

## AI Literacy in Adult Education — A Literature Review

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### Abstract

*The pervasiveness of Artificial Intelligence (AI) continues to increase, disrupting both individuals' professional and social lives. In order to enhance public understanding of AI technologies, the concept of AI literacy has emerged in scientific discourse in recent years, drawing upon interdisciplinary research from various fields. While much of the existing research focuses on educational efforts for K-12 students, this paper explicitly addresses research on AI literacy for adult education. A systematic literature review was conducted to characterize existing research in this area, which examines the understanding and approach to AI literacy in higher education institutions, the relevant target groups, the primary research directions, and assessment approaches for individual competency levels. Based on this analysis, research gaps are identified and future research directions are proposed.*

**Keywords:** AI Literacy, Adult Education, AI Competency

### 1. Introduction and Motivation

The proliferation of Artificial Intelligence (AI) has significantly influenced various domains, including business, science, art, and education (Ng, Leung, Chu, et al., 2021). As AI becomes increasingly integrated into our lives, AI literacy, the ability to understand, use, and critically evaluate AI technologies in a way that is relevant to life, learning, and work in a digital society, becomes crucial (Long & Magerko, 2020). AI literacy encompasses digital literacy (the ability to use, understand, and evaluate digital technologies and media), computational thinking, and a profound understanding of an intelligent society (Liu & Xie, 2021;

Wienrich & Carolus, 2021). Developing AI literacy enables individuals to critically and effectively use AI technologies (Long, Padiyath, et al., 2021). However, a profound understanding of AI-based technologies remains exclusive to specialists and practitioners who have received specialized education. Individuals without the necessary educational background in AI often lack sufficient understanding which can lead to inappropriate usage of the technologies (Chiang & Yin, 2022; Long & Magerko, 2020). For instance, failure to identify the limitations of Machine Learning (ML) models can result in misdiagnosis and incorrect treatment in healthcare, among other issues. Moreover, it is essential to have a comprehensive understanding of AI ethics and the potential implications of its usage (Zhao et al., 2022). Therefore, the incorporation of AI technologies and the comprehension of their implications and ethics pose a significant challenge for Information Systems (IS) research.

To address the prevailing knowledge gap, research endeavors are undertaken to study how teaching material and courses on AI can be included in educational systems (e.g., Ayobi et al., 2021). To achieve this, additional requirements for teachers' professional quality and teaching ability are necessary, including the ability to use AI tools such as ML algorithms, or even AI hardware like robots in the classroom (Liu & Xie, 2021). Therefore, the evolution of teacher education is critical to equip educators with the requisite skills for effective AI literacy integration into their curriculum (Olari & Romeike, 2021; Wilton et al., 2022). Interactive demos and targeted curricula, now more widely adopted, serve as robust tools for fostering AI skills (Long, Blunt, et al., 2021), as comprehending AI principles, concepts, applications, opportunities, threats, and limitations are deemed critical competencies of the 21st century. Importantly, AI

literacy education must be non-discriminatory, inclusive, and universally accessible, transcending socio-economic barriers.

While there exists a considerable body of research on AI literacy in kindergarten to 12<sup>th</sup> grade (K-12) education, it is essential also to recognize the significance of adult and higher education in fostering AI literacy. Both research fields are differentiated since the learning environment, course design and the corresponding study material differ significantly (e.g., Laupichler et al., 2022). AI is not only relevant for future generations but also for practitioners and adult learners. In this context, higher education means post-K-12 learning institutions, such as universities, that provide academic degrees, professional certifications, or continuing education credits. In practice, higher education institutions are launching AI literacy programs to arm future educators with skills for integrating AI in teaching (Kong et al., 2022, 2023) and recognize the need to develop innovative learning environments catering to the dynamic needs of AI education (Long, Blunt, et al., 2021). However, a research gap exists in this area despite its importance.

