students' attitudes towards listening, their existing knowledge, interests, needs, and any concerns they may have. This information can better guide the selection of the listening materials. Additionally, in many educational contexts, listening instruction still focuses primarily on outcomes rather than the learning process; therefore, this assessment can also serve as an opportunity to evaluate knowledge of metacognitive awareness. These insights will provide a basis for preparing the orientation session and designing the listening tasks. A clear understanding of learners' starting points is vital for adapting the flipped learning model to provide meaningful, level-appropriate instruction that fosters engagement and progress.

## **Orientation Session**

The study by Rudneva et al. (2020) revealed the importance of incorporating an orientation session at the beginning of the learning process. Since some learners may be unfamiliar with the Flipped Learning Model, dedicating time to explain both the theoretical foundations and practical applications is crucial. An effective orientation session not only helps students understand what is expected of them but also reduces confusion, builds trust in the process, and increases their sense of ownership over their learning. This initial session can significantly enhance student engagement, promote accountability, and contribute to the overall success of the flipped learning experience. The orientation should address the following key elements:

**The Flipped Learning Model:** It is imperative that students understand the concept of FLM and the core pillars outlined by Walsh et al. (2021):

- Flexible environment: Students will be able to choose when and where to access the materials, allowing them to practice at their own pace and time.
- Learning culture: FLM is a student-centered approach. Students are expected to take an active role in their learning process rather than a passive.
- Intentional content: The instructor will carefully select content based on the learners' interests and needs.
- Professional educator: The role of the teacher shifts from content deliverer to facilitator. The instructor will be available to support, guide, and expand knowledge in the in-class portion of the class.

**Access to Materials:** It is essential to clearly communicate where, when, and how students will access the pre-class materials and assignments. In addition, following the practice implemented in the study by Rudneva et al. (2020), to ensure understanding, a hands-on practice session ensures students' full comprehension of what they need to do. The hands-on session could involve completing a listening task with face-to-face assistance from the instructor, beginning with platform access, followed by a review of the task guidelines and listening materials, and concluding with a question-and-answer session.

**Grading:** Students must be informed that the timely completion of the pre-class assignments will be graded and will be given a percentage weight. Arslan (2020) noted that pre-class assessments typically account for 10–15% of the overall course grade.

## **Structured Flipped Classroom**

The following flipped classroom model was designed to provide a structured guideline that promotes autonomous listening practice and independent engagement outside the classroom using authentic listening resources. Based on the literature consulted, the flipped classroom is structured to guide students through a complete listening cycle, which they can complete at their own pace, allowing in-class time for reflection, discussion and extension. The pre-class tasks are designed to include three key components:

- the three stages of listening: pre-listening, while-listening and post-listening;
- top-down and bottom-up processing approaches; and
- metacognitive strategies to encourage learners to plan, monitor, solve problems, and evaluate their own listening process.

### ***Pre-Listening Stage***

In the pre-listening stage, learners begin by activating prior knowledge and preparing for comprehension. This can be done through activities such as previewing keywords and phrases, discussing the topic, or previewing comprehension questions. These tasks engage top-down processing as learners use their background knowledge and expectations to anticipate the content and structure of the listening text. In addition, in this phase, it is also crucial that students set a listening goal, such as listening for the main idea, specific information, etc., According to Nemtchinova (2020), having a clear purpose helps to listen more effectively. Furthermore, this stage integrates planning strategies as part of the metacognitive awareness, allowing learners to make intentional decisions about how they will approach the task.

### ***While-Listening Stage***

During the while-listening stage, students engage with the authentic listening material, applying both bottom-up and top-down processing to make sense of what they hear. Through bottom-up processing, learners focus on decoding language features such as individual sounds, contractions, or grammatical forms, which help them build meaning from smaller linguistic units. At the same time, they employ top-down processing by identifying the main idea, listening for specific details or inferring meaning from context. Throughout this process, learners are encouraged to self-monitor as a metacognitive

strategy. Self-monitoring actions include replaying the audio, pausing, taking notes, etc. To promote accountability, it is suggested that while-listening tasks be accompanied by short comprehension checks, which in fact according to Arslan (2020), students find beneficial to check their understanding of content; to ensure students engage with the pre-class tasks. This structured stage promotes active engagement, self-regulation and the encouragement to independently manage listening challenges which is another metacognitive strategy.

