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بررسی اثربخشی آموزش مبتنی بر سواد رسانه‌ای بر تفکر انتقادی و خودکارآمدی تحصیلی در بین دانشجویان دانشگاه پیام نور اصفهان

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چکیده

این پژوهش با هدف بررسی تأثیر آموزش مبتنی بر سواد رسانه‌ای بر تفکر انتقادی و خودکارآمدی تحصیلی دانشجویان دانشگاه پیام نور اصفهان انجام شد. این پژوهش از نوع نیمه‌آزمایشی با طرح پیش‌آزمون- پس‌آزمون و گروه کنترل بود. جامعه آماری شامل کلیه دانشجویان دانشگاه پیام نور اصفهان در سال تحصیلی ۲۰۲۳-۲۰۲۲ بود. ۳۰ دانشجوی دختر با استفاده از نمونه‌گیری در دسترس به عنوان نمونه آماری انتخاب شدند که از این تعداد ۱۵ نفر به طور تصادفی در گروه آزمایش و ۱۵ نفر در گروه کنترل قرار گرفتند. داده‌ها از طریق مقیاس گرایش به تفکر انتقادی ریکتس (۲۰۰۳) و مقیاس خودکارآمدی تحصیلی مورگان–جینک (۱۹۹۹) جمع‌آوری شد. پس از توزیع پرسشنامه‌ها، گروه آزمایش برنامه آموزش سواد رسانه‌ای و مؤلفه‌های مهارت‌های سواد رسانه‌ای را در شش جلسه ۴۵ دقیقه‌ای دریافت کردند. فرضیه‌ها با استفاده از تحلیل کوواریانس تک متغیره مورد آزمون قرار گرفتند. نتایج نشان داد که سواد رسانه‌ای به طور معنی‌داری بر تفکر انتقادی (123.136=F، P<0.000) و خودکارآمدی تحصیلی (177.102=F، P<000) تأثیر دارد. بنابراین، این روش آموزشی نوظهور با تکیه بر تکنیک‌ها و راهبردهای اینترنتی، گامی اساسی در جهت افزایش تفکر انتقادی و خودکارآمدی تحصیلی دانشجویان دانشگاه پیام نور اصفهان برداشته است.

واژه‌های کلیدی

سواد رسانه‌ای، تفکر انتقادی، خودکارآمدی تحصیلی، دانشجویان دانشگاه پیام نور اصفهان.

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O R I G I N A L   A R T I C L E

Investigating the Effectiveness of Media Literacy-Based Education on Critical Thinking and Academic Self-efficacy of Students of Payam Noor University of Isfahan

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A B S T R A C T

This study was conducted to investigate the effect of media literacy-based education on critical thinking and academic self-efficacy of students of Payam Noor University of Isfahan. This was a quasi-experimental study with a pre-test-post-test design and a control group. The statistical population included all students of Payam Noor University of Isfahan in the academic year of 2022-2023. 30 female students were selected as a statistical sample using convenient sampling, of which 15 were randomly assigned to the experimental group and 15 to the control group. The data were collected through Ricketts' (2003) Critical Thinking Disposition Scale and Morgan-Jink's (1999) Student Efficacy Scale (MJSES). After distributing the questionnaires, the experimental group received the media literacy training program and the components of media literacy skills in six 45-minute sessions. The hypotheses were tested using univariate ANCOVA. The results showed that media literacy significantly affected critical thinking ($F=123.136$, $P<0.000$) and academic self-efficacy ($F=177.102$, $P<000$). So, this emerging training method has taken a fundamental step to increase the critical thinking and academic self-efficacy of students of Payam Noor University of Isfahan, relying on internet techniques and strategies.

K E Y W O R D S

Media literacy, critical thinking, academic self-efficacy, students of Payam Noor University of Isfahan.

Introduction

Today, the educational system has undergone fundamental changes with the spread of rapid developments in today's world, and the most important factor for survival and sustainability in this era is paying attention to the quality of the educational system and cultivating efficient, productive, and responsible people such as students (Purwanto et al., 2022). Students should be equipped with intellectual independence and innovation in the era of information explosion. This cannot be achieved except by guaranteeing the mental health and academic self-efficacy of students. Academic self-efficacy affects academic success and progress in various parts of students' lives (Barsalani et al., 2021:15).