Laupichler et al. (2022) were the first to explore the research and potential avenues for fostering AI literacy among learners in higher education and adult education. In contrast to previous studies in the field, we conduct a systematic literature review. Thereby, our study expands on the presented findings by synthesizing existing literature, identifying research gaps, and proposing potential avenues for future research with a socio-technical perspective. We aim to answer two research questions: What is the current state of AI literacy research in adult and higher education (*RQ1*) and what research gaps exist in the current understanding of AI literacy in adult and higher education, forming potential areas for future research (*RQ2*). By answering these research questions we intend to support professional and higher learning institutions to better understand the current state of AI literacy.

The remainder of this paper is structured as follows: Section 2 provides a concise overview of related works, introducing the concept of AI literacy and its relevance to higher education. Section 3 presents the research design, including the chosen method of systematic literature review and its application. The findings from the literature review are presented in Section 4, followed by a discussion of these findings, identification of research gaps, and proposed avenues for future research in Section 5. Finally, Section 6 concludes the paper, acknowledges possible limitations, and suggests directions for future research.

## 2. Background and Related Work

In the past few decades, skill-based literacies have emerged alongside technological advances, enabling the aggregation of research on the general public's perception and understanding of technology. As a result, the understanding and definition of the term *literacy* has been applied in a figurative way. While the term initially referred to an individual's ability to read and write, it now encompasses a comprehensive set of skills and competencies that individuals possess. Moreover, individuals who can effectively apply information in a specific area may be described as literate in that domain, as noted by Bawden (2001).

In the early 2000s, the term *digital literacy* gained significance in scientific literature, although there is no uniform definition for it. Broadly speaking, it refers to a set of skills and competencies necessary to use digital tools properly (Spante et al., 2018). Digital literacy was viewed as an extension of *information literacy*, which was the primary focus of study during the 1990s (Bawden, 2001). In recent years, the prevalence of AI has raised questions about individuals' skills and competencies to participate effectively in a society that is dominated by AI. Consequently, the term AI literacy has emerged in scientific discourse. To provide context for AI literacy within the history of skill-based literacies that address technological changes, it is considered an extension of digital literacy, as being digitally literate is viewed as fundamental to becoming AI literate (Long & Magerko, 2020). According to Yang (2022, p. 2), "AI literacy is an organic part of digital literacy for all citizens in an increasingly intelligent society".

In a widely cited definition by Long and Magerko (2020, p. 598), AI literacy refers to the "set of competencies that enables individuals to evaluate AI technologies critically; communicate and collaborate effectively with AI; and use AI as a tool online, at home, and in the workplace". It is primarily used to describe the AI-based competencies and skills of the general public rather than AI professionals. In their work, Long and Magerko (2020) outline a set of 17 AI-related competencies that form the basis of their conception of AI literacy. This set includes the ability to recognize AI, comprehend the strengths and weaknesses of AI, and appreciate the role of humans in the development of AI, among others. In addition to having a solid understanding of AI itself, an AI-literate individual must also be knowledgeable about the social and ethical issues surrounding AI. Consequently, AI ethics are considered a crucial component of AI education.

The study of AI literacy is an interdisciplinary endeavor that draws on various fields, including

pedagogy or educational research, computer science, Human-Computer Interaction (HCI), and social sciences. Despite this interdisciplinary approach, the field of AI literacy is still developing. Research focusing on AI literacy in professional contexts and higher education is particularly lacking (Laupichler et al., 2022). According to Laupichler et al. (2022) there are notable research gaps in the theoretical foundation and customization of educational material for specific target groups. Currently, the research field is characterized by a vague definition and understanding of the concept leading to different research contributions. These include curriculum design to foster AI literacy among learners in formal education or design- and application-oriented research that deals with tools and technologies to use for AI education (e.g., Kaspersen et al., 2021). These contributions thereby address different target groups such as K-12 students (e.g., Kim et al., 2021), university students or adult learners (e.g., Kong, Man-Yin Cheung, et al., 2021; Laupichler et al., 2022), or professionals (e.g., Lee et al., 2022). Overall, the research field is in its infancy, and covers a wide range of contributions to the domain. It additionally offers researchers many opportunities to explore the field and contribute to the existing knowledge. Additionally, Laupichler et al. (2022) highlight the need for methods to assess the proficiency level in AI literacy that learners have reached are discussed, which are yet to widely present in the scientific discussion (e.g., Wang et al., 2022).

