

Appendix C

Overview of Research Characteristics

Study Included [a]	Preparation/ Teaching Context	Participants	Risk of Bias Assessment	Research Approach	Data Collection Instrument
Açikgöl and Aslaner (2019)	Method Course	88 PSTs	*	Quantitative	Multiple Choice Achievement Test, Lesson Plan, Participation Report, TPACK Scale about Geometry
Açikgöl and Aslaner (2020)	Method Course	88 PSTs	* & **	Quantitative	Lesson Plan, Participant Form, and TPACK Scale for Geometry
Agyei and Voogt (2012)	Workshop	129 PSTs	*	Mixed	Experimental Teacher Interview, Experimental Teacher Evaluation Questionnaire, and Researcher's Logbook
Agyei and Voogt (2016)	Workshop	12 PSTs	*	Mixed	Lesson Plan Rubrics, Observation Rubrics, TPACK Survey, Teacher Interviews, and Researchers' Logbook
Agyei and Voogt (2015)	Method Course	104 PSTs	*	Mixed	TPACK Lesson Plan Rubric, TPACK Observation Rubric, TPACK Survey, Teachers' Attitudes toward Computers (TAC) Questionnaire, and Design Team Reports
Akapame et al. (2019)	Mathematical Modelling Course, Methods Course, and Practicum Course	3 PSTs	*	Qualitative	Two Individual Lesson Plans and PSTs' Reflections on the Lessons, Teaching Philosophy Statements, Responses to Open-Ended TPACK Questions, Observation of the Implementations of the Lesson Plans, and Interviews
Akkaya (2016)	Method Course	34 PSTs	*	Mixed	Perception Scale for Technology Use and Interview
Akyuz (2018)	Method Course	138 PSTs	*	Quantitative	Lesson Plan and Self-Assessment Survey
Bonafini and Lee (2021a)	Method Course	3 PSTs	*	Qualitative	Pre-service teachers' Lesson Plans, Video Lesson Files, Written Feedback Received from Classmates, Reflection upon Video Creation and Received Written Feedback from Peers, and Answers to Ungraded open-ended post-survey
Bonafini and Lee (2021b)	Method Course	4 PSTs	*	Qualitative	Participants' Lesson Plans, Screencast Video Lesson Files, and Reflection on own Video Creation
Bozkurt and Yiğit Koyunkaya (2022)	Practicum Course	4 PSTs	*	Qualitative	PSTs' Technology-Based Mathematical Tasks in Lesson Plans, Video Records of Microteaching, Classroom Teaching of PSTs, Video Records of Individual/Group Interviews and Discussions.
Kafyulilo et al. (2015)	Workshop	22 PSTs	*	Mixed	TPACK Survey, Observation Checklist, and Reflection Questionnaire
Kartal and Çınar (2022)	Method Course, Mathematics Content Course, Pedagogy	33 PSTs	*	Qualitative	Interviews, Lesson Implementations, and Lesson Plans

Study Included [a]	Preparation/ Teaching Context	Participants	Risk of Bias Assessment	Research Approach	Data Collection Instrument
	Course, and Workshop				
McDonald (2012)	Method Course	88 PSTs	*	Mixed	Prequestionnaire, Postpresentation reflections, Postquestionnaire
Study Included (Full references in Appendix A)	Preparation/ Teaching Context	Participants	Risk of Bias Assessment	Research Approach	Data Collection Instrument
Meagher et al. (2011)	Method Course	22 PSTs	*	Qualitative	Field Experience Reports, Activity Write-Ups, Graphing Calculator Teaching Projects, Lesson Plans, Mathematics Technology Attitudes Survey, Short Surveys, and Open-Ended Exit Survey
Mouza et al. (2014)	Method course, Field experience, educational technology course	88 PSTs	*	Mixed	TPACK survey, Performance assessment: case reports
Rocha (2020)	Method Course	10 PSTs	*	Qualitative	Participants' Written Work, Recording of PSTs' Group Discussions, and Notes were taken by the Researcher
Smith et al. (2017)	Method Course	15 PSTs	*	Qualitative	Preconstructed Dynamic Geometry Sketch and Accompanying Task Sheet, A Sequence of Video Clips of a Pair of Eighth-Grade Students, Video Recordings, Video of Stimulated-Recall Interviews
Wentworth and Monroe (2011)	Method Course	38 ISTs & 84 PSTs	*	Qualitative	Completed Lesson Reports, A Joint Lesson Plan and Individual Reflections, Lesson Observation
Yenmez et al. (2017)	Method Course	52 PSTs	*	Mixed	Self-Efficacy Scale, Computer-Assisted Mathematics Instruction Questionnaire, Observation Form, Microteaching Videos, Self-Evaluation Form, Semistructured Interviews and Instructional Plan
Zambak and Tyminski (2020)	Method Course	16 PSTs	***	Qualitative	MCK Assessment in Geometry, Non-participant Observations, and Course Artefacts
Zengin (2018)	Content Course	33 PSTs	***	Qualitative	Open-ended Questionnaire, Knowledge Test, Tasks, and Participants' Dynamic Constructions
<i>Note:</i> * represents studies conducted by MTE/researcher on their own students, ** represents studies involving a control group, and *** represents an exception to * and ** [a] Full references in Appendix A					