This is one of the important concepts in Bandura's Social Cognitive Theory, referring to a person's judgment about his/her abilities and skills to perform a variety of educational tasks. Learners with a high sense of academic self-efficacy emphasize their skills and abilities and are more persistent in their assignments than those who have a low degree of self-efficacy. Such academic power in learners is different according to their thinking and actions. Academic self-efficacy is defined as a person's abilities and capabilities to achieve the performance and outcomes of another predetermined situation. It is a term that mediates a person's experiences, abilities, and thoughts along a path (Ocak & Karafil, 2020).

According to Fatima, Ali & Saad (2021), learners with high confidence in their skills perform their academic responsibilities with more commitment, and, subsequently, their performance and progress are higher. Diaconu et al. (2020) argued that there is a significant relationship between academic self-efficacy, motivation, and academic achievement of Swedish students. According to the results of a study by Huang (2013), students' sense of academic self-efficacy protects them from academically challenging events, making them easily adapt to stressful situations. Zare et al. (2022) suggested that academic self-efficacy is the most important factor that can affect students' internal motivation. The results of a study by Azizi and Gharzi (2020) showed that academic self-efficacy had a greater effect on increasing the mental health of learners than other cognitive components.

Nowadays, learners should have high logic and reasoning ability and develop strong thinking skills due to the progress of the process in the educational sectors and more efficient use of current developments. They need skills called critical thinking (Afraz and Haj Hosseini, 2021: 193).

Critical thinking is a type of cognitive process that delves into the essence of the existence of elements and unknown phenomena, casting doubt and skepticism upon them. It compares them with evidence and one's own knowledge, ultimately arriving at a logical and reality-based conclusion, considering all aspects. All information, evidence, and documents assist an individual in acquiring reasoned answers to his or her questions. Therefore, an individual, through observing his or her surrounding environment, reading, and contemplating the effects and outcomes of the environment, employs the art of reasoning to gather necessary information. Subsequently, based on his or her hypotheses, he or she engages in comparisons and, ultimately, makes decisions with consideration for pros and cons as well as existing realities, and then reacts accordingly to them. If such a person acts in this way, he or she has intellectual independence and will never rely on others (Golriz Poor et al. 2022:258).

The primary task of the education system is to cultivate critical thinking in learners. Therefore, in every country, it is essential to educate individuals with high levels of critical thinking for their growth and flourishing. Such thinking can be applied to problem-solving and decision-making in all clinical, ethical, managerial, and social domains (Zare, 2018).

Such modes of thinking operate as cognitive processes, and countries require such modes of thinking for the advancement of knowledge and staying abreast of contemporary sciences. The presence of critical thoughts involves an individual's reflection and reasoning to explore situations, complex problems to construct an assumption, correlation of various pieces of information through different questions, and seeking justifications for conclusions. Critical thoughts are directed towards goals and are based on solid outcomes and require judgment (Mosivand and Solgi, 2022:584).

Madus (2021) believes that critical thinking can serve as a strong predictor for problem-solving education. Pall (2018) demonstrated a significant relationship between teachers' job satisfaction and students' critical thinking, problem-solving, and organizational health. Căprioară(2015) suggests that learners with strong critical thinking abilities are capable of evaluating and judging various matters and resolving personal, familial, and external challenges. Sharma and Singh (2015) stated that critical thinking or the ability to make informed judgments is a fundamental skill in a person's life. Possessing such a characteristic signifies success for learners in academic and social realms. The studies by Mosivand (2022) revealed a significant relationship between critical thinking and students' communication skills. Moein et al. (2021) demonstrated that critical thinking enhances the relationship between metacognition and problem-solving in students.

Therefore, in the present era, communications are based on information and have shaped the world with remarkable changes. Media, like a useful tool, can assist humanity in achieving an ideal and aspirational life by utilizing these scientific advancements. However, if these media are misused at any time, they can act as a destructive and devastating force, bringing about significant problems and afflictions such as addiction to cyberspace, depression, academic decline, bullying, and so forth (Techataweewan & Prasertsin, 2018). Therefore, among the responsibilities of education in the current world, in the face of numerous media, is to cultivate learners who can safeguard their lives against the challenges and negative consequences of this phenomenon while making conscious use of media messages. Achieving this goal involves employing various methods of media literacy training (Eristi and Erdem, 2018).

