

AUTHOR	JOURNAL	ITERATIONS	COUNTRY OF STUDY	RQ IDENTIFIED	PARTICIPANTS	DEMO-GRAPHICS REPORTED	INTERVENTION TYPE	METHODS	NOTES
BERNHARD, 2010	European Journal of Engineering Education	several	Sweden	Yes	Undergraduate	None	Laboratory Curriculum	Quantitative; Qualitative	Conceptual laboratory activities for mechanical and electrical engineering
BLANCHARD ET AL., 2015	Journal of Pre-College Engineering Education Research	1	United States	Yes	K-12	Detailed	In Person Experience	Mixed Methods; Sequential Mixed Methods Design	After school program to broaden the perspectives of students from underrepresented groups on engineering
BOWER, 2011	Journal of Educational Technology & Society	3	Australia	No	Graduate	Partial	Online Course Environment	Qualitative	Online introductory software development course for non computing majors
CHARLTON & AVRAMIDES, 2016	IEEE Transactions on Learning Technologies	1	European Union (UK)	No	K-12	None	Learning Environment	Mixed Methods	Internet of Things environment to introduce students to collaborative design and making
DASGUPTA, 2019	Journal of Engineering Education	1	United States	Yes	K-12	Detailed	Pedagogy	Qualitative	Teaching strategy to aid students in the engineering design process
DIEFES-DUX ET AL., 2010	Journal of Engineering Education	2	United States	No	Teaching Assistants and engineering experts	Partial	Assessment Tool	Quantitative; Qualitative	Assessment tool to evaluate model eliciting activities in large engineering courses
FAN, ET AL., 2017	International Journal of Technology and Design Education	1	Taiwan	No	K-12	None	Design Course Curriculum	Quantitative; Qualitative	Curriculum to introduce students to open-ended mechanical design
FRIEDRICHSEN, ET AL., 2016	Journal of Education Technology Research and Development	1	United States	Yes	Instructors (u/g audience)	None	Online Teaching Tool	Quantitative	Evaluated the propagation of an online conceptual inventory tool for engineering educators
GOMEZ & SVIHILA, 2019	Chemical Engineering Education	2	United States	Yes	Undergraduate	Partial	Pedagogy	Qualitative	Pedagogical strategy to support student learning from peers and build consensus on design decisions
GUISASOLA ET AL., 2017	Physics Education Research	2	Spain	No	Undergraduate	None	Pedagogy	Mixed Methods	Approach for designing and evaluating teaching and learning sequences in mechanical work and energy classes

GULOY ET AL., 2017	Journal of Higher Education	1	Canada	Yes	Undergraduate	Partial	In Person Experience	Mixed Methods	Learning strategy program for first-year engineering students
HARDRÉ ET AL., 2010	Teacher Education Quarterly	1	United States	Yes	K-12 Instructors	Collected but not reported	In Person Experience	Mixed Methods; Multimethods	Program for K-12 educators to introduce engineering in their classrooms
HIRA & HYNES, 2019	European Journal of Engineering Education	3	United States	Yes	K-12	Collected but not reported	Framework	Quantitative; Qualitative	Framework for implementing pre-college activities to promote interest and broaden participation in engineering
HUANG ET AL., 2006	Innovate Journal of Online Education	1	United States	No	Graduate	None	Online Learning Environment	Qualitative	Open-source software development learning environment
JOO ET AL., 2014	International Review of Research in Open and Distance Learning	2	Costa Rica	Yes	Undergraduate	None	Online Course	Quantitative; Qualitative	Online Quality Control course to improve student learning
KONG ET AL., 2008	Computers & Education	1	Hong Kong	Yes	K-12	Partial	Laboratory experiments	Quantitative; Qualitative	Remote-controlled experiments to enable observational learning of electrical circuit phenomena
LANGMAN ET AL., 2019	Journal of Pre-College Engineering Education Research	1	United States	Yes	K-12 / Undergraduate	None	Curricular Module	Quantitative; Qualitative	Tissue engineering-themed curricular module to promote mathematical modeling and science learning
LIU & YU, 2019	Interactive Learning Environments	1	Taiwan	No	Undergraduate	None	Online learning system	Mixed Methods; Mixed Methods Research Design	Online learning system to support in-class, active learning
MOORE ET AL., 2014	Journal of Pre-College Engineering Education Research	5	United States	Yes	K-12	Partial	Assessment Framework	Qualitative	Set of quality indicators for K-12 engineering education
NEWSTETTER, 2005	Journal of Engineering Education	2	United States	No	Graduate	None	Pedagogy / Framework	Quantitative; Qualitative	Cognitive Apprenticeship framework based on problem-based learning

TANG, 2013	Journal of Engineering Education	1	United States	Yes	K-12	Partial	Framework	Qualitative	Compared depictions of engineering to those found in the media
TODD ET AL., 2011	Journal of Cooperative Education and Internships	2	United States	Yes	Undergraduate / Faculty / Industry	None	Online Community Environment	Quantitative; Qualitative	Online community for students, faculty, and industry partners participating in co-op programs
WEBER ET AL., 2014	Journal of Engineering Education	1	United States	Yes	Undergraduate	Detailed	Curricular Module	Mixed Methods; Sequential Explanatory Mixed Methods Design	Life Cycle Assessment module to increase student knowledge of environmental sustainability
YUEH ET AL., 2014	Educational Technology & Society	1	Taiwan	No	Experts (u/g audience)	None	Digital Courseware	Quantitative	Virtual laboratory based on industry specific Nano-Biotechnology