SYSTEMATIC ANALYSIS OF RESEARCH STUDIES ON STUDENTS' SELF-MANAGEMENT SUPPORTED BY USE OF DIGITAL TECHNOLOGY IN PRIMARY EDUCATION

Miha Cojhter, Marta Licardo

Adult Education Centre Velenje, Slovenia
Faculty of Education, University of Maribor, Slovenia
miha.cojhter@student.um.si
marta.licardo@um.si

UDK: 373.3:[37:004]=111
Pregledni rad
Primljen: 19.7.2024.
Prihvaćen: 15.9.2025.

Abstract

This systematic review critically evaluates peer-reviewed literature on the outcomes of self-management interventions in primary schools, supported by use of digital technologies. Guided by the PRISMA 2020 guidelines, the review encompassed eight databases and included empirical studies, literature reviews, meta-analyses, and theoretical contributions published between 2014 and 2024. Inclusion criteria mandated a focus on school-based self-management interventions in primary school settings.Findings highlight the critical influence of self-management on primary education. Studies demonstrate that interventions, including those leveraging digital tools, games, and open educational resources, significantly enhance student engagement, learning outcomes, as well as social and emotional competencies. The review underscores the importance of teacher training and acknowledges challenges in integrating self-management strategies within existing curricula.Effective self-management necessitates a nuanced approach combining traditional methods with modern digital technologies tailored to individual student needs. For example, integrating game-based self-management techniques and digital tools, like mobile learning applications, benefits engagement and academic performance, particularly for students with learning challenges. While further research is crucial to evaluate the long-term effectiveness of digital interventions and develop innovative strategies for promoting self-management across diverse educational

Keywords:
self-management, social and emotional competencies, Prisma Model, digital technology, students

contexts, potential benefits of digital technology-based approaches are clear. The limitations of traditional methods, which often prioritize external control over fostering intrinsic motivation and self-regulation, highlight the need for new and engaging tools. This is particularly relevant considering that young children often struggle with self-management skills, exhibiting behaviours like aggression, lack of motivation, and disengagement from learning. Traditional approaches frequently lack effective interventions, especially those leveraging modern digital technologies, needed to adequately address these challenges and cultivate essential self-management skills. However, research indicates a significant gap in exploring the development of self-management skills in connection with the implementation of digital technology in learning environments. This gap represents a crucial area for further investigation, as it highlights the need for a more nuanced understanding of how digital technology can be leveraged not just for academic progress, but also for fostering essential social-emotional competencies like self-management. Therefore, exploring the use of interactive games, educational apps, and engaging digital platforms, specifically designed with self-management development in mind, offers a promising avenue for transforming how these crucial skills are taught and learned. These digital technologies hold the potential to create more engaging and personalized learning experiences, catering to individual needs and learning styles in ways that traditional methods often fail to accomplish.

INTRODUCTION

Social and emotional learning (SEL) is a key element of education that focuses on developing skills, knowledge, and attitudes necessary to manage emotions, build healthy relationships, and make responsible decisions. Social and emotional competencies are essential for children's well-being, behaviour, and academic success. SEL includes self-awareness, self-management, social awareness, relationship skills, and responsible decision-making (Durlak et al., 2017; Graczyk et al., 2000; Mahoney et al., 2021).

In this analysis, we have focused on self-management as one of the dimensions of SEL in the CASEL model (Durlak et al., 2017). Self-management involves effectively regulating one's thoughts, emotions, and behaviours, particularly when pursuing goals. This is a complex concept with important implications for personal and academic success. At the heart of self-management lies the dimension of behavioural regulation (Yu et al., 2024). This facet emphasizes the monitoring and adjustment of outward actions and responses, enabling individuals to align their behaviours with their goals. Practical frameworks such as self-monitoring charts, reward systems, and the establishment of routines can enhance an individual's capacity for behavioural self-management (Durlak et al., 2017).

Self-management also encompasses the regulation of emotions (Kemp, 2012). This dimension involves the deliberate identification, interpretation, and management of one's emotional states. Developing adaptive coping mechanisms, practicing self-soothing techniques, and enhancing emotional awareness can contribute to effective emotional self-management. Cognitive self-management is a crucial dimension, focusing on regulating thoughts and mental processes. This includes skills like planning, organization, problem-solving, and identifying and reframing negative thought patterns. Practices such as mindfulness and cognitive restructuring can enhance an individual's cognitive self-management abilities. Recognizing the distinct features of the interconnected dimensions of self-management allows for a more nuanced understanding, which can enable the development of targeted interventions and personalized strategies to foster individual growth and achievement (Lawn & Schoo, 2010). By honing skills across the behavioural, emotional, and cognitive aspects of self-management, individuals can navigate challenges and succeed in both personal and academic pursuits.

Self-management competencies are crucial for young children to develop (McClelland et al., 2014; McClelland & Cameron, 2011; Shonkoff, 2012). Unfortunately, many children face challenges in this domain, leading to issues like aggression, lack of motivation, and disengagement from learning. Traditional approaches have often fallen short in addressing these challenges, particularly when it comes to utilizing modern digital technologies to foster the cultivation of self-management skills (Alghamdi et al., 2022).

Early childhood self-management is linked to positive outcomes in adulthood, highlighting the importance of developing these skills from a young age (Nigg, 2017). Developing self-management skills early is crucial for academic success and overall well-being (Aspen Institute, 2019; Greenberg, 2023; John & Bates, 2024; McClelland et al., 2017; Mittal, 2020; Woolfolk Hoy, 2013). Researchers also highlight the role of adaptability and self-management in career development and self-regulated learning, particularly when facing prolonged tasks or incomplete instructions (Randi & Corno, 2000).

Teachers are pivotal in fostering children's self-regulation skills through direct instruction and support (Gülay Ogelman et al., 2018). However, to effectively cultivate these skills, they require appropriate tools and guidance (Berthelsen et al., 2017; Zakszeski et al., 2020). Integrating digital technology into primary education presents a significant opportunity to enhance these activities.

Today's students, irrespective of ability, encounter digital technology pervasively in their daily lives (Lyons & Tredwell, 2015). Recognizing this, teachers actively seek ways to harness digital technology's potential to foster collaboration, problem-solving, and communication within the classroom. Research indicates that the judicious integration of digital technology can effectively support children's learning, facilitate their adaptation to the school environment, and bolster their cognitive and socioemotional development (Lyons & Tredwell, 2015). Nonetheless, a critical challenge lies in the lack of teachers' understanding regarding appropriate assessment strategies for evaluating children's progress in learning with digital technology and a lack of understanding of how to promote self-management in students with the use of digital technology as a didactical tool (Panagopoulou-Stamatelatou, 1990).

Therefore, this study aims to a) analyse the latest research on interventions used to promote student self-management in primary school, and b) examine the digital technologies teachers utilize to enhance self-management in students.

