

Technology-based Learning Services for Transferable Skills – A Systematic Literature Review

Concept Matrix with Main- & Subcategories (adapted based on Trilling & Fadel, 2009; P21 Skill Framework) ^{1, 2}

Maincategories		Subcategories
Skills	Learning & Innovation Skills	Creativity & Innovation (9)
		Critical Thinking & Problem-Solving (47)
		Communication & Collaboration (22)
	Information, Media & Technology	Information Literacy (6)
		Media Literacy (7)
		ICT Skills (17)
	Career & Life Skills	Flexibility & Adaptability (1)
		Initiative & Self-Direction (13)
		Social & Cross-Cultural Skills (5)
		Productivity & Accountability (1)
		Leadership & Responsibility (1)
Key Subjects	Subjects	English Language Arts (5)
		Mathematics (6)
		Economics (8)
		Science (18)
Learning Environments	Environment & Tools	Text-Based Personal Assistant (3)
		Voice-Based Personal Assistant (2)
		Text- & Voice-Based Assistant (3)
		In Personal Class (18)
		Live Online Classes (5)
		Platform for Communication (9)
		E-Learning Platform (14)
	Material	Learning Videos (12)
		Coded Computer Program (13)
		Existing Game (20)
		Pictures (2)
		Text (3)
		Virtual / Augmented Reality (8)
		Wiki Tools (8)
		Kindergarten & Elementary (13)
		Primary & Secondary (9)
		High School (7)
Professional Development	Institution, School, University	Kindergarten & Elementary (13)
		Primary & Secondary (9)
		High School (7)

Maincategories		Subcategories
Professional Development	Institution, School, University	Higher Education (28)
		Teacher Education (4)
		Vocational Training (3)
		Non-Formal Education (7)
Standards & Assessments	Measurement	Positive Influence (62)
		Negative Influence (1)
		No Influence (2)
		Qualitative (10)
		Quantitative (41)
		Mixed-Methods (19)
		Scale (33)
		Knowledge Test (32)
		Sensoric Measurement (3)
		Analysis of Protocol Data (7)
		Observation (8)
		Narrative Surveys (1)
		Interviews (16)
		Group Discussion (6)
		Content Analysis (6)
		Investigator Triangulation (1)
		Multiple Measurement (42)
		Simple Measurement (23)
	Aim	Skill Acquisition (47)
		Knowledge Acquisition (23)
Curriculum & Instruction	Theorie	Active / Interactive (27)
		Self-Regulated (4)
		Personalized Learning (8)
		Flipped Learning (6)
	Design	Gamification (24)
		Scaffolding (10)
	Setting	Individuum (27)
		Group (43)

¹ If required, we will submit a list of all papers used for the systematic literature review.

² The numbers in brackets indicate the frequency of occurrence.