### 3. Literature Search

Approaching the concept of AI literacy from an IS perspective, we conduct a systematic literature review, drawing upon vom Brocke et al. (2009), vom Brocke et al. (2015), and Webster and Watson (2002). The aim is to comprehensively understand the current research and identify potential research gaps that can be explored in the future. Based on the related research presented in section 2, we study the field of AI literacy focusing on four dimensions: the understanding of and approach to AI literacy, key research contributions or objects, the addressed target groups, and the assessment of AI literacy proficiency.

In the first step, the scope of the literature review is defined by applying the taxonomy proposed by vom Brocke et al. (2009), which is based on the framework developed by Cooper (1988). The review focuses on research outcomes, practices, and applications, intending to integrate existing research and identify research gaps that can inform a future research agenda. To ensure comprehensive coverage of the literature, selective criteria and an objective approach are

applied. The papers' resulting conceptual organization makes it relevant not only for specialists in the field but also for general scholars interested in the interdisciplinary nature of the research topic.

*Scopus* and *Web of Science* are selected to perform the literature search on the topic, i.e., the publications' titles, abstracts, and keywords. Both databases are widely used and recommended for literature studies (e.g., vom Brocke et al., 2009), covering a wide range of peer-reviewed publications. To identify relevant literature, the search query depicted in Figure 1 is used, searching for the terms *AI literacy* or *artificial intelligence literacy* to consider the common abbreviation. Related concepts of artificial intelligence, such as machine learning, were deliberately not considered as keywords since the given research aims at understanding literature that explicitly focuses on the term AI literacy. Additionally, the keywords *work*, *higher education*, *university*, *professional*, and *adult* are incorporated, to further limit the results to the domain of higher and adult education. More wildcards in the search string are added to account for different word endings. Only English literature was considered. In Scopus, the subject areas are limited to Computer Science and Social Science to only consider papers covering the most relevant topics and consider only literature in the final publication stage. The literature search was performed in June 2023, and after removing duplicates (n=9), 73 publications were identified in the initial search.

In the next step, titles, abstracts, and keywords of the articles are scanned and those that were out of scope were excluded, considering the following selection criteria: An identified search result needs to be a single scientific research paper (*format*). Entire conference proceedings, for instance, are excluded from the final set of literature. The literature needs to concentrate on AI literacy in a general context or with a particular focus on higher or adult education (*context*). For example, publications that are written in the context of K-12 education are excluded. AI literacy needs to be the main topic of the contribution (*focus*). Hence, publications that only address AI literacy as a related concept or side note, for instance during the discussion of the presented research findings, are not considered in our research as well.

Using these criteria, 35 publications were excluded. Out of those, 2 did not meet the format requirements, 29 were set in a K-12 educational context, and 4 did not focus on AI literacy as a central research topic. In the next step, a full-text screen is performed and the same selection criteria are applied to identify further literature that is out of scope. Three additional research contributions did not meet the requirements, of which two did not focus on AI literacy, and one was placed in the context of K-12 education. As proposed and explained by

