



# Effectiveness of the Flipped Classroom in Health Sciences University Programs: A Literature Review

Efectividad del Aula Invertida en carreras universitarias de Ciencias de la Salud: Revisión de literatura

Efetividade da sala de aula invertida nas carreiras universitárias de ciências da saúde: revisão de literatura

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## Abstract

**Introduction:** Higher education institutions have implemented active learning approaches, such as the Flipped Classroom, to promote the education of their students. Nevertheless, there is conflicting evidence regarding the benefits derived from its implementation. **Objective:** To determine the effectiveness of the Flipped Classroom application in the education of university students from Health Sciences undergraduate programs. **Materials and methods:** A systematized narrative review of the literature published between 2012 and 2022. *Pubmed*, *SciELO*, *Scopus* y *Web of Science* were used as sources of primary articles. A revised version of the Kirkpatrick model was used to assess the effectiveness of the Flipped Classroom. **Results:** 34 out of the 1020 retrieved articles reached the quantitative synthesis phase. Students value positively this didactic model and acknowledge its contributions in the development of attitudes, knowledge and skills. In contrast, some studies show an increase in the workload and stress levels of students. **Conclusions:** The evidence suggests that Flipped Classroom is a valid didactic model for the education of Health Sciences students. Future studies should consider the effectiveness of its implementation at a long term organizational level.

**Keywords:** Teaching; health sciences; higher education; active learning. (Source: DeCS, Bireme).

## Resumen

**Introducción:** Las instituciones de educación superior han implementado enfoques activos de aprendizaje como el Aula Invertida para favorecer la formación de sus estudiantes. Sin embargo, existe evidencia diversa respecto de los beneficios derivados de su implementación. **Objetivo:** Determinar la efectividad de la aplicación del Aula Invertida en la formación de estudiantes universitarios de carreras de pregrado de las Ciencias de la Salud. **Materiales y métodos:** Se realizó una revisión narrativa sistematizada de la literatura publicada entre 2012 y 2022, utilizando *Pubmed*, *SciELO*, *Scopus* y *Web of Science* como fuentes de artículos primarios. Se utilizó la versión revisada del modelo de *Kirkpatrick* para valorar la efectividad del Aula Invertida. **Resultados:** Se obtuvieron 1020 artículos, 34 de ellos ingresaron a la fase de síntesis cuantitativa. Los estudiantes valoran positivamente este modelo didáctico y reconocen su aporte en el desarrollo de actitudes, conocimientos y habilidades. Algunos estudios mencionan un aumento de la carga de trabajo y niveles de estrés en los estudiantes. **Conclusiones:** La evidencia sugiere que Aula Invertida es un modelo didáctico válido para la formación de estudiantes de las Ciencias de la Salud. Futuros estudios deberían considerar la efectividad de su implementación a nivel organizacional y a largo plazo.

**Palabras clave:** Enseñanza; ciencias de la salud; educación superior; aprendizaje activo. (Fuente: DeCS, Bireme).

## Resumo

**Introdução:** As instituições de ensino superior têm implementado abordagens de aprendizagem ativa como a Sala de Aula Invertida para promover a formação dos seus alunos. No entanto, existem evidências contraditórias sobre os benefícios derivados da sua implementação. **Objetivo:** Determinar a efetividade da aplicação da sala de aula invertida na formação de estudantes universitários dos cursos de graduação em Ciências da Saúde. **Materiais e métodos:** Foi realizada uma revisão narrativa sistematizada da literatura publicada entre 2012 e 2022, utilizando *Pubmed*, *SciELO*, *Scopus* e *Web of Science* como fontes de artigos primários. A versão revisada do modelo *Kirkpatrick* foi utilizada para avaliar a eficácia da sala de aula invertida. **Resultados:** foram obtidos 1.020 artigos, dos quais 34 entraram na fase de síntese quantitativa. Os alunos valorizam positivamente este modelo didático e reconhecem o seu contributo no desenvolvimento de atitudes, conhecimentos e competências. Alguns estudos mencionam aumento na carga horária e nos níveis de estresse dos estudantes. **Conclusões:** As evidências sugerem que a sala de aula invertida é um modelo didático válido para a formação de estudantes em Ciências da Saúde. Estudos futuros deverão considerar a eficácia da sua implementação a nível organizacional e a longo prazo.

**Palavras chave:** Ensino; ciências da saúde; ensino superior; aprendizado ativo. (Fonte: DeCS, Bireme).

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