

# LEARNING AND INSTRUCTION

An Official Journal of the European Association for Research on Learning and Instruction

Website <http://elsevier.com/locate/learninstruc/Association> Website <http://www.earli.org>

Indexed/Abstracted in: *Arts & Humanities Search; Australian Current Contents; British Education Index; Contents Pages in Education; Educational Index; Education Research Index; Educational Management Abstracts; Educational Research Abstracts Online; Educational Technology Abstracts; ERIC; Multicultural Education Abstracts; Periodicals Index Online; PsycINFO; Research into Higher Education Abstracts; Scopus; Sociology of Education Abstracts; Social SciSearch; SSCI; Technical Education & Training Abstracts; Uncover. Also covered in the abstract and citation database Scopus®. Full text available on ScienceDirect®.*

## Volume 100 2025

### Contents

RETRIEVAL PRACTICE IN STEPWISE WORKED EXAMPLES IMPROVES LEARNING G.S.E. van den Broek, M. van Wermeskerken, T. van Gog	102196	STRATEGY MATTERS: A FIVE-YEAR LONGITUDINAL STUDY OF CHILDREN'S STRATEGY UTILIZATION IN CATEGORY LEARNING X. Liu, X. Lv, X. Ren	102207
EFFICACY OF AN INTERVENTION TO PROMOTE SPATIAL THINKING SKILLS F. Kremer, L. Stark, F. Rebholz, L. Bardach, J. Golle, B. Nagengast, U. Trautwein	102184	SUPPORTS FOR YOUNG MALES' AND FEMALES' INTEREST IN SWIMMING AND COMPETITION H.R. Kloetzer, K.A. Renninger	102132
ANTECEDENTS OF CREATIVITY: STATISTICAL DISCOURSE ANALYSIS OF UNIVERSITY STUDENT TEAMS' INTERACTIONS K. van Broekhoven, M.S.J. van Uum, M.M. Chiu, E.H. Kroesbergen	102190	MATHEMATICS RESILIENCE IN PRESCHOOL AND EXECUTIVE FUNCTIONS D. Muñoz, R. Bull, K.H. Khng, E.L. Ng, K. Poon, K. Lee	102197
EMOTIONAL DYNAMICS AND REGULATION IN COLLABORATIVE LEARNING T. Törmänen, M. Saqr, S. López-Pernas, K. Mänty, J. Suoraniemi, N. Heikkala, H. Järvenoja	102188	THE "SIMPLE" VIEW OF LEARNING FROM ILLUSTRATED TEXTS AND VIDEOS M. Haavisto, J. Lepola, T. Jaakkola	102200
UNRAVELLING THE QUALITY OF PROCESSES OF LEARNING FROM ERRORS: INSIGHTS FROM STUDENTS' WRITTEN ERROR REFLECTIONS IN FACTORING TASKS E. Zhang	102199	EXAMINING A WEEKLY COST REDUCTION INTERVENTION IN CALCULUS P.N. Beymer, Y.-e. Kim, E.C. Allen, E.O. Rosenzweig	102211
THIRD GRADERS' DIGITAL AND PAPER TEXT COMPREHENSION C. Ruffini, C. Pecini, D. Saldaña, P. Delgado	102186	PREQUESTIONING WITH FEEDBACK FOSTERS LEARNING IN YOUNG CHILDREN L. Yu, J.T. Heng, L.S. Arden-Gardner, X.P. Ding, S.C. Pan	102187
IMPACT OF SELF-VIEW IN VIDEO COMMUNICATION ON GROUP BRAINSTORMING Z. Liang, Y. Wu, G. Wang, Q. Zhao, S. Chen, Q. Yu, Z. Zhou	102198	PLAYFUL EXPERIENCE, LEARNING PERCEPTION, AND MOTIVATION IN A COOPERATIVE ESCAPE ROOM ACTIVITY IN UNDERGRADUATE NURSING EDUCATION: A MIXED-METHODS STUDY J. Fagundo-Rivera, M. Garrido-Bueno, R. Romero-Castillo, N. Badillo-Sánchez, P. Fernández-León	102212

(Contents continued on inside back cover)



0959-4752(202512)100;1-V

Available online at [www.sciencedirect.com](http://www.sciencedirect.com)