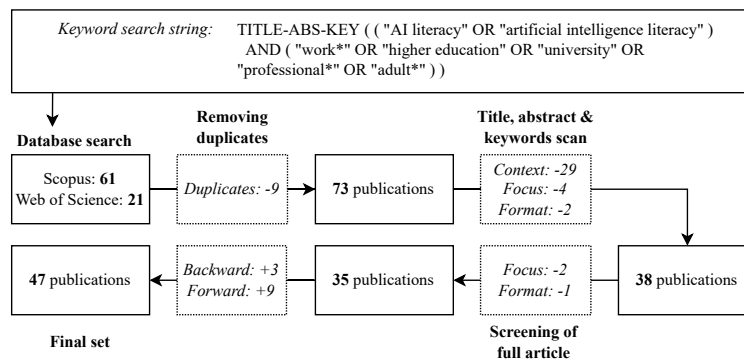


Figure 1. Identification of relevant articles

vom Brocke et al. (2009), a backward and forward search is performed which identified 12 additional publications. Consequently, the final set of literature consists of 47 relevant research contributions.

## 4. Results

In the following, we analyze the resulting set of literature to answer the first research question by taking into account the four dimensions as discussed in Section 2: the approach to develop AI literacy, research objects or contribution, target group, and the assessment of the level of AI literacy. The results are displayed as a concept matrix in Table 1, based on Webster and Watson (2002), while the categories per dimension are not mutually exclusive.

### 4.1. Approach to Development of AI Literacy

Fundamental for assessing existing research on AI literacy in higher and adult education is understanding how the concept is understood and applied. Two approaches were identified to support humans in becoming AI literate, independent of the educational material (e.g., tools, activities, and others) used or the target group. Although these approaches aim for a common goal, which is providing educational material on AI to make it more accessible to a broader audience, the approaches differ fundamentally.

In the vast majority of literature (n=44), the development of AI literacy is understood as a long-term educational process in which individuals are challenged to internalize a specific set of skills and competencies. While the infancy of the research field and its lack of theoretical foundation must be acknowledged, this understanding and approach to developing AI literacy seem to dominate the existing research, thus reflecting a widespread agreement of researchers. Therefore, researchers focus on supporting learners' understanding

of AI technologies and awareness of ethical uses related to AI by providing educational tools, learning materials, or hands-on activities. While a general agreement is reached within this literature set, each publication may set different competencies into focus.

A distinct subset of literature exists that did not approach the development of AI literacy with a focus on creating an internalized understanding of AI (e.g., Ayobi et al., 2021; Chiang & Yin, 2022; Leichtmann et al., 2023). Instead, it is studied how users of AI-based decision-making systems can be supported in understanding algorithm-based decisions in a specific context. As such, the literature considers only short-term and context-dependent explanations that may increase the AI literacy of the user in the given situation. Chiang and Yin (2022), who focus on ML literacy which can be understood as a form of AI literacy, describe these explanations as "short-term ML literacy interventions". Leichtmann et al. (2023), for instance, study the users' trust in a system if either Explainable Artificial Intelligence (XAI) is used to explain the AI-based decision-making or short educational interventions that improve the users' AI literacy by explaining the current case. In the evaluation and discussion of their research, Leichtmann et al. (2023) draw a comparison to more comprehensive education on AI to develop a deeper understanding and argue that long-term educational support is potentially a more purposeful approach.

### 4.2. Research Contributions

The research heavily focuses on building theoretical foundations for the concept of AI literacy (n=23). Developing theory is thereby mainly concerned with understanding and identifying particular areas of AI and the necessary competencies to constitute the concept of AI literacy. As such, publications propose a set of competencies that conceptualize AI literacy in general, i.e., independent of a specific technology or target group