METHOD

This systematic review follows the PRISMA 2020 guidelines (Page et al., 2021) to critically assess and compare peer-reviewed literature on the outcomes of self-management interventions in primary schools, with a particular focus on the use of digital technologies. A comprehensive literature search was conducted across six databases: Web of Science, ProQuest Dissertations & Theses Global, Scopus, COBISS, and Google Scholar journals. The initial search, undertaken in May 2024, was subsequently updated in June 2024 to ensure the inclusion of the most recent publications. The search strategy included combinations of keywords such as *"self-management"*, *"primary school"*, *"digital technology"*, and *"teaching"*, adapted to each database using Boolean operators (AND, OR, NOT) and truncation symbols. Search limits were applied based on the scope of the review: only studies published between 2014 and 2024 were included, and only those available in English, Slovenian, or German. Studies related to COVID-19, higher education, or medical and therapeutic contexts were excluded to ensure relevance to general educational settings. All retrieved citations (n = 464) were imported into Zotero software for deduplication. After removing duplicates, 159 records remained for title and abstract screening. Of these, 45 full-text publications were reviewed for eligibility, and 8 met all criteria for inclusion. The selection process is illustrated in the PRISMA 2020 flow diagram (Figure 1).

The detailed inclusion and exclusion criteria are presented in the following sections.

INCLUSION CRITERIA

The inclusion criteria for eligibility are studies that focus on self-management interventions for primary school students. This includes research on activities, programs, strategies, or approaches designed to promote self-management in this age group. **Eligible studies may involve teachers who implement these interventions and utilize various tools, such as interactive manuals, to support student learning.**

Empirical studies, including quantitative, qualitative, and mixed methods, literature reviews, meta-analyses, and theoretical contributions that focus on self-management in education, interactive manuals or methods for teachers that support the implementation and activities of self-management, with an emphasis on practical application and implementation of strategies in the classroom, were included. The analysis includes literature published in the last 10 years (2014-2024) to ensure the currency of information; literature was in Slovenian, English, or German language.

EXCLUSION CRITERIA

Studies on self-management in primary school students that did not address self-management in primary school as the primary reason for the intervention were not included in the review (e.g., self-management in children post-surgery). Studies that do not focus on self-management or do not include activities for the educational stage in primary school were excluded (e.g., literature focused on high school or higher education, studies related to health and developmental disorders, and studies with insufficient methodological quality, including unclear or unsupported results).

Studies without clear guidelines for use or implementation in the educational environment were also excluded. Additionally, studies before 2014 were excluded, unless they were of key theoretical importance and still relevant. Literature in languages other than Slovenian, English, or German was also excluded. All citations obtained through search methods were recorded, stored, and organized using the reference management software Zotero.

SEARCH STRATEGY

A comprehensive literature search was undertaken to identify the minimal set of publications for inclusion in this systematic review. Employing a two-phased approach, relevant articles were identified through electronic searches across five prominent academic databases: Web of Science, Scopus, ProQuest, COBBIS, and Google Scholar.

Initially, a preliminary search used carefully selected keywords and Boolean operators (AND, OR, "", *) to refine results and ensure relevance. This first phase reviewed titles and abstracts to identify potentially eligible studies. Subsequently, the second phase involved retrieving and scrutinizing the full text of selected articles to facilitate in-depth analysis and determine final inclusion based on pre-defined eligibility criteria. A systematic search strategy was employed across multiple databases to identify relevant publications. Specific search syntax and inclusion/exclusion criteria were tailored to each database to ensure a comprehensive, focused search.

Web of Science: The advanced search interface was utilized with a query combining terms related to self-management, educational levels (elementary, basic, primary), teaching, digital technology, and social and emotional competences. Terms related to higher education, medical fields, and COVID-19 were excluded. This yielded 90 initial records, which were screened for relevance, resulting in 12 articles after removing duplicates and ineligible studies.

Scopus: A two-pronged search strategy was employed using the advanced search interface. The first search combined terms related to self-management, primary/elementary school, teaching, and excluded terms related to teachers, higher education, and health. This search was limited to publications between 2014 and 2025 and yielded 21 results. A second search using similar terms but focusing on "self-management competencies" yielded 49 results. After removing duplicates and screening for relevance, 13 articles remained.

ProQuest Dissertations & Theses Global: The advanced search interface was used with a query combining terms related to self-management, basic/elementary/primary education, digital technology, and teaching self-management competencies. Terms related to COVID-19 and higher education were excluded. This initial search yielded 63 records, which were narrowed down to 2 relevant articles. A subsequent search using a modified query focusing on "self-management" and "digital technology" yielded 96 records, which were screened for relevance, resulting in 5 articles.

COBBIS: The advanced search interface was used with a query combining terms related to self-management, primary/basic school, digital technology, social and emotional learning, and preschool education. Terms related to teachers were excluded. This search yielded 41 records; however, no relevant articles remained after removing duplicates and screening for relevance.

Google Scholar: A search using keywords related to self-management, basic education, elementary/primary school, and digital technology yielded 104 results. After screening for relevance, 8 articles remained.

SELECTION PROCESS

Citations obtained through database searches and reference list checks were imported into Zotero for duplicate removal. This resulted in a compilation of potentially eligible studies. Titles and abstracts of all retrieved publications were screened for relevance.

DATA COLLECTION PROCESS

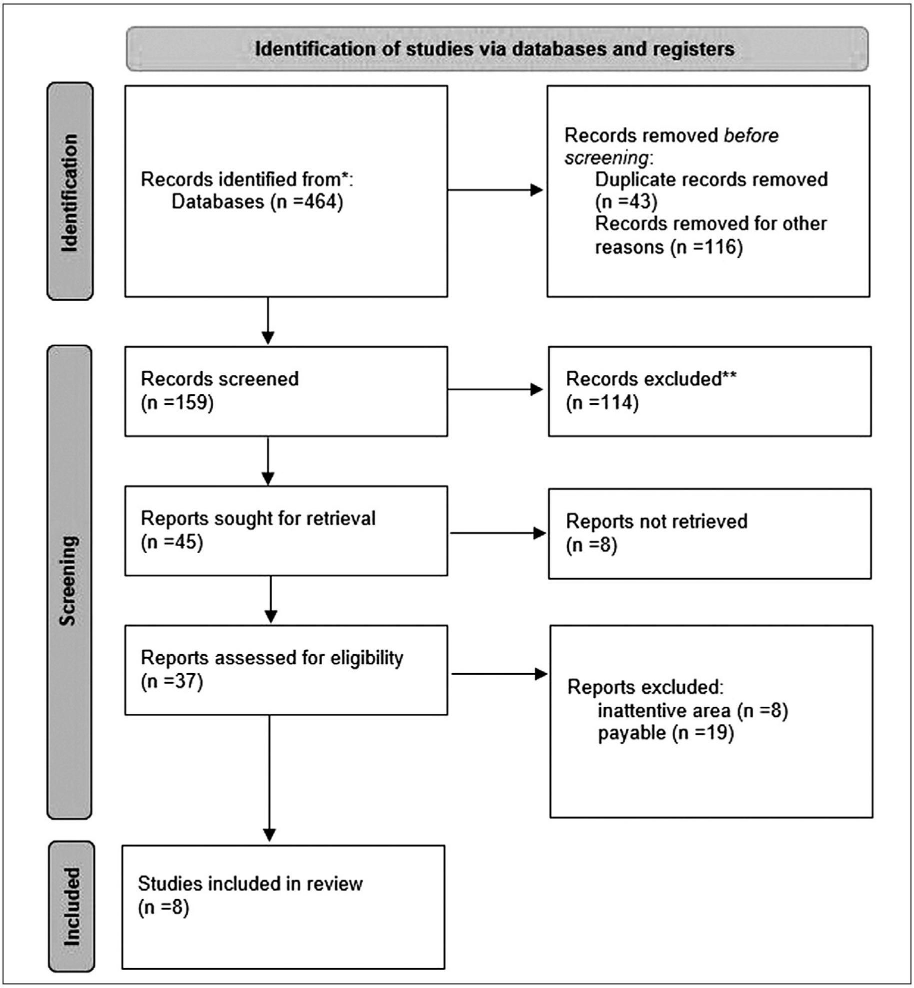

Figure 1. The PRISMA flowchart (Page et al., 2021, pp. 5)

RESULTS

The initial database search yielded 464 records. Following deduplication, 159 records were screened, resulting in 45 full-text publications reviewed for eligibility. Ultimately, eight articles met the inclusion criteria for this systematic review (Alieksieieva et al., 2021; Harrison et al., 2020; Huang & Yu, 2019; Panagopoulou-Stamatelatou, 1990; Smith et al., 2022; Wong et al., 2020; Yu et al., 2024; Zeybek, 2023).