This term was first introduced in Canada by McLuhan in 1965. The primary reason for the foundation of such an approach was the geographical proximity of Canada to the United States. In other words, the cultural founders of Canada were concerned about the influence of American culture and identity infiltrating their country through the media. Media literacy encompasses three stages. The first stage is the practical use of media and how to use them. In other words, audiences pay significant attention to selecting and watching various programs, focusing closely on the timing of these programs. The second stage involves analyzing and watching programs, critiquing them, and asking questions such as how the film was made and which scenes have been censored? The third stage involves the audience's attention and focus on the subtle aspects of media and reaching

deeper questions, such as who creates media messages and with what intentions, and which individuals benefit or suffer from producing these messages (Khatibi et al. 2021:142).

Media literacy is the ability to thoroughly analyze and explore entertaining messages presented to us daily. In fact, having such literacy functions as a talent and critical skill that can encompass all media. Through this literacy, one can find answers to instinctual questions that arise for an individual. The presence of such literacy as an ability enables learners to have meaningful interactions with media and other information providers and can foster qualities like creativity and critical thinking as well as developing essential skills for a desirable social life and creating an appropriate platform for nurturing active citizenship (Saleh Rad et al (2020:198).

Ketabdar et al. (2022) concluded in their studies that media literacy education can have a significant impact on components such as the ability to optimally consume media and critically analyze media messages in learners. Mousavi Rad and Boluki (2022) stated that there is a significant relationship between the increase in media literacy and Gardner's linguistic verbal intelligence. The findings of the research by Mehrabi et al. (2022) determined that media literacy education contributes to reducing internet addiction among children, and this skill should be taught to all family members. Imanzadeh et al. (2020) pointed out the impact of media literacy education on reducing information anxiety among the students of the University of Tabriz. Furthermore, the results of Singh's studies (2012) demonstrated a significant relationship between media literacy education and critical thinking as well as the creativity of students. Other studies by Badele (2018), Shin, Kim, and Lee (2012) indicated that media literacy education is a crucial factor for awareness and enhancement of media literacy sub-scales.

In the context of the research background about research question, there have been very few studies on the relationship between media literacy-based education and critical thinking as well as academic self-efficacy. Surprisingly no study has been found to investigate the correlation between these variables among students at Payam Noor University in Isfahan. However, some relevant studies have been conducted in Iran and abroad. A detailed examination of these studies can provide further clarity and insight into various aspects of this research. The results of the study by Chien (2021) revealed a strong correlation between self-efficacy and the use of media literacy. When students participated in media workshops, their self-efficacy motivation significantly strengthened, and the utilization of specialized journals and academic resources during the learning process was among the indicators of this effectiveness. Omar (2019), through his investigations conducted on students in Libya, asserted that media literacy has played a significant role in the teaching and learning of the English language. He concluded that a lack of confidence and expertise in such new technologies hinders the development of critical thinking and the enhancement of media literacy. Probst (2019) concluded from his research that media literacy education, as part of personalized educational programs, is effective in enhancing the social and emotional learning of disabled students. These media can encompass sensory and cognitive skills, analysis and evaluation in the digital world, and contribute to increased self-efficacy. Samadolahi (2022) demonstrated that the meaning of education, academic engagement, and self-efficacy of male high school students in Khoy city can be predicted through the components of media consumption patterns, message characteristics, and message criticism, respectively. Toghraei Semiromi et al

(2022) stated that teaching essential life skills such as communication, critical thinking, creativity, and the development of emotional and social intelligence in individuals is among the methods for advancing media literacy in society. Qasemigorbandi and Sadeghi (۲۰۲۱), in a study titled "Investigating the Effectiveness of Media Literacy on Critical Thinking of Seventh-grade Female Students in Region One of Bandar Abbas," concluded that media literacy education effectively enhances students' abilities in developing critical thinking skills. They emphasized the necessity of integrating this new technology into schools for further development.

