The Selection Process

General string

(("conversational agent" OR chatterbot OR chatbot OR "chat bot" OR "virtual assistant" OR "virtual agent" OR "dialogue system") AND (education OR learn OR teach OR training) AND (evaluate OR assessment) AND (questionnaire OR test OR method OR technique OR approach)).

Adaptation of the string to the search bases:

ACM Digital Library

(Abstract:("conversational agent" OR chatterbot OR chatbot OR "chat bot" OR "virtual assistant" OR "virtual agent" OR "dialogue system") AND (education OR learn OR teach OR training) AND (evaluate OR assessment) AND (questionnaire OR test OR method OR technique OR approach)

IEEE Xplore

Abstract(("conversational agent" OR chatterbot OR chatbot OR "chat bot" OR "virtual assistant" OR "virtual agent" OR "dialogue system") AND (education OR learn OR teach OR training) AND (evaluate OR assessment) AND (questionnaire OR test OR method OR technique OR approach))

SCOPUS

(Abstract:("conversational agent" OR chatterbot OR chatbot OR "chat bot" OR "virtual assistant" OR "virtual agent" OR "dialogue system") AND (education OR learn OR teach OR training) AND (evaluate OR assessment) AND (questionnaire OR test OR method OR technique OR approach)

Web of Science

Abstract(("conversational agent" OR chatterbot OR chatbot OR "chat bot" OR "virtual assistant" OR "virtual agent" OR "dialogue system") AND (education OR learn OR teach OR training) AND (evaluate OR assessment) AND (questionnaire OR test OR method OR technique OR approach))

The **Science Direct** database was excluded from the search because it only accepts eight operators. The **Engineering Village** database was also excluded, since the search results in this database vary depending on the type of access available.

Search date: 30-05-2025

Search summary:

Search bases	Results
ACM Digital Library	202
IEEE Xplore	255
Scopus	594
Web of Science	3
Total	1054

The list of returned studies is available at: <https://bit.ly/49nSGak>.

Identification and removal of duplicate studies:

A total of 92 duplicate studies were identified. The table below presents the number of duplicates found in each database, identified with the support of the Parsif.al tool.

Search bases	Initial search	Removed	Results
ACM Digital Library	202	10	192
IEEE Xplore	255	38	217
Scopus	594	44	550
Web of Science	3	0	3
Total	1054	92	962

The list of removed studies is available at: <https://bit.ly/4pjVBXd>.

The list with information on the 962 studies is available at: <https://bit.ly/4qIxwL3>.

Reading of title, abstract and keywords:

The titles, abstracts, and keywords of the 962 studies were reviewed, taking into account the inclusion and exclusion criteria. As a result, 836 studies were excluded.

Selection criteria	Number of studies removed
EC-1	114
EC-2	715
EC-3	0
EC-4	0
EC-5	7
Total	836

The full list of studies, along with the reasons for their exclusion, can be found at: <https://bit.ly/3NfMl9j>.

Search bases	Initial search	Removed	Results
ACM Digital Library	192	169	23
IEEE Xplore	217	183	34
Scopus	550	481	69
Web of Science	3	3	0
Total	962	836	126

The full list of studies, along with the reasons for their exclusion, can be found at: <https://bit.ly/45AtdZS>.

List of studies for the final set:

Search bases	Initial search	Removed	Results
ACM Digital Library	23	18	5
IEEE Xplore	34	24	10
Scopus	69	51	18
Web of Science	0	0	0
Total	126	93	33

The complete list of studies that make up the final set can be found at: <https://bit.ly/4suRL0w>.