A subsequent search for literature citing the included studies, as well as a review of their reference lists, did not yield additional publications meeting the inclusion criteria.

Table 1 provides a summary of the key intervention components identified. While some studies examined outcomes beyond self-management in primary school, this report focuses specifically on findings related to self-management.

Table 1 Review of relevant literature

Author	**Huang, R.-T., & Yu, C.-L. (2019)**
Study Design	Exploratory study
Intervention (n)	323 students
Control	Female (70%) and second-year students (58%) Age 20.76 years, deviation of 4.67 (46%) students - previous experience
Research instruments	Perceived flexibility advantage (PFA) - Marks et al. (2005) Self-management of learning (SML) - Wang et al. (2009) Mobile English learning - Roca, Chiu, and Martínez (2006) Perceived mobile English learning - adapted from Huang et al. (2012) Survey: 7-point Likert scale
Research findings	Higher levels of learning continuance were found of PFA and SML Positive Impact on Perceived Mobile English Learning Performance (PLI) was observed to moderate the relationship between PFA and mobile English learning continuance intention, strengthening this connection Mediating Role of Mobile English Learning Continuance Intention

Author	**Zeybek, F. (2023)**
Study Design	Exploratory study
Intervention (n)	350 primary school teachers
Control	Suburban teachers (56%) with largest groups of general educators (46%) Special education teachers (13%) Specialists (26%)
Research instru-ments	*CASEL framework (quantitative and qualitative phase)* *Closed-question survey (quantitative data - teachers across the USA)* *Semi-structured interviews (10 elementary school teachers)*
Research findings	Digital SEL boosts academic success by fostering confidence, self-management, and equitable learning Digital technologies are effective for SEL competencies and academic perfor-mance Digital technology enhances emotional well-being, feelings, understanding, and engagement More training and support are needed for effective SEL tech integration Challenges: screen time management, balancing digital/in-person SEL, and suit-able programs for younger students

Author	**Panagopoulou-Stamatelatou, A. (2006)**
Study Design	The information provided in the review article does not cite specific research design
Intervention (n)	Primary students (6-12) with behavioural or academic challenges
Control	40 children (6-12, mostly 1st and 2nd grades, one 12-year boy in special educa-tion)
Research instru-ments	Self-Management Intervention Checklist (SMIC), (Fantuzzo et al. (1989) Self-control rating scales: Various self-control rating scales (Fantuzzo et al. (1989), Hightower et al. (1986), Humphrey (1982), and Kendall & Wilcox (1979)) Teacher Assessment of Self-Controlling Skills (TASCS) rating instrument (Fantuzzo et al. (1989) Self-evaluation forms, developed by the researchers
Research findings	Self-management intervention yielded significant, durable increases in on-task behaviour, maintained over two months post-intervention. Self-assessment ac-curacy averaged 78%.

Author	**Alieksieieva, S., Yershova, L., Kravets, S., Lapshyna, O., & Odnoroh, H. (2021)**
Study Design	Quantitative methods (experimental studies, surveys, statistical analysis) Qualitative methods (systematic reviews)
Intervention (n)	*658 students*
Control	*329 students*
Research instru-ments	Survey questionnaire, developed by the authors of the article Analysis of documentary information
Research findings	Entrepreneurship competence needs lifelong learning readiness Online resources and self-management technologies enhance self-education and skills Lack of psychological knowledge and self-management competencies Pedagogical digital technology and self-management techniques are beneficial Teacher education is crucial for effective use Innovative teaching methods enhance entrepreneurship competence

Author	**Wong, T. L., Xie, H., Zou, D., Wang, F. L., Tang, J. K. T., Kong, A., & Kwan, R. (2020)**
Study Design	Quasi-experimental
Intervention (n)	*Students, ages 5-13*
Control	467 elementary school students: First Survey: N = 149, Second: N = 168, Third: N = 150
Research instru-ments	Questionnaires, developed by the authors of the article Questions from three perspectives: learning motivation, management, and self-assessment, developed by the researchers *Focus group interviews,* developed by the researchers
Research findings	i-Classroom improved learning behaviours, motivation, planning, self-monitor-ing Grades 5-6 experienced decreased motivation and management competencies Academic performance correlated with motivation, emphasizing self-regulated learning Student preference for video-based learning over traditional methods positively influenced engagement and learning

Author	Harrison, J. R., Kwong, C., Evans, S. W., Peltier, C., Mathews, L., & Chatman, T. (2020)
Study Design	Single-case experimental design
Intervention (n)	*Ages 11-13 (ADHD)*
Control	3 male, 1 female
Research instruments	Observation Instrument: Williams, Hall, Hedrick, Lamking, and Abendroth (2013) School Intervention Rating Form (SIRF) Children's Interview for Psychiatric Syndromes – Parents Version (PChIPs), Weller, E. B., Weller, R. A., Teare, M., & Fristad, M. A. (2013)
Research findings	Improved reading engagement, task completion, and accuracy are linked to self-management Significant improvements in task engagement, accuracy, and completion Game-based self-management enhanced reading engagement and response completion (application software)

Author	Yu, S., Yao, C., Xue, Q., Jantharajit, N., & Kanjanakate, S. (2024)
Study Design	Mixed methods research design Pre- and post-tests
Intervention (n)	100 participants
Control	Ages 9-10 (45 female, 55 male) 72 participants did not participate: in selection, planning, organizing, evaluating activities 28 students were engaged in organizing and implementing activities
Research instruments	Self-Management competencies Assessment Scale, developed by the authors of the article Standardized assessment scale training for teachers, developed by the authors of the article Survey questionnaire, developed by the researchers
Research findings	Improvement in self-management competencies with the SDOA model compared to traditional approaches No gender differences in SM learning Effectiveness of self-assessment, peer evaluation, and instructor feedback Positive impact of student involvement on motivation, engagement, and self-management competencies Alignment of the SDOA model with collaborative learning and socio-cultural theories

Author	**Smith, T. E., Thompson, A. M., & Maynard, B. R. (2022)**
Study Design	Single-case design studies Group-design studies
Intervention (n)	Ages 5-18, challenging behaviours
Control	236 students on a total of 456 outcomes
Research instruments	Behavioural Observation Scale, Carr & Punzo, 1993; Miller et al., 1989; Mooney et al., 2005 Checklists and rating scales, developed by the authors of the article Standardized tests, IES-WWC Standards Handbook, Version 4.0 (WWC, 2017) Self-report measures, developed by the researchers Behavioural assessment tools, developed by the researchers
Research findings	Positive impact on behaviours Effectiveness SM for diverse student groups (African American students, special education, students with behavioural problems) Moderate effects across studies (improving student behaviours and academic outcomes) Methodological shortcomings

DISCUSSION

Self-management specific domains

Analysis indicates that self-management research can be categorized across several critical aspects, including a) the specific domain targeted (cognitive, emotional, or behavioural) (Fisher et al., 2007; Grady & Gough, 2014; Panagopoulou-Stamatelatou, 1990), b) the integration of digital technology (comparing traditional and digital technology-supported approaches) (Alieksieieva et al., 2021; Huang & Yu, 2019; F. Zeybek, 2023), and c) the developmental stage of student participants (spanning from early childhood education to university settings).