In recent years, people around the world have been confronted with the widespread adoption of mass communication tools and advancements in contemporary communication technologies. The presence of this phenomenon has effectively engaged a considerable part of people's everyday lives, serving as a primary means of communication with the surrounding world and finding its way into various sectors, including private and public domains such as politics, religion, society, and culture. Among all media audiences, students receive the most significant impacts from the media. The presence of such a powerful and influential media can have adverse effects on shaping their personality and identity, including violence, internet addiction, social withdrawal, depression, peer rejection, theft, decreased academic self-efficacy, and impaired critical thinking and antisocial behaviors. It should never be forgotten that these educated individuals are like seedlings that the more effort is put into caring for them, the stronger trees they will become in the future. Therefore, preserving their mental and psychological well-being is of great importance. The expansion of media is an undeniable reality and, like air for breathing, is essential. Therefore,

in order to immunize the public against various cultural, emotional, political, religious, and other assaults, media literacy education needs to be implemented for everyone. In other words, with the emergence of new technologies, the process of education and learning has moved beyond the confines of schools and classrooms, transforming the entire world into a learning space. In this regard, attention must be paid to all stakeholders in media literacy, ranging from schools, universities, families, and the community, in order to create a foundation for planning, growth, and the universal advancement of media literacy education. It is also essential to note that, for the advancement of media literacy, we need to draw on the experiences of predecessors and the longstanding efforts of other countries that have been active in this field. By understanding their weaknesses and challenges, we can eliminate them and rely on the positive features of their approaches. Therefore, conducting such research is imperative to enrich the information in this field. Iran is a young country and the majority of its population being students; therefore, any neglect or deficiency in concepts such as critical thinking and academic self-efficacy can have adverse consequences for the country and society. The most significant consequence of this is the loss of numerous material and non-material resources that were invested in this area, imposing substantial costs directly and indirectly on the government and families. Therefore, the necessity for research dictates the identification of these factors and calls for solutions to overcome challenges and reduce their negative consequences. And ultimately, considering the research gap and the scarcity of studies in this field, where no simultaneous investigation has yet delved into the examination of these two variables and the effects of media literacy on students, the necessity and importance of research

underscore the need to fill this gap. Given the significance and extensive research conducted in the field of media literacy capabilities and the apparent research gap, this study seeks to find an answer to the question of whether media literacy-based education is effective in fostering critical thinking and academic self-efficacy among students at Payam Noor University in Isfahan?

To determine the research question more effectively, the present study investigates the relationships between the aforementioned variables based on the following hypotheses:

- Media literacy-based education has a significant effect on critical thinking among students.

- Media literacy-based education has a significant effect on self-efficacy among students.

Methodology

The research method was applied in terms of purpose and quasi-experimental in terms of methodology using a pre-test-post-test design. The statistical population included all students of Payam Noor University of Isfahan in the academic year of 2022-2023. The sampling method was convenience sampling. In this manner, the researcher, following the acquisition of the necessary permissions and coordination with university authorities, and after specifying the research topic and outlining the implementation procedure, selected a group of 30 students and 15 were randomly assigned to the experimental group and 15 to the control group. Inclusion criteria for participation in the study included non-participation in concurrent educational programs, absence of individual counseling or psychotherapy, and a conscious willingness and informed consent to engage in the research and exclusion criteria in the study included a lack of willingness to participate, a history of mental illness, severe neurological or brain disorders, and absence in more than one

session of the training courses. The data were collected through Ricketts' (2003) Critical Thinking Disposition Scale and Morgan- Jink's (1999) Student Efficacy Scale (MJSES).

Ricketts' Critical Thinking Disposition Scale (2003)

This scale has invented by Ricketts (2003) and includes 33 questions. Additionally, this tool comprises three components, namely innovativeness 13 items, cognitive maturity 9 items, and mental engagement or commitment 13 items. Responding to the questions is conducted through the Likert scale. In this scale, the highest score is set at 165 and the lowest score is set at 33. In his research, Ricketts evaluated the overall reliability of this scale as 0.86, and the reliability of the sub-scales including innovativeness as 0.79, cognitive maturity as 0.75, and commitment as 0.89. In studies conducted by Pak Mehr and Dehghani (2010), the reliability of this questionnaire was reported to be 0.76, as assessed using the alpha coefficient. Furthermore, in the research by Ghanbari Hashem Abadi and colleagues (2012), the reliability of this scale was determined to be between 0.60 and 0.80 (Afraz and Haj Hosseini 2021:198).