	Assessment					Target Group					Approach		Research Contribution			
	Pre- and Post-test	Instrument	Interviews	Observations	Audio/ Video	Irrelevant	General Public	Families	Professionals	Students	Educators	Short Interventions	Internalized Competencies	Theory	Artifact Development	Educational Concept
Ayobi et al. (2021)					x	x					x				x	
Carolus et al. (2023)					x	x						x	x			
Cetindamar et al. (2022)					x			x				x	x			
Charow et al. (2021)					x			x				x	x			
Chiang and Yin (2022)					x			x			x				x	
Chklovski et al. (2021)	x		x				x					x			x	
Cox and Mazumdar (2022)					x			x				x	x			
Druga et al. (2022)					x			x				x	x			
Du et al. (2023)	x		x						x			x			x	
Eguchi (2022)				x					x			x		x		
Fyfe (2022)					x				x			x	x			
Hamburg et al. (2019)					x			x				x			x	
Kandlhofer and Steinbauer (2018)					x				x	x		x				x
Kong, Man-Yin Cheung, et al. (2021)	x								x			x			x	
Kong, Huang, et al. (2021)					x					x		x	x			
Kong et al. (2022)	x								x			x			x	
Kong et al. (2023)	x								x			x			x	
Kusuma et al. (2022)					x	x						x		x		
Laupichler et al. (2022)					x				x			x	x			
Lee et al. (2022)			x							x		x			x	
Leichtmann et al. (2023)					x	x					x				x	
Liu and Xie (2021)					x				x			x	x			
Long et al. (2019)					x	x						x		x		
Long and Magerko (2020)					x				x			x	x			
Long, Blunt, et al. (2021)					x			x				x		x		
Maitz et al. (2022)			x					x				x	x			
Ng, Leung, Chu, et al. (2021)					x	x						x	x			
Ng, Leung, Chu, et al. (2021)					x	x						x	x			
Ng, Lee, et al. (2023)					x	x						x	x			
Ng et al. (2022)					x	x						x	x			
Ng, Leung, et al. (2023)					x					x		x	x			
Olari and Romeike (2021)					x					x		x	x			
Reddy et al. (2022)		x							x			x		x		
Rizvi and Zaheer (2022)					x			x				x	x			
Rodríguez-García et al. (2020)					x				x			x		x		
Schleiss et al. (2022)					x			x				x	x			
Southworth et al. (2023)					x				x			x			x	
Teng et al. (2022)	x								x	x		x	x			
Tenório et al. (2023)					x	x						x				x
Vazhayil et al. (2019)			x		x					x		x			x	
Wang et al. (2022)		x				x						x		x		
Wiljer and Hakim (2019)					x			x				x	x			
Wilton et al. (2022)					x					x		x	x			
Wood et al. (2021)					x			x				x	x			
Yau et al. (2022)					x					x		x	x			
Zammit et al. (2021)					x				x			x		x		
Zhao et al. (2022)					x					x		x	x			

Table 1. Concept matrix

(Long & Magerko, 2020; Ng, Leung, Chu, et al., 2021; Ng, Leung, Chu, et al., 2021). However, since the competencies necessary for AI literacy are as diverse as the forms of AI and the fields where AI is applied, research also focuses on conceptualizing AI literacy for a technology or profession. As such, foundational literature is concerned with understanding necessary AI-related competencies for specific professions or target groups (Liu & Xie, 2021; Olari & Romeike, 2021; Rizvi & Zaheer, 2022; Schleiss et al., 2022; Wilton et al., 2022; Zhao et al., 2022) or for working with specific technologies, for instance with voice-based AI agents (Carolus et al., 2023). Furthermore, the research assesses people's attitudes and understanding of AI (Maitz et al., 2022; Teng et al., 2022) to motivate and introduce future research. Another significant branch of research deals with designing and evaluating learning curricula or education concepts (n=12). As pointed out in Section 4.1, these concepts vary in their strategy for supporting individuals in becoming AI literate.

Further, a critical area of the research on AI literacy deals with designing, developing, and evaluating artifacts as supporting tools in AI education (n=8). These artifacts may take the form of software applications (e.g., Rodríguez-García et al., 2020), robots (Eguchi, 2022), interactive AI exhibitions (Long, Blunt, et al., 2021; Long et al., 2019) or digital and non-digital games (Zammit et al., 2021). For instance, Rodríguez-García et al. (2020) introduce *LearningML*, a web-based educational application that allows learners to study ML as a form of AI. Learners can access learning materials of ML, as well as train ML models using a modification of the educational programming language *Scratch*. In another example, Kusuma et al. (2022) propose an educational platform that applies face recognition to match a photo of the user to a historical figure. Besides educational applications, one application that supports the learning process by providing learner feedback can be identified (Reddy et al., 2022).