Research underscores the significant impact of self-management across cognitive, emotional, and behavioural domains in educational settings. For example, Huang and Yu (Huang & Yu, 2019) demonstrate a positive correlation between cognitive self-management and improved outcomes in mobile language learning. Similarly, Alieksieieva (Alieksieieva et al., 2021) advocate for self-education digital technologies to cultivate entrepreneurship competence among university students. Wong (Wong et al., 2020) emphasize the potential of open educational resources to enhance learning motivation and self-regulation. Further supporting the importance of cognitive self-management, Yu (Yu et al., 2024) report positive results using the SDOA model to enhance these skills in primary school students.

Addressing the emotional domain, Zeybek (Zeybek, 2023) explores how digital technology can be leveraged to support social-emotional learning, ultimately contributing to students' well-being and academic performance. In the realm of behavioural self-management, Panagopoulou (Panagopoulou-Stamatelatou, 1990) reviews the effectiveness of self-assessment and goal-setting techniques in primary schools. Smith (Smith et al., 2022) provide a comprehensive review of behavioural self-management interventions aimed at reducing challenging behaviours in school-age students.

Table 2 Most frequently cited self-management competencies by domains in the systematic review

Cognitive	Emotional	Behavioural
Learning Memory Mental flexibility Attention Self-directed learning Learning efficiency School performance Academic achievement Inhibitory control Success in school	Ability to regulate emotions Self-control Impulse management	Responsibility Behaviour Behaviour outcomes Adaptability Resiliency

A systematic review underscores the critical importance of adopting a holistic approach to self-management in education for fostering both academic and lifelong success. Analysis of the most frequently cited competencies in the systematic review reveals **cognitive self-management** as the predominant factor in overall self-management. This analysis identifies several competencies essential for academic success, with particular emphasis on critical cognitive functions such as learning, working memory, inhibitory control, cognitive flexibility, attention, and cognitive development. The significance of cognitive self-management is evident in its direct correlation with effective self-regulation, which has a demonstrably positive impact on academic performance.

Beyond cognitive self-management, the data also highlights the importance of **behavioural self-management** for academic success. This domain encompasses a student's capacity for accountability, exhibiting appropriate behaviour, and achieving desired behavioural outcomes. Effective behavioural self-regulation in this domain is identified as a key driver of both academic and social-behavioural improvement.

While **emotional self-management** is represented in the analysis solely by the ability to regulate emotions, its importance should not be understated. Extensive research confirms the significant influence of emotion regulation on the development of executive cognitive functions, including working memory, inhibitory control, and cognitive flexibility (Brackett et al., 2011). These functions are, in turn, essential for effective self-management across a variety of contexts.

Traditional teaching methods often rely on conventional approaches that have been widely criticized for lacking practical relevance (Alieksieieva et al., 2021). Studies indicate a disconnect between these methods and the dynamic demands of modern learning environments, leaving students ill-equipped with the essential skills and mindset needed for success. In contrast, integrating digital technologies into the educational process has been suggested as a solution to these shortcomings (Wei, 2020). Digital technologies such as video lectures and mobile learning are proposed to develop self-management skills and psychological readiness among students. This gap is particularly evident in innovative education, where traditional methods fail to provide the necessary practical experience and mentorship, leaving students without the requisite skills and psychological preparedness (Alieksieieva et al., 2021; Dutta et al., 2023). Integrating digital technology into education will be explored further in the following section.

The developmental stage of students significantly influences the effectiveness of various educational approaches. In primary school settings, behavioural self-management techniques, such as self-monitoring and goal setting, have proven effective in promoting positive academic and social behaviour. These methods help children become more accountable for their actions, leading to improved academic performance and reduced disruptive behaviour (Panagopoulou-Stamatelatou, 1990). As students transition to secondary education, their self-management skills benefit from structured interventions like the SDOA model, which focuses on time management, self-discipline, teamwork, and problem-solving (Yu et al., 2024). These skills are crucial for handling the increased academic pressure and responsibility that come with higher education levels. At the university level, integrating digital technology into entrepreneurial education is paramount. Digital technologies that facilitate self-directed learning and self-management are essential for developing competencies needed for success in modern educational and professional environments (Alieksieieva et al., 2021; Huang & Yu, 2019; Wong et al., 2020).

These studies collectively emphasize the multifaceted nature of self-management and its crucial role in education. By integrating digital technology and implementing structured interventions targeting cognitive, emotional, and behavioural domains, educators can empower students to take ownership of their learning, leading to improved academic and social outcomes (Alieksieieva et al., 2021; Harrison et al., 2020; Wong et al., 2020).

Self-management and academic success

Self-management is crucial for academic success. Studies show a strong link between self-managed learning and academic achievement (Alieksieieva et al., 2021). Students with strong self-management skills are goal-oriented and use effective strategies, leading to better grades. This positive impact on academic performance is evident as early as age eight (Connor et al., 2010). Self-managing students tend to set realistic goals, choose effective strategies, monitor their understanding, and track progress. In contrast, students with weaker self-management skills often lack motivation, employ less effective strategies, and have lower self-efficacy (Horner & O'Connor, 2007).

Effective self-management skills are consistently linked to positive outcomes in academic and social-behavioural outcomes, enabling greater self-regulation and academic success (Blair & Diamond, 2008; Harrison et al., 2020; Hernández et al., 2018; McClelland & Cameron, 2011; Smith et al., 2022). This is attributed to the influence of emotional regulation on the development of executive functions (e.g., working memory, inhibitory control, mental flexibility), which are essential for effective self-management and the effortful regulation of attention and behaviour, which are key factors in academic achievement. The strong relationship between self-management, particularly the aspects such as flexible attention and inhibitory control, and academic performance in primary school children is well-documented (McClelland et al., 2017; McClelland & Cameron, 2011). These findings highlight the crucial role of self-management in learning, ultimately contributing to greater success in school and equipping students to meet the challenges of the modern world.

Integrating digital technology in self-management interventions: A blended approach

Traditional methods such as self-assessment and goal setting have proven effective, especially in combination with modern digital technological approaches. The integration of digital technology in education offers new opportunities for promoting self-management in students, and its potential in this area is significant (Harrison et al., 2020). However, despite the numerous positive effects of self-management, translating this potential of interventions that include digital technologies into real-world educational practice presents a unique challenge.