Morgan- Jink's Student Efficacy Scale (1999)

This is created by Morgan and Jinks (1999) and includes 30 items and 3 subscales talent (items 1to 10), effort (items 11 to 20) and context (items 21 to 30). The questions have been categorized based on the Likert scale, ranging from strongly disagree (score one) to strongly agree (score four). The scoring is in the range of 1 to 4. The questions are scored in reverse for items 4, 5, 15, 16, 19, 20, 22, and 23. The reliability of this scale was calculated by Morgan using Cronbach's alpha, resulting in a value of 0.82 and its validity has been confirmed by experts. In Iran, Jamali et al colleagues (2013) reported

the overall reliability of this scale as 0.76, with 0.80 for the talent subscale, 0.63 for the context subscale, and 0.60 for the effort subscale (Hossein Khani et al. 2021:54).

After selecting the participants in the initial session, a pre-test was conducted using the designated questionnaires for both the experimental and control groups. Subsequently, a media literacy-based educational program, encompassing the facets of media literacy, was implemented for the experimental group through six 45-minute sessions. Meanwhile, the control group adhered to their standard instructional routine as per the established protocol. Immediately following the completion of the instructional sessions, a post-test was administered to both groups.

The educational program was grounded in the 'Media Literacy Center' educational model, which shares commonalities with various other models, including UNESCO's (2011) Critical Media Literacy concepts, the Media Literacy

Model of the Ontario province in Canada, تئوری تامن, Hobbe's theory, and the theory of Younes Shokr Khah, who is considered among pioneers in media literacy in Iran. To develop suitable content for the media literacy training course, the 'Media Literacy Center' educational model was employed. The content of the training sessions is outlined in Table (1). It is worth mentioning that information regarding the completion of the questionnaires was provided to the students. Emphasis was placed on anonymity and the confidentiality of information. They were assured that responding to the questions is entirely voluntary, and at any point during the research, they have the option to withdraw and discontinue their participation. Furthermore, consent forms for participation in the instructional sessions were obtained from the participants. All data analyses were conducted using SPSS software version 26, and for hypothesis testing, the univariate analysis of covariance method (ANCOVA) was employed.

Table 1. Implementation of a media literacy-based educational program.

Session	Subject	Purpose	Brief Description
First	Communication, Elements of Communication, Media, and Its Types	Definition of Communication and Its Elements, Introduction to Media, Types of Media, and Their Roles in Life	In the first session, our goal was to instruct students, utilizing multimedia elements, on the concepts of communication and media, and to illustrate the roles they play in the daily lives of human beings.
Second	All media messages are constructed (Author)	Introduction of the Basics of Media Literacy, followed by an explanation that all media messages are constructed	In this session, our objective was to instruct students using multimedia elements, emphasizing the importance of media literacy for meaningful engagement with media. To achieve this, attention was directed towards several fundamental principles. The first principle pertains to the 'Author' of the message. Exploring the question of who has created this message is essential. To elucidate this principle, students become acquainted with indicators of this principle such as media ownership, non-authentic messages, and receiving information from counterfeit pages.

Third	Media serves as a conveyer of ideological and value-based messages (objective)	Introducing Students to the Objectives of Media Message Producers	The objective of this session was to instruct students on the second principle of media literacy, using multimedia elements. This principle pertains to the 'Purpose' of the message. Posing the question of what is the purpose of sending this message. To elucidate the second principle, students become acquainted with persuasive techniques used in media advertising
Fourth	Different individuals experience similar media messages in various forms (Audience)	Introducing students to the idea that different individuals may experience and interpret a multimedia message in different ways.	In this session, our goal was to use multimedia elements to instruct students on the third principle of media literacy, which relates to the 'Audience.' We presented the question of how different individuals may perceive media messages in various ways.
Fifth	Media have specific interests, encompassing commercial, ideological, and political dimensions (Content)	Introducing the content of media sources to the students	The objective of this session was to instruct students on the fourth principle of media literacy, utilizing multimedia elements. This principle pertains to the 'Content' of the message. Posing the question of what perspectives are present or excluded in media messages. To instruct on this principle, the session focused on the topic of dissemination of rumors in media, its underlying objectives, and the content of deceptive emails
Sixth	Each media has its own distinct language, style, form, techniques, and aesthetics (Format).	Introducing students to the idea that media messages are constructed using a specific media language with its own set of rules.	The aim of this session was to instruct students on the fifth principle of media literacy, which is the 'Format of Media.' Posing the question of what creative techniques media employ to capture attention. To instruct on this principle, students are introduced to factors related to the aesthetics techniques of media, camera angles, and packaging (color, shape, and text).