ScienceDirect

MOTHER, FATHER, AND TODDLER SPATIAL LANGUAGE IN ENGLISH AND SPANISH DURING PLAY: ASSOCIATIONS WITH TODDLERS' EMERGING SPATIAL COGNITION L.R. Masek, D.D. Suh, A.M. Silver, M. Libertus, N.J. Cabrera, C.S. Tamis-LeMonda	102195	HOW TO COMMUNICATE EVIDENCE TO TEACHERS: COMPARING THE EFFECTS OF VERBAL AND VISUAL EFFECT SIZE REPRESENTATION [REGISTERED REPORT - STAGE I] F. Kuhlwein, S. Merk, J. Schneider, K. Schmidt	102179
INVESTIGATING GRADE-LEVEL AND TEXT GENRE EFFECTS IN QUALITY TALK DISCUSSIONS: AN AI-POWERED DISCOURSE ANALYSIS OF UPPER PRIMARY STUDENTS' HIGH-LEVEL COMPREHENSION C.M. Firetto, P.K. Murphy, E. Starrett, E.A. Herman, J.A. Greene, Y. Tang, L. Yan	102208	EXPLORING CREATIVITY IN SELF-REGULATED LEARNING AND ITS ASSOCIATION WITH ACADEMIC PERFORMANCE X. Wang, H. Ren, R. Reiter-Palmon, W. Pang	102224
DIFFERENTIATED INSTRUCTION ON UNDERGRADUATE STUDENTS BASED ON CLASSIFICATION AND PREDICTION OF STUDENTS PERFORMANCE USING PSO-BP NEURAL NETWORK B. Wang, H. Liu, Y. Gu, X. Pan	102210	IS TEACHERS' PROFESSIONAL VISION VISIBLE IN THE CLASSROOM? EXPLORING THE LINKS BETWEEN TEACHERS' KNOWLEDGE-BASED REASONING AND OBSERVED CLASSROOM INTERACTIONS H. Muhonen, E. Pakarinen, M.-K. Lerkkanen	102220
EXAMINING MYSIDE BIAS ON A CONTROVERSIAL HISTORICAL EVENT AFTER ENGAGEMENT IN DIALOGIC ARGUMENTATION: INSIGHTS FROM A THINK ALOUD STUDY K. Iordanou, C. Fotiou, A. Manoli, M. Zembylas	102209	THE DYNAMICS OF CREATIVE AGENCY: INSIGHTS FROM TWO INTENSIVE DIARY STUDIES ON UNIVERSITY STUDENTS A. Zielińska, M. Karwowski	102222
AGILE LEARNING TO BOOST JAVA SKILLS IN NOVICE LEARNERS C.-C. Hu	102221	TESTING INDIVIDUAL AND GROUP MARKERS OF COLLABORATION IN A TEAM-BASED LEARNING CLASSROOM Y.H.V. Chua, J. Dauwels, P. Rajalingam, C.L. Teo, S.J. Styles	102215
ARE DIRECT EFFECTS OF COGNITIVE ACTIVATION ON STUDENT OUTCOMES ENOUGH? EXPLORING THE ROLE OF ADAPTATION AND USE OF OPPORTUNITIES C.Y. Charalambous, U. Grob, A.-K. Praetorius, C. Köhler, Z. Miao	102176	EFFECTS OF RETRIEVAL PRACTICE ON RETENTION AND APPLICATION OF COMPLEX EDUCATIONAL CONCEPTS D. Corral, S.K. Carpenter	102219
THE MODERATING ROLE OF THE TEACHER-CHILD RELATIONSHIP IN THE ASSOCIATION BETWEEN PEER REJECTION AND LANGUAGE COMPETENCE IN EARLY CHILDHOOD EDUCATION F. van der Wilt, J. Spilt, S. van Driel, H. Colpin	102217	BILINGUAL WORD LEARNING: RECOGNIZING NOVEL WORDS IN CONTEXT J. Lauro, P.F.P. Toassi, A.B. Arêas da Luz Fontes	102230
ADJUSTING STRATEGIES WHEN READING RELIABLE AND UNRELIABLE TEXTS C. Tarchi, L. Casado-Ledesma, E. Guidi, Ø. Anmarkrud	102218	COVID-19-RELATED DIFFERENCES IN STUDENTS' VERBAL ACHIEVEMENTS: COMPARISONS OF DIFFERENT COHORTS OF STUDENTS WITH SEN BASED ON LARGE-SCALE ASSESSMENT DATA FROM GERMANY R. Schneider, S. Weirich, P. Kuhl, S. Schipolowski, P. Stanat	102228
THE INFLUENCE OF TEACHER TALK ON PRIMARY SCHOOL STUDENTS' LEARNING IN SCIENCE: A PERSON-CENTERED APPROACH TO ANALYZING CONCEPTUAL CHANGE A. Herrmann, C. Schulze, K. Lange-Schubert, H. Saalbach	102216	TAKE A DEEP BREATH OR SCREAM IT ALL OUT: EMOTION REGULATION STRATEGIES OF YOUNG STUDENTS B. van Berk, C. Dignath	102213
EXPLORING THE INTERACTION OF WRITER INDIVIDUAL DIFFERENCES IN PREDICTING L2 STUDENTS' WRITING ACHIEVEMENTS J. Zhang, L.J. Zhang	102214	DECODING THE SUCCESS OF COLLABORATION IN COMPUTATIONAL THINKING S.X. Yin, D.H.-L. Goh, C.L. Quek	102232