This is particularly relevant in the research of Alikseieiva (Alieksieieva et al., 2021). Traditional teaching methods often fail to align with modern entrepreneurial trends, leading to a deficiency in practical experience and mentorship. This misalignment stems from the fact that traditional approaches don't effectively equip students with the self-management competencies needed (Alieksieieva et al., 2021). Innovative educational interventions that foster self-directed learning and personal development are needed (Robinson & Persky, 2020). Behavioural self-management research highlights the positive effects of self-assessment and goal-setting interventions on student behaviour and academic performance, as evidenced by studies (Panagopoulou-Stamatelatou, 1990). These self-management competencies are increasingly important in today's world. Therefore, integrating digital technologies, such as workshops and video lectures, into school curricula becomes essential to better prepare students for entrepreneurial endeavours by equipping them with the self-management competencies necessary for success (Alieksieieva et al., 2021).

Digital technology-supported self-management leverages mobile learning environments to enhance student engagement and outcomes (Huang & Yu, 2019). Zeybek further highlights the potential of interactive games and applications for developing socio-emotional competencies (Zeybek, 2023). This exploration of digital technology-supported approaches underscores the adaptability of self-management interventions across various educational stages, from primary school to university. Research suggests that these interventions benefit younger students' academic and social-behavioural outcomes (Smith et al., 2022).

Furthermore, self-management of learning and personal learning initiatives significantly enhance mobile language learning outcomes (Huang & Yu, 2019; Medina, 2023). Learners who perceive greater flexibility in mobile learning environments are more engaged and achieve better results, highlighting the importance of self-management competencies (Huang & Yu, 2019; Medina, 2023; Trevitt et al., 2014). Moreover, the integration of digital technology into social-emotional learning curricula, with a particular emphasis on fostering self-management competencies in primary students at the primary level of education, has been shown to yield improvements in emotional well-being, cognitive development, and overall engagement (D. Fisher & Frey, 2019; Jones & Bouffard, 2012).

While game-based self-management interventions have shown effectiveness in improving engagement and task completion among students with ADHD, Harrison acknowledges that their long-term effectiveness remains uncertain (Harrison et al., 2020). Similarly, the Selection, Design, Organization, and Assessment model (SDOA) effectively enhances self-management competencies among primary school students, and traditional teaching methods may also be effective in some contexts (Yu et al., 2024). Self-management interventions show promise in reducing challenging behaviours and improving academic outcomes. However, further research should be done to confirm their long-term sustainability (Smith et al., 2022). Additionally, Open Educational Resources (OER) can increase learning motivation and self-managed learning among primary school students, though their effectiveness may diminish at higher grade levels due to academic pressures (Wong et al., 2020).

Fostering learner autonomy through self-directed learning

Reviewing the existing literature, we notice the concept of self-directed learning being approached differently by various authors (Panagopoulou-Stamatelatou, 1990; Smith et al., 2022; Wong et al., 2020). Self-directed learning, also known as self-regulated learning, empowers individuals to take ownership of their learning. This approach goes beyond simply completing tasks; instead, it requires learners to actively participate in planning, monitoring, and evaluating their progress. The fundamental premise of self-directed learning is that individuals possess the inherent ability to guide their own educational experiences (De La Fuente-Arias, 2017).

This concept has been consistently highlighted across numerous studies, underscoring its significance for academic achievement in diverse learning environments. For instance, research indicates that self-management substantially enhances learning efficiency (Alieksieieva et al., 2021; Huang & Yu, 2019). Moreover, studies conducted in primary schools have demonstrated that students with higher levels of self-management experience improvements in both academic and behavioural outcomes (Panagopoulou-Stamatelatou, 1990).

Furthermore, the specific needs of diverse learners, particularly those with learning differences, represent a particularly interesting population for research within self-management. For example, research on cognitive self-management directly links it to the development of executive functions like working memory, inhibitory control, and cognitive flexibility, which are considered fundamental to self-directed learning. Similarly, studies on game-based self-management and the SDOA model further emphasize the importance of these executive functions in academic settings (Blair & Diamond, 2008; Harrison et al., 2020; Wong et al., 2020; Yu et al., 2024).

Contemporary research highlights the crucial role of self-management in developing social and emotional competencies among primary school students, emphasizing its profound impact on academic and social outcomes (Panagopoulou-Stamatelatou, 1990; Wong et al., 2020). To foster these skills effectively, various activities can be employed, including student self-assessment, goal setting, and leveraging digital tools like interactive games and applications. Such methods encourage reflection on personal strengths and areas for growth, while setting realistic goals empowers students and promotes learner autonomy (Smith et al., 2022; Yu et al., 2024; F. Zeybek, 2023).

While traditional teaching methods may face challenges in effectively cultivating self-management, digital technology-driven approaches and innovative interventions, such as game-based learning, show promise (Harrison et al., 2020; Huang & Yu, 2019). Specifically, integrating digital technology in social-emotional learning not only boosts student engagement but also leads to academic improvements. However, successful implementation requires adequate teacher training and support (Yu et al., 2024; F. Zeybek, 2023).

Ultimately, a balanced approach that blends traditional methods with digital technology, tailored to individual student needs, is vital for successfully cultivating self-management skills in education (Alieksieieva et al., 2021; Smith et al., 2022). This is because the necessity for individualized support in fostering self-management is important, as different approaches prove effective for diverse students and contexts (Panagopoulou-Stamatelatou, 1990). Therefore, considering individual student needs and characteristics is essential when promoting these skills. In essence, self-directed learning, with its emphasis on learner autonomy and individual responsibility, emerges as a crucial factor in academic success and personal growth (Smith et al., 2022).

Implementing self-management in educational settings: Challenges and opportunities

Despite the numerous benefits of self-management, implementation challenges exist. Adequate teacher training is crucial, and incorporating relevant activities into an already demanding curriculum can be difficult (Huang & Yu, 2019; Smith et al., 2022). Furthermore, tailoring approaches to individual student needs requires significant effort.

Nevertheless, integrating self-management into education presents a valuable opportunity to enhance learning and equip students for 21st-century challenges (Harrison et al., 2020; Yu et al., 2024). Research consistently demonstrates that students with well-developed self-management competencies thrive academically and are better prepared for a complex world.

Utilizing digital tools, games, and open educational resources can effectively promote motivation, engagement, and self-directed learning. Successfully fostering self-management necessitates a blend of traditional and modern digital technological approaches, with individualized support as a cornerstone. Continued research is vital to evaluate the long-term impact of various interventions and develop innovative approaches to promoting self-management in students (Beekman et al., 2021; McClelland & Cameron, 2011; Randi & Corno, 2000).

In summary, this study reinforces the importance of self-management in primary education and provides valuable insights into effective practices and areas for further investigation. The analysis of innovative approaches to education highlights the crucial role of self-directed learning and self-management in achieving success, particularly in the fields of entrepreneurship and language learning. The research's focus on practical solutions such as workshops, video lectures, digital technologies, and games offers adaptable and potentially highly effective alternatives to traditional teaching methods. Particularly encouraging are the practical applications of mobile learning digital technologies and digital tools for SEL, which can significantly impact the improvement of learning outcomes and student engagement. Behavioural techniques such as self-assessment and goal setting are key to improving academic achievement and student responsibility (Miller et al., 2018; Oosthuizen et al., 2019).