Findings

First hypothesis: Media literacy-based education has a significant effect on critical thinking among students.

Table2. Results of the univariate analysis of covariance (ANCOVA)
for comparing the critical thinking variable between two groups

Source of Variation	Sum of Squares	Degree of Freedom	F	Significance Level	Effect Size
Pre-test	138742.103	2	140.320	0.000	0.62
Group	115874.160	1	123.136	0.000	0.33
Error	1155.202	27			
Total	382014.036	30			

According to the results in Table (2), the value of F for the variable group is 123.136, and the significance level is equal to P<0.000, indicating a significant difference in post-test scores between the experimental and control groups. This demonstrates that there is a significant difference between the control and experimental groups after implementing the intervention. In this way, media literacy-based education significantly enhances critical thinking among students of Payam Noor University. In other words, the more students in the experimental group are exposed to media literacy intervention, the more their critical thinking abilities increase. Additionally, considering the effect size of 33.33%, the changes in students' critical thinking resulting from the effect of media literacy intervention.

Second Hypothesis: Media literacy-based education significantly affects academic self-efficacy among students.

Table 3. Results of the univariate analysis of covariance (ANCOVA)
for academic self-efficacy variable between two groups

Source of Variation	Sum of Squares	Degree of Freedom	F	Significance Level	Effect Size
Pre-test	1354.701	2	69.34	0.000	0.88
Group	1078.403	1	177.102	0.000	0.41
Error	199.123	27			
Total	3051.007	30			

According to the results in Table (3), the value of F for the variable group is 177.102, and the significance level is equal to P<0.000, indicating a significant difference in post-test scores between the experimental and control groups. This demonstrates that there is a significant difference between the control and experimental groups after implementing the intervention.

In this way, media literacy-based education affects significantly on academic self-efficacy among students of Payam Noor University. In other words, the more students in the experimental group are exposed to media literacy intervention, the more their academic self-efficacy increases. Additionally, considering the effect size of 41.41%, the changes in students' academic self-efficacy resulting from the effect of media literacy intervention.

to the media literacy intervention.

Result and Discussion

According to the findings of Table (2), media literacy-based education had a positive and significant effect on critical thinking among Payam Noor University Isfahan students in the experimental group during the post-test phase. This finding is in good agreement with the results of research by Qasemi Gorbandi and Sadeghi (2021), Golriz Poor et al. (2021), Omidvarfaz and Talebi (2021), Seraji et al. (2020), Abolghasemzadeh et al, (2020), Alizadeh et al. (2018), Kermanshahi, Ezodin, and Badali (2015), Lee (2016), Phang (2015), Moon (2009), and Stein and Anita (2009). The results of these studies indicate that media literacy education is effective on enhancing the critical thinking of students. It is recommended to incorporate the findings of this study into the curriculum planning for learners.

Media literacy as a powerful tool can be influential in fostering and promoting influential

critical thinking. In fact, the connection between this structure is not hidden from anyone, and providing appropriate tools to expand this type of literacy among all members of society is of great importance. Therefore, critical thinking stands as a common and essential element in various dimensions of literacy. Hence, in media and information literacy education, it is imperative to impart critical thinking skills to the learner and place them in learning situations where these skills are cultivated and strengthened. Echo, the media literacy scholar, contends that a democratic society persists under conditions where visual language (cinema, television, and other visual media) serves as a catalyst for critical echo (allowing the voiceless to be heard), rather than functioning as an invitation to artificial dream (silencing voices) (Abdoli et al., 2017).