Since the research field is still in its infancy, less prevalent research streams exist as well. For example, there exist mere descriptions of future research projects (Kandlhofer & Steinbauer, 2018), or a bibliometric analysis of the field (Tenório et al., 2023).

### 4.3. Target Groups

The research is dominated by considerations of AI literacy in respect to students or learners (n=15). Evidently, research on AI literacy for university students is more concerned with formal education settings. Hence, the given literature deals with the curriculum design and assessment of AI literacy among university students.

Usually, non-majors are in focus, i.e., university students that have not selected computer science or a related topic as their major. Other literature addresses learners in general (n=3; Long & Magerko, 2020; Reddy et al., 2022; Rodríguez-García et al., 2020) or specifically focuses on adult or higher education in a broader sense (n=1; Laupichler et al., 2022).

Another significant branch of literature focuses on educating the general public (n=11). Literature addressing the general public primarily deals with AI literacy on a higher level of abstraction. It instead focuses on the concept and theoretical foundation of AI literacy or the development of educational artifacts that are not explicitly targeted towards a specific group, thus of interest to the general public.

A recognizable share of research deals with families as a unique social group that is fundamental for AI education (n=3). Therefore, the research on educating families on AI is based on pedagogical research, emphasizing the role of parents in children's education besides formal education (Chklovski et al., 2021). Similarly, however, parents can also study new topics alongside their children. Learning with family members can be understood as a unique and informal form of adult education. In order to adequately address the target group of a family, thus including younger and older participants alike, the educational approaches selected are more hands-on and activity-based. Long, Blunt, et al. (2021), for example, present AI exhibitions for public learning spaces such as museums that provide creative and embodied learning.

The pressing need to develop AI learning materials for educators is widely covered in the literature as well (n=9), putting educators and teachers in the focus of the existing research on AI literacy in professional development. The educational concepts are either solely dedicated to teachers or designed for educating entire classrooms on AI, i.e. students and teachers alike (Kandlhofer & Steinbauer, 2018).

Further research addresses AI education for other professions (n=11), which are also heavily influenced by AI, such as healthcare professionals (Charow et al., 2021; Rizvi & Zaheer, 2022; Teng et al., 2022; Wiljer & Hakim, 2019; Wood et al., 2021), construction workers (n=1; Maitz et al., 2022), engineers (n=1; Schleiss et al., 2022), librarians (n=1; Cox & Mazumdar, 2022), entrepreneurs (n=1; Hamburg et al., 2019) or the general workforce confronted with AI (n=1; Cetindamar et al., 2022; Chiang & Yin, 2022). This set of literature shares the research motivation, which is rooted in the awareness that AI technologies will disrupt various sectors. Hence, AI literacy is a crucial set of competencies in many industries. Among all the professions in which AI

literacy has been studied so far, the healthcare sector is ahead in understanding the impact of AI on the professions within the sector.

#### 4.4. Assessment of AI Literacy

Current research is only partially concerned with assessing an individual's level of AI literacy, as evidenced by the fact that the assessment of AI literacy is rarely addressed in the literature. While authors apply evaluation methods such as self-assessment techniques in the form of pre- and post-tests (n=6), interviews of participants in educational programs focusing on AI literacy (n=5), or further evaluation techniques using observations (n=1) or audio and video analysis (n=3), there exists a lack of dedicated assessment tools. Existing research on the topic is concerned with constructing quantitative measurement scales (Wang et al., 2022) or embedding an automated assessment technique in a learning tool (Reddy et al., 2022).