While a diverse body of research illuminates the multifaceted nature of self-management in education, a common thread emerges: the need for continued research and the development of innovative approaches to promoting self-management in education (Grady & Gough, 2014). Further exploration is needed to determine how digital technology can be leveraged most effectively to support self-management, how to equip educators with the knowledge and competencies to foster these abilities in their students, and how to cultivate learning environments that empower all students to reach their full potential (Randi & Corno, 2000).

Despite the optimism surrounding these advancements, certain challenges warrant consideration. Of particular concern is the long-term effectiveness of these innovative approaches (Serdyukov, 2017). Although self-management games have proven effective for students with ADHD, the question of their long-term impact on academic achievement remains open (Harrison et al., 2020). Additionally, the effectiveness of open educational resources may be diminished at higher levels of education due to increased academic pressures.

The future of education lies in the development of tailored strategies that meet the specific educational contexts and needs of learners (Lim et al., 2018). Long-term studies will be needed to assess the sustainability and effectiveness of these interventions, and it is crucial to include cross-cultural assessments to test the applicability of these methods in different educational environments (Medina, 2023; Xie et al., 2019).

CONCLUSION

This systematic review identified eight relevant studies that investigated self-management interventions in primary education. The analysis revealed that cognitive self-management was the most frequently examined domain, particularly through the use of digital tools aimed at improving students' attention, memory, and independent learning (Huang & Yu, 2019; Yu et al., 2024). Behavioural self-management, including goal setting and self-monitoring, was also shown to significantly contribute to better academic outcomes and student responsibility (Panagopoulou-Stamatelatou, 1990; Smith et al., 2022). Although emotional self-management appeared less frequently, the studies that integrated digital social-emotional learning (SEL) components demonstrated promising effects on student well-being and engagement (Zeybek, 2023).

Seven out of the eight reviewed studies confirmed the positive impact of digital technologies in supporting self-management development. Interventions included video-based instruction, mobile platforms, and interactive games, all of which contributed to increased student motivation, engagement, and autonomy (Harrison et al., 2020; Wong et al., 2020). Particularly effective were models such as SDOA for younger students and gamified approaches. Open Educational Resources (OER) also emerged as valuable tools for fostering self-directed learning and motivation (Wong et al., 2020).

Despite these encouraging findings, several challenges and limitations were identified. Some studies lacked methodological robustness due to small sample sizes or short-term interventions (Smith et al., 2022). There is a strong need for enhanced teacher training, as well as better integration of digital tools into existing curricula (Zeybek, 2023; Alieksieieva et al., 2021). Furthermore, most of the research comes from Western or technologically advanced contexts, limiting the cross-cultural generalizability of the results.

This review highlights the potential of combining digital technology with pedagogically grounded self-management strategies to improve learning, behaviour, and emotional outcomes. Future research should prioritize long-term studies, culturally sensitive implementations, and systematic teacher support, as well as the development of effective and scalable interventions. With such an approach, educational systems can better empower students to take ownership of their learning and become more resilient and independent learners in the 21st century (Grady & Gough, 2014; McClelland & Cameron, 2011).

REFERENCES

Alghamdi, J., Mostafa, F., & Abubshait, A. (2022). Exploring technology readiness and practices of kindergarten student-teachers in Saudi Arabia: A mixed-methods study. *Education and Information Technologies*, *27*(6), 7851–7868. https://doi.org/10.1007/s10639-022-10920-0

Alieksieieva, S., Yershova, L., Kravets, S., Lapshyna, O., & Odnoroh, H. (2021). Self-education and self-management to develop entrepreneurship competence in future professionals. *SHS Web of Conferences*, *104*, 03002. https://doi.org/10.1051/shsconf/202110403002

Aspen Institute. (2019). *From a Nation at Risk to a Nation at Hope: Recommendations from the National Commission on Social, Emotional, & Academic Development*. https://eric.ed.gov/?q=source%3A%22Aspen+Institute%22&ff1=locDistrict+of+Columbia&id=ED606337

Beekman, K., Joosten-Ten Brinke, D., & Boshuizen, E. (2021). Sustainability of Developed Self-Regulation by Means of Formative Assessment Among Young Adolescents: A Longitudinal Study. *Frontiers in Education*, *6*, 746819. https://doi.org/10.3389/feduc.2021.746819

Berthelsen, D., Hayes, N., White, S. L. J., & Williams, K. E. (2017). Executive Function in Adolescence: Associations with Child and Family Risk Factors and Self-Regulation in Early Childhood. *Frontiers in Psychology*, *8*, 903. https://doi.org/10.3389/fpsyg.2017.00903

Blair, C., & Diamond, A. (2008). Biological processes in prevention and intervention: The promotion of self-regulation as a means of preventing school failure. *Development and Psychopathology*, *20*(3), 899–911. https://doi.org/10.1017/S0954579408000436

Brackett, M. A., Rivers, S. E., & Salovey, P. (2011). Emotional Intelligence: Implications for Personal, Social, Academic, and Workplace Success. *Social and Personality Psychology Compass*, *5*(1), 88–103. https://doi.org/10.1111/j.1751-9004.2010.00334.x

Connor, C. M., Ponitz, C. C., Phillips, B. M., Travis, Q. M., Glasney, S., & Morrison, F. J. (2010). First graders' literacy and self-regulation gains: The effect of individualizing student instruction. *Journal of School Psychology*, *48*(5), 433–455. https://doi.org/10.1016/j.jsp.2010.06.003

De La Fuente-Arias, J. (2017). Theory of Self- vs. Externally-Regulated LearningTM: Fundamentals, Evidence, and Applicability. *Frontiers in Psychology*, *8*, 1675. https://doi.org/10.3389/fpsyg.2017.01675

DURLAK, J. A., DOMITROVICH, C., WEISSBERG, R. P., & GULLOTTA, T. P. (Eds.). (2017). *Handbook of social and emotional learning: Research and practice* (Paperpack edition). The Guilford Press.

DUTTA, R., MANTRI, A., SINGH, G., & SINGH, N. P. (2023). Measuring the Impact of Augmented Reality in Flipped Learning Mode on Critical Thinking, Learning Motivation, and Knowledge of Engineering Students. *Journal of Science Education and Technology*, *32*(6), 912–930. https://doi.org/10.1007/s10956-023-10051-2

FISHER, D., & FREY, N. (2019). The Links Between Social and Emotional Learning and Literacy. *Journal of Adolescent & Adult Literacy*, *63*(1), 115–117. https://doi.org/10.1002/jaal.963

FISHER, E. B., BROWNSON, C. A., O'TOOLE, M. L., ANWURI, V. V., & SHETTY, G. (2007). Perspectives on Self-Management From the Diabetes Initiative of the Robert Wood Johnson Foundation. *The Diabetes Educator*, *33*(S6), 216S-224S. https://doi.org/10.1177/0145721707304124

GRACZYK, P., MATJASKO, J., WEISSBERG, R., GREENBERG, M., ELIAS, M., & ZINS, J. (2000). The Role of the Collaborative to Advance Social and Emotional Learning (CASEL) in Supporting the Implementation of Quality School-Based Prevention Programs. *Journal of Educational and Psychological Consultation*, *11*(1), 3–6. https://doi.org/10.1207/s1532768Xjepc1101_02

