

## **A guide to instructional design models for digital learning in higher education – A scoping review**

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Instructional design (ID) is a systematic process that is used to develop education and training programs in a consistent and reliable way. A key challenge faced by educators is selecting an ID model by deciding which ID model will be more suitable in order to achieve an effective digital teaching and learning process. The objective of this scoping review was to present recommendations to select ID models for digital learning in higher education. Nine databases were searched for eligible publications. The study selection was performed using the Covidence platform. The search retrieved 643 records. Forty articles from 23 countries covering 15 fields of study which were published from 2001 to 2022 were included in this review. Among them, 30 studies used existing ID models (i.e. number of articles which used each ID model: ADDIE - 20, Rapid prototyping - 3, 4C/ID model - 2, Morrisons, Ross and Kemp (2004) - 2, IDEA - 1, ASSURE - 1, Six-step blended learning conversion model - 1) and the rest created new ID models. Results show that employing a systematic process in instructional design (an ID model) has produced an effective, consistent and reliable digital teaching and learning process in higher education. Selecting an ID model should be based on the requirements of the course, timeline, resources available for the design and development of the course and the expertise in the ID process. ADDIE is the most commonly used ID model because it provides a generic process for developing instructional materials which can be used in all three modes (face-to-face, blended and online) and can be used by academics and instructional designers new to ID. When ID models in current practice are not adequate to meet the needs of a course, new ID models can be created based on existing ID models to fulfil those needs.

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