Possessing media literacy facilitates a critical decoding of media messages, leading to a thoughtful engagement with them. It prevents these messages from easily influencing individuals' lifestyles and thoughts in any desired direction. Possessing such literacy can serve as a desirable solution, imparting skills to an individual, enabling them to take an active stance against media influences. Amidst the vast volume of information they encounter, this literacy empowers them to make informed choices. The objective of media literacy is to enhance and improve critical understanding and active participation. Having this literacy equips students as lifelong learners to adeptly discern between good and bad content of media by utilizing their critical thinking, analysis, and self-assessment skills. Ultimately, it can be stated that critical thinking skills are essential for the growth of every individual. Students should acquire necessary skills for thoughtful reasoning, a discerning relationship with media, and the use of critical thinking in analyzing the media messages. One of the effective factors in enhancing critical thinking skills is providing media literacy education for students.

In accordance with the findings of Table (3), media literacy-based education has had a significant and positive effect on academic self-efficacy among students of Payam Noor University in Isfahan, as observed in the experimental group during the post-test stage. This finding is consistent with the results of studies conducted by Golriz Poor et al. (2021), Sadeghi (2021), Jabin Pour (2020), Khazari (2018), Mohammadi Fattahi (2018), Chien (2021), Probst (2019), Lee (2016), and Meehan et al. (2015). Media literacy is a skill and knowledge that establishes a relationship between the audience and the media. It is also an ability that allows the audience to assess and analyze messages accurately and self-efficacy is the personal judgment individuals make about their capabilities to effectively perform and succeed in tasks. The results of studies indicate that media literacy education is effective in enhancing self-efficacy and its dimensions, leading to noticeable changes in it.

Tang and Tseng (2013) assert that information literacy leads to an increase in individual self-confidence and ultimately promotes self-efficacy. According to Moore (2005), information literacy, if integrated across all educational levels, not only not only results in increased learning but also fosters greater academic achievement. In elucidating this finding, it can be stated that when an individual possesses a sense of self-efficacy, they will be able to exert influence on their level of media literacy or predict its extent. Media literacy in students serves as a capability, allowing effective interaction with media and information providers, empowering them to actively and dynamically engage in such situations (Golriz Poor et al., 2022).

On the other hand, self-efficacy refers to individuals' perception of their skills in performing diverse tasks and activities. Students with high self-efficacy believe in their own abilities and perceive complex challenges as opportunities to master skills that they need to overcome. Therefore, when media literacy influences self-efficacy, it enables individuals to possess problem-solving skills and make informed decisions, allowing them to effectively confront challenges with high self-efficacy. The results reveal that students who undergo media literacy training are able to actively participate in their studies and in simpler terms, these students can benefit from enhanced efficiency and academic capabilities. Media literacy is the ability that allows an individual to have access to relevant information, critically evaluate it, and accurately apply the obtained information to meet their informational needs. For this reason, it should be emphasized that information literacy can guide learners in purposeful learning, making them more efficient in extracting relevant information related to knowledge. Efficiency and the capability of learners in their studies are among the most crucial aspects of self-efficacy. The importance of self-efficacy lies in its ability to enhance learners academically, shaping their attitudes, motivation, and sense of worth, ultimately leading to their effectiveness in learning. It leads to the learner becoming more effective. Over the long term, this phenomenon is accompanied by academic, professional, and pervasive efficacy and finally an academic and professional success engenders the creation of an influential and resilient human capital for society and country.

This study, akin to other research endeavors in the humanities, is subject to certain limitations, including the following:

The results of this study pertain to students at Payam Noor University in Isfahan; therefore, caution must be exercised when generalizing these findings to students in other cities. The limited accessibility of learners to tools and equipment for instructional review and practice, as well as the absence of optimal collaboration and coordination among educational stakeholders are other limitations. Another limitation of the research was the exclusive reliance on questionnaires for gathering information about dependent variables and other tools such as observation and interviews not being employed.

Furthermore, based on the findings of the present study, it is recommended that:

1. All educational institutions provide suitable infrastructure and platforms for learners to access these tools.

2. Educators are advised to receive necessary training in the effective utilization of technology for instructional purposes.

3. Learners, by employing critical thinking and academic self-efficacy, are encouraged to identify areas of academic challenge and implement individual or group interventions accordingly.

4. In addition to the technological educational facilities in schools and universities, other conditions and resources that contribute to the enhancement of information literacy, critical thinking, and academic self-efficacy among learners should be investigated.

5. Workshops on training critical thinking and academic self-efficacy, aimed at fostering optimal and effective utilization of media content, should be conducted by experienced psychologists and counselors within educational institutions.

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