GRADY, P. A., & GOUGH, L. L. (2014). Self-Management: A Comprehensive Approach to Management of Chronic Conditions. *American Journal of Public Health*, *104*(8), e25–e31. https://doi.org/10.2105/AJPH.2014.302041

GREENBERG, M. T. (2023). *Evidence for Social and Emotional Learning in Schools*. Learning Policy Institute. https://doi.org/10.54300/928.269

GÜLAY OGELMAN, H., GÜNGÖR, H., KÖRÜKÇÜ, Ö., & ERTEN SARKAYA, H. (2018). Examination of the relationship between technology use of 5–6 year-old children and their social skills and social status. *Early Child Development and Care*, *188*(2), 168–182. https://doi.org/10.1080/03004430.2016.1208190

HARRISON, J. R., KWONG, C., EVANS, S. W., PELTIER, C., MATHEWS, L., & CHATMAN, T. (2020). Game-Based Self-Management: Addressing Inattention during Independent Reading and Written Response. *Journal of Applied School Psychology*, *36*(1), 38–61. https://doi.org/10.1080/15377903.2019.1660748

HERNÁNDEZ, M. M., EISENBERG, N., VALIENTE, C., SPINRAD, T. L., JOHNS, S. K., BERGER, R. H., SILVA, K. M., DIAZ, A., GAL-SZABO, D. E., THOMPSON, M. S., &

Southworth, J. (2018). Self-Regulation and Academic Measures Across the Early Elementary School Grades: Examining Longitudinal and Bidirectional Associations. *Early Education and Development*, *29*(7), 914–938. https://doi.org/10.1080/10409289.2018.1496722

Horner, S. L., & O'Connor, E. A. (2007). Helping Beginning and Struggling Readers to Develop Self-Regulated Strategies: A Reading Recovery Example. *Reading & Writing Quarterly*, *23*(1), 97–109. https://doi.org/10.1080/10573560600837727

Huang, R.-T., & Yu, C.-L. (2019). Exploring the impact of self-management of learning and personal learning initiative on mobile language learning: A moderated mediation model. *Australasian Journal of Educational Technology*, *35*(3). https://doi.org/10.14742/ajet.4188

John, A., & Bates, S. (2024). Barriers and facilitators: The contrasting roles of media and technology in social–emotional learning. *Social and Emotional Learning: Research, Practice, and Policy*, *3*, 100022. https://doi.org/10.1016/j.sel.2023.100022

Jones, S. M., & Bouffard, S. M. (2012). Social and Emotional Learning in Schools: From Programs to Strategies and commentaries. *Social Policy Report*, *26*(4), 1–33. https://doi.org/10.1002/j.2379-3988.2012.tb00073.x

Kemp, T. (2012). Coach Self-Management: The Foundation of Coaching Effectiveness. In D. B. Drake, D. Brennan, & K. Gørtz (Eds.), *The Philosophy and Practice of Coaching* (1st ed., pp. 27–50). Wiley. https://doi.org/10.1002/9781119207795.ch2

Lawn, S., & Schoo, A. (2010). Supporting self-management of chronic health conditions: Common approaches. *Patient Education and Counseling*, *80*(2), 205–211. https://doi.org/10.1016/j.pec.2009.10.006

Lim, C. P., Tinio, V. L., Smith, M., & Bhowmik, M. K. (2018). Digital learning for developing Asian countries. In K. J. Kennedy & J. C.-K. Lee (Eds.), *Routledge International Handbook of Schools and Schooling in Asia* (1st ed., pp. 369–381). Routledge. https://doi.org/10.4324/9781315694382-35

Lyons, C. D., & Tredwell, C. T. (2015). Steps to Implementing Technology in Inclusive Early Childhood Programs. *Computers in the Schools*, *32*(2), 152–166. https://doi.org/10.1080/07380569.2015.1038976

Mahoney, J. L., Weissberg, R. P., Greenberg, M. T., Dusenbury, L., Jagers, R. J., Niemi, K., Schlinger, M., Schlund, J., Shriver, T. P., VanAusdal, K., & Yoder, N. (2021). Systemic social and emotional learning: Promoting educational success for all preschool to high school students. *American Psychologist*, *76*(7), 1128–1142. https://doi.org/10.1037/amp0000701

McClelland, M. M., & Cameron, C. E. (2011). Self-regulation and academic achievement in elementary school children. *New Directions for Child and Adolescent Development*, *2011*(133), 29–44. https://doi.org/10.1002/cd.302

McClelland, M. M., Tominey, S. L., Schmitt, S. A., & Duncan, R. (2017). SEL Interventions in Early Childhood. *The Future of Children*, *27*(1), 33–47. https://doi.org/10.1353/foc.2017.0002

Medina, N. J. (2023). Exploring the Use and Impact of Targeted Social Emotional Apps With High School Students as a Tool for Self-Management of Stress, Anxiety, and Depression [Psy.D., The Chicago School of Professional Psychology]. In *ProQuest Dissertations and Theses* (2856216755). ProQuest Dissertations & Theses Global. https://www.proquest.com/dissertations-theses/exploring-use-impact-targeted-social-emotional/docview/2856216755/se-2?accountid=28931

Miller, A. L., Gearhardt, A. N., Fredericks, E. M., Katz, B., Shapiro, L. F., Holden, K., Kaciroti, N., Gonzalez, R., Hunter, C., & Lumeng, J. C. (2018). Targeting self-regulation to promote health behaviors in children. *Behaviour Research and Therapy*, *101*, 71–81. https://doi.org/10.1016/j.brat.2017.09.008

Mittal, N. (2020). SOCIAL EMOTIONAL LEARNING AND EDUCATION TECHNOLOGY. *International Journal of Engineering Applied Sciences and Technology*, *04*(10), 163–166. https://doi.org/10.33564/IJEAST.2020.v04i10.031

Nigg, J. T. (2017). Annual Research Review: On the relations among self-regulation, self-control, executive functioning, effortful control, cognitive control, impulsivity, risk-taking, and inhibition for developmental psychopathology. *Journal of Child Psychology and Psychiatry*, *58*(4), 361–383. https://doi.org/10.1111/jcpp.12675

Oosthuizen, R. M., Coetzee, M., & Munro, Z. (2019). Work-life balance, job satisfaction and turnover intention amongst information technology employees. *Southern African Business Review*, *20*, 446–467. https://doi.org/10.25159/1998-8125/6059

Page, M. J., McKenzie, J. E., Bossuyt, P. M., Boutron, I., Hoffmann, T. C., Mulrow, C. D., Shamseer, L., Tetzlaff, J. M., Akl, E. A., Brennan, S. E., Chou, R., Glanville, J., Grimshaw, J. M., Hróbjartsson, A., Lalu, M. M., Li, T., Loder, E. W., Mayo-Wilson, E., McDonald, S., … Moher, D. (2021). The PRISMA

2020 statement: An updated guideline for reporting systematic reviews. *BMJ*, n71. https://doi.org/10.1136/bmj.n71

Panagopoulou-Stamatelatou, A. (1990). The Use of Behavioural Self-management in Primary School Settings: A review. *Educational Psychology*, *10*(3), 207–224. https://doi.org/10.1080/0144341900100303