### 5. Discussion

Reviewing the literature on AI literacy in higher and adult education and synthesizing the literature among four dimensions underpins the novelty of the research field. A literature review of 47 publications on AI literacy in adult and higher education was conducted with a minor focus on technology. This study aims to provide a refined and IS-focused overview of the existing research. Therefore, to answer RQ2 several topics and implications for future research on AI literacy are proposed:

**AI Literacy Theory** What are relevant competencies for AI literacy in different sectors and professions? How can competencies be deconstructed into levels?

**Measuring AI Literacy** How can the proficiency level of AI literacy be measured?

**Technology-based Learning** How can technology be used to support AI education at higher education institutions?

While a large portion of the identified literature focused on theorizing AI literacy by identifying relevant competencies, research in that area still is not mature. In this study, literature that conceptualized the skill set for a general context (e.g., Long & Magerko, 2020), or adjusted to a profession (e.g., Schleiss et al., 2022) was identified, with the latter being more under-researched. Hence, we argue that a sector- and profession-specific understanding of relevant AI competencies needs to be developed to add to the theoretical foundation of the research stream. Aligned with the findings by Laupichler et al. (2022), the review highlights that, at

present, the healthcare sector appears to be the pioneer in studying how AI will impact the workforce and how educational measures must be applied to increase the personnel's understanding of AI as compared to other sectors identified during the analysis of the target groups. Regarding profession-specific research, AI education for teachers and other educators is also more widely covered. In line with the initial statement that the majority of the research in the studied field focuses on K-12 education, larger shares of research on AI literacy in universities or other higher education institutions can be identified.

The central concept of theorizing the concept of AI literacy lies in capturing and collecting competencies, with a few research efforts that draw relations between such competencies (e.g., Zhao et al., 2022). In the next step, a more in-depth examination of the competencies needs to be performed, which may involve deconstructing the competencies into levels based on established competence models such as the Dreyfus model (Dreyfus & Dreyfus, 1980). This can allow for a learning progression to be visualized, improving the measurement of competency levels and supporting curriculum design. A related approach could be identified in the literature review in the publication by Ng, Leung, Chu, et al. (2021), who applied Bloom's Taxonomy to AI literacy. From an IS research perspective, future research contributions could be the development of analytics tools for AI curriculum development (cf., Gottipati & Shankararaman, 2018). We propose this research endeavor based on the result that thus far AI literacy competencies are measured based on self-assessment or by interviewing and observing study participants.

Although the existing research still lacks established techniques to measure the level of AI literacy, we were able to identify research endeavors that particularly address measurement instruments to advance the research field as previously identified as lacking by Laupichler et al. (2022). However, no further research in this direction could be identified. Therefore, further research is necessary to measure the proficiency level of AI literacy.

When assessing the research topics within the field of AI literacy in adult education, a lack of technological support for the educational efforts can be identified. Only a few publications proposed a design-oriented perspective. Thus, future research is necessary to study further how technology can support adult education on AI, including the design, development, and thorough evaluation of such technological artifacts.

The following limitations should be noted in regard to the research findings. Firstly, the literature search was conducted using only a limited set of databases. Second, only English-language articles were considered.

## 6. Conclusion

In this paper, the concept of AI literacy in adult and higher education is examined based on the results of a systematic literature review based on vom Brocke et al. (2009), vom Brocke et al. (2015) and Webster and Watson (2002). In total, 47 research contributions were identified, which shed light on educating the general public on AI technologies and related topics such as ethics, one of the major tasks for educators in the 21st century. By focusing on adult and higher education, a greater understanding of formal and informal educational approaches for various target groups can be gained. However, existing research on AI literacy in higher and adult education mainly focuses on defining the AI literacy concept. Based on these findings, we propose three main research areas for future IS research. First, researchers must engage in theorizing the concept as a foundation for curriculum and application development. Second, IS researchers may undertake the development and evaluation of tools and instruments to measure the proficiency level of AI literacy. Last, technology-based learning for AI education in higher education institutions may be addressed in research.

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