### ***Post-Listening Stage***

The post-listening stage focuses on consolidating comprehension, deepening understanding and reflecting on strategy use through evaluating strategies. At this point, students assess how well they understood the material and reflect on the effectiveness of the strategies they used during the task. Activities in this stage may include summarizing the content, paraphrasing key ideas, or discussing the tone of the speakers. At this point, learners complete a listening journal, in which they describe what they found challenging, what strategies they applied, and what they might do differently next time fostering critical metacognitive reflection. According to Goh and Vandergrift (2021), this type of post-task reflection strengthens learners' metacognitive awareness by helping them recognize their progress and areas for improvement. In the flipped classroom model, post-listening tasks can be used not only to close the listening cycle but also to prepare students for in-class discussions, role-plays, or higher-order thinking activities.

### ***In-Class Activities***

Lastly, the in-class portion of the flipped learning model focuses on extending and deepening understanding of content and conscious learning reflection. Teachers can dedicate the time to address challenges identified in the listening tasks, clarify misunderstandings, and encourage students to share and reflect on their strategy use. Following this, learners can engage in collaborative activities such as group discussions, debates, role-plays, or simulations based on the listening content. As Walsh et al. (2021) noted in the FLM framework, the teacher's role here is to facilitate by guiding, monitoring progress, and adjusting instruction based on students' needs. Moreover, I believe it is important to keep reinforcing the learner's and teacher's role throughout the course.

## Outcome Assessment

Continuous improvement is a fundamental component of effective teaching and learning. As demonstrated in the study by Davydenko (2021), implementing an outcome assessment proved valuable for gathering students' opinions on the experience. Building on this, I found it relevant to add this component to the proposal not only as a means of evaluating learners' results and gathering feedback, but also for fostering students' ownership of the process. In this way, they are encouraged to reflect, identify strengths and areas for growth, and develop a greater sense of responsibility for their own learning. This process supports the development of metacognitive skills, such as self-awareness, goal-setting, and the ability to monitor and regulate learning strategies. Furthermore, the insights gained from this assessment can inform future instructional decisions and guide refinements to the flipped learning model to better meet students' interests and needs.

## Conclusions and Recommendations

The present essay proposed the implementation of the Flipped Learning Model (FLM) as a tool to enhance beginner university students' engagement with listening practice outside the classroom in the EFL context. Drawing from both personal teaching experience and supporting literature, the FLM emerges as an effective approach to address this challenge as it changes the focus from an instructor-centered approach to a student-centered approach, which fosters learners' autonomy and responsibility for their own learning in a flexible environment.

Some conclusions drawn from this essay include that listening is a complex skill that requires not just constant, but intentional and strategic practice. Students benefit most from a structured approach that emphasizes the process of listening, how to listen, rather than the product or outcome, they need a structured approach that focuses on the process of how to listen rather than the product, so students can gain better control of their own learning process. This empowers learners to take greater control of their own development and progress. A variety of accessible resources, such as YouTube videos, TED Talks, podcasts, and TikTok content, have been supported by research as effective tools for enhancing listening skills. Selecting the most appropriate resources depends on the specific goals, needs, and interests of the learners. Finally, the proposed flipped classroom model introduces a clear and purposeful sequence: diagnostic assessment, orientation, guided pre-class listening tasks with stages and strategies, in-class application, and outcome

assessment. This structure is designed not only to improve listening comprehension but also to foster student engagement, autonomy, and reflective learning.

Based on the insights from this essay, there are four recommendations that I would like to emphasize. First, applying both an initial and final assessment provides valuable information for making informed decisions regarding listening materials, instruction and potential areas for improvement. For the FLM to be effective, it must align with the users' interests and needs. Second, implementing the use of the learning journal adds reflection to the process. It encourages learners to become more aware of their listening behaviors and challenges, evaluate the effectiveness of their strategies and take ownership of their development. Third, assigning grades to the pre-class tasks holds students more accountable for taking the time to complete the activities, which ultimately enhances the effectiveness of the flipped learning approach. Lastly, it is also important to make students feel supported throughout the process. Although the model shifts the learning culture toward student autonomy, the students, especially dealing with beginners, still need assistance and guidance from the instructor.

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