Randi, J., & Corno, L. (2000). Teacher Innovations in Self-Regulated Learning. In *Handbook of Self-Regulation* (pp. 651–685). Elsevier. https://doi.org/10.1016/B978-012109890-2/50049-4

Robinson, J. D., & Persky, A. M. (2020). Developing Self-Directed Learners. *American Journal of Pharmaceutical Education*, *84*(3). https://doi.org/10.5688/ajpe847512

Serdyukov, P. (2017). Innovation in education: What works, what doesn't, and what to do about it? *Journal of Research in Innovative Teaching & Learning*, *10*(1), 4–33. https://doi.org/10.1108/JRIT-10-2016-0007

Smith, T. E., Thompson, A. M., & Maynard, B. R. (2022). Self-management interventions for reducing challenging behaviors among school-age students: A systematic review. *Campbell Systematic Reviews*, *18*(1), e1223. https://doi.org/10.1002/cl2.1223

Trevitt, C., Macduff, A., & Steed, A. (2014). [e]portfolios for learning and as evidence of achievement: Scoping the academic practice development agenda ahead. *The Internet and Higher Education*, *20*, 69–78. https://doi.org/10.1016/j.iheduc.2013.06.001

Wei, X. (2020). Technology Embedding of Classroom Teaching: Types, Issues and Responses. *Open Journal of Applied Sciences*, *10*(06), 409–415. https://doi.org/10.4236/ojapps.2020.106028

Wong, T.-L., Xie, H., Zou, D., Wang, F. L., Tang, J. K. T., Kong, A., & Kwan, R. (2020). How to facilitate self-regulated learning? A case study on open educational resources. *Journal of Computers in Education*, *7*(1), 51–77. https://doi.org/10.1007/s40692-019-00138-4

Woolfolk Hoy, A. (2013). A Reflection on the Place of Emotion in Teaching and Teacher Education. In M. Newberry, A. Gallant, & P. Riley (Eds.), *Advances in Research on Teaching* (Vol. 18, pp. 255–270). Emerald Group Publishing Limited. https://doi.org/10.1108/S1479-3687(2013)0000018017

Xie, H., Chu, H.-C., Hwang, G.-J., & Wang, C.-C. (2019). Trends and development in technology-enhanced adaptive/personalized learning: A systematic review of journal publications from 2007 to 2017. *Computers & Education*, *140*, 103599. https://doi.org/10.1016/j.compedu.2019.103599

Yu, S., Yao, C., Xue, Q., Jantharajit, N., & Kanjanakate, S. (2024). Enhancing self-management skills of students through primary school class activities based on the Selection, Design, Organization, and Assessment model: A mixed methods study. *Asia Pacific Journal of Education*, 1–18. https://doi.org/10.1080/02188791.2024.2328238

Zakszeski, B., Hojnoski, R. L., Dever, B. V., DuPaul, G. J., & McClelland, M. M. (2020). Early Elementary Trajectories of Classroom Behavior Self-Regulation: Prediction by Student Characteristics and Malleable Contextual Factors. *School Psychology Review*, *49*(2), 161–177. https://doi.org/10.1080/2372966X.2020.1717373

Zeybek, F. (2023). *Digital Social-Emotional Learning: An Explanatory Sequential Mixed-Methods Study of Elementary School Teachers Experiences in Teaching Social-Emotional Learning with Digital Technology* [Ph.D., New Jersey City University]. https://www.proquest.com/dissertations-theses/digital-social-emotional-learning-explanatory/docview/2912179442/se-2?accountid=28931

Sustavna analiza istraživanja o samoreguliranom učenju uz pomoć primjene digitalne tehnologije u osnovnoškolskom obrazovanju

Sažetak

Ovaj sustavni pregled kritički procjenjuje recenziranu stručnu literaturu posvećenu ishodima intervencija u svrhu samoreguliranog učenja u osnovnim školama uz pomoć primjene digitalnih tehnologija. Na temelju smjernica PRISMA 2020, ovaj pregled obuhvaća osam podatkovnih baza, a sadržava empirijske studije, recenzije stručne literature, meta-analize i teorijske radove objavljene između 2014. i 2024. U skladu s kriterijima za uključivanje, naglasak je stavljen na intervencije vezane za samoregulirano učenje u osnovnim školama. Rezultati upućuju na presudni utjecaj samoregulacije u učenju na osnovno obrazovanje. Studije pokazuju da intervencije, uključujući i one koje se koriste digitalnim alatima, igrama i javno dostupnim obrazovnim resursima, uvelike povećavaju zalaganje učenika, ishode učenja, kao i društvene i emocionalne kompetencije. U ovom pregledu naglašena je važnost osposobljavanja učitelja i identifikacije zapreka u integraciji strategija za samoregulirano učenje u postojeće nastavne planove i programe. Učinkovito samoregulirano učenje zahtijeva nijansiran pristup koji tradicionalne metode kombinira s modernim digitalnim tehnologijama prilagođenim individualnim potrebama učenika. Tako, primjerice, integriranje tehnika samoreguliranog učenja koje se temelje na igrama i digitalnim alatima, poput aplikacija za mobilno učenje, pospješuje zalaganje i akademski uspjeh, posebno među učenicima s poteškoćama u učenju. Iako je nužno nastaviti istraživanja kako bi se procijenila dugoročna učinkovitost digitalnih intervencija i razvoja inovativnih strategija za promicanje samoreguliranog učenja u različitim obrazovnim kontekstima, nema sumnje da digitalna tehnologija donosi potencijalne prednosti. Zbog nedostataka tradicionalnih metoda, koje često prednost daju vanjskoj kontroli, a ne poticanju unutrašnje motivacije i samoregulacije, sve je vidljivija potreba za novim i poticajnim alatima. To je posebno važno s obzirom na to da je djeci mlađe dobi samoregulirano učenje često problematično, pa su zato agresivni, nedostatno motivirani i odustaju od učenja. Iz tradicionalnih pristupa često izostaju učinkovite intervencije, posebice one utemeljene na modernoj digitalnoj tehnologiji, koja je potrebna kako bi se ove zapreke pri-

Ključne riječi:
samoregulirano učenje, društvene i emocionalne kompetencije, model Prisma, digitalna tehnologija, učenici

mjereno prevladale i kako bi se razvile vještine nužne za samoregulirano učenje.

Međutim, studije upozoravaju na to da u istraživanju vještina potrebnih za samoregulirano učenje nedostaje važna karika s obzirom na primjenu digitalne tehnologije u obrazovnom okruženju. Ta nepoznanica predstavlja ključno područje za daljnja istraživanja jer podcrtava potrebu za nijansiranijim razumijevanjem moguće primjene digitalne tehnologije ne samo u svrhu akademskog napretka nego i za poticanje elementarnih društveno-emocionalnih kompetencija poput samoreguliranog učenja. Stoga se istraživanjem primjene interaktivnih igara, obrazovnih aplikacija i poticajnih digitalnih platformi, osmišljenih u svrhu razvoja samoreguliranog učenja, mogu stvoriti preduvjeti za preoblikovanje poduke i učenja tih ključnih vještina. Ove digitalne tehnologije omogućavaju poticajnije i personaliziranije uvjete za učenje zato što individualnim potrebama i stilovima učenja mogu pristupiti iz perspektive koja je tradicionalnim metodama često nemoguća.