THE IMPACT AND TRANSFORMATION OF JOURNALISM EDUCATION IN THE ERA OF INTELLIGENT COMMUNICATION

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In the era of intelligent communication, artificial intelligence technology is widely applied across various stages of news production, marking the advent of the era where news is collaboratively produced by humans and machines. Consequently, there has been a corresponding shift in the demand for talent in the media industry.

The goal of the article is to investigate the dynamic intersection of artificial intelligence and intelligent communication technologies in training future journalists.

The emergence of new technologies is prompting journalism education to adapt to new demands and undergo reforms. Traditional journalism education is no longer able to meet these new talent requirements, necessitating transformations in journalism education. Building upon the analysis of the impact of intelligent communication on news production, this article reviews past reforms in journalism education amid technological innovations and proposes an educational breakthrough focused on cultivating "H" talents in the era of intelligent communication. Therefore, journalism education in the era of intelligent communication urgently needs reforms.

Keywords: *artificial intelligence; intelligent communication; media industry; journalism education; future journalists.*

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ВПЛИВ ТА ТРАНСФОРМАЦІЯ ЖУРНАЛІСТСЬКОЇ ОСВІТИ В ЕПОХУ ІНТЕЛЕКТУАЛЬНОЇ КОМУНІКАЦІЇ

Технологія штучного інтелекту широко застосовується у епоху інтелектуальних комунікацій на різних етапах підготовки новин, знаменуючи настання ери, коли новини створюються спільно людьми та машинами. Отже, відбулися відповідні зміни в попиті на таланти і в медіаіндустрії.

Поява нових технологій спонукає журналістську освіту адаптуватися до нових вимог і вчасно реформуватися. Адже традиційна журналістська освіта більше не може задовольнити нові вимоги до талантів, тож виникає потреба у реформуванні освіти журналістів. Беручи до уваги аналіз впливу інтелектуальних комунікацій на продукування новин, розглядаємо попередні реформи освіти журналістів на тлі технологічних інновацій і пропонуємо освітній прорив, зосереджений на розвитку талантів в епоху інтелектуальних комунікацій. Тому журналістська освіта в епоху інтелектуальної комунікації вкрай потребує реформування.

Ключові слова: *штучний інтелект; інтелектуальна комунікація; медіа індустрія; журналістська освіта; майбутні журналісти.*

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Introduction. Throughout history, every significant technological revolution has been accompanied by changes in the news and communication industry, with technological advancements serving as the driving force behind continuous transformation in the media sector. With the rapid development of artificial intelligence theory and technology, breakthroughs have been achieved in areas such as speech recognition, text recognition, and video recognition. Artificial intelligence has emerged as a strategic technology leading a new round of technological revolution and industrial transformation, reshaping many traditional industry models. In the field of journalism and communication, the application of artificial intelligence technology is primarily manifested in robot writing, algorithm recommendation, AI synthesized anchors, and especially the emergence of Chat GPT intelligent text generation technology. Its powerful text analysis and generation capabilities continuously disrupt and reshape various aspects of news production and distribution. While these new technologies are driving the transformation of the media industry, traditional news knowledge and discourse systems have shown obvious inadequacies. This has led to significant changes in the demand for news talents, prompting the reform of journalism education. Journalism in China is not just a profession but also a cause, so the direction of journalism education in the era of intelligent communication and how to reform it are urgent issues to be addressed.

The **goal** of the article is to investigate the dynamic intersection of Artificial Intelligence (AI) and intelligent communication technologies in training future journalists.

Review of publications. In recent years, with the continuous development of technologies such as cloud computing, big data, VR, and artificial intelligence, the news and communication industry has undergone some new changes and it is necessary to "take into account both competitive advantages and comprehensive social benefits in R&D technology" [1]. From the widespread application of machine writing to the emergence of artificial intelligence chatbots like Chat GPT, the era of human-machine collaborative news production has arrived. This change also signifies that we have entered the era of intelligent communication using both "scientific research and innovation" [6]. As for the connotation of intelligent communication, researchers have not yet reached a consensus. Some researchers believe that intelligent communication refers to the process of "simulating, extending, and expanding human intelligence" through digital computers, enabling activities of information production involving "perceiving the environment, acquiring knowledge, and using knowledge" [10]. Some scholars extend it to the entire process of

information dissemination, considering intelligent communication as a new form, system, and ecology of communication that applies artificial intelligence technology in the production and dissemination of information [11]. In the specific context of news and communication, researchers regard intelligent communication as a new phenomenon emerging in the field of news and communication under the backdrop of artificial intelligence technology [2]. It refers to communication activities involving the intervention and participation of artificial intelligence technology: it can occur in the production stage (such as automated news production), as well as in the distribution and usage stages (such as algorithmic recommendations); it encompasses not only the influence of human interaction processes mediated by intelligent technology (not limited to interpersonal scope) but also the human-machine communication processes and their impact [12].

In summary, compared to previous mass communication and social communication, intelligent communication exhibits significant differences in technological foundation, connectivity scale, content production, distribution methods, and other aspects. It's important to note the distinction between the concepts of "intelligent communication" and "intelligent media" (i.e., smart media). These are two different entities where "intelligent media" emphasizes changes occurring within the media, where media professionals utilize emerging technologies to innovate news production methods, while "intelligent media" is just one manifestation of intelligent communication [7].

Research material and results. The media industry has undergone significant changes in the era of intelligent communication, particularly with artificial intelligence technology permeating various stages of news production, gradually moving towards a new format of human-machine collaborative journalism.

The Impact of Intelligent Communication on News Production.

In 2006, the United States began experimenting with machine-generated writing, and by 2013, the Associated Press had started using algorithms to automatically generate news. China also began extensive use of machine-generated writing from 2015 onwards, significantly enhancing the speed of news drafting. Moreover, under artificial intelligence technology, algorithmic recommendations can now provide personalized content delivery, as seen in platforms like Toutiao's algorithmic distribution model. In 2018, a Chinese publishing house introduced the world's first AI synthetic anchor – a "clone" capable of delivering broadcasts with the same proficiency as human anchors. This synthetic anchor, unaffected by constraints of time and location, eliminates speech errors and memory lapses, far

surpassing human capabilities. By the end of November 2022, the AI chatbot Chat GPT was launched, garnering over 100 million users by January 2023. In the news industry, Chat GPT primarily assists journalists in content production; journalists need only input keywords to generate relevant content, facilitating writing. Serving as an AI chatbot, Chat GPT can also to some extent replace new media operators in interacting with users, thereby reducing operational costs.

From machine writing to generative artificial intelligence tools, the impact of artificial intelligence technology on news production has encompassed the entire process, including information gathering, content creation, news distribution, user feedback, and analysis, as illustrated in the table below.

Table 1.

The impact of artificial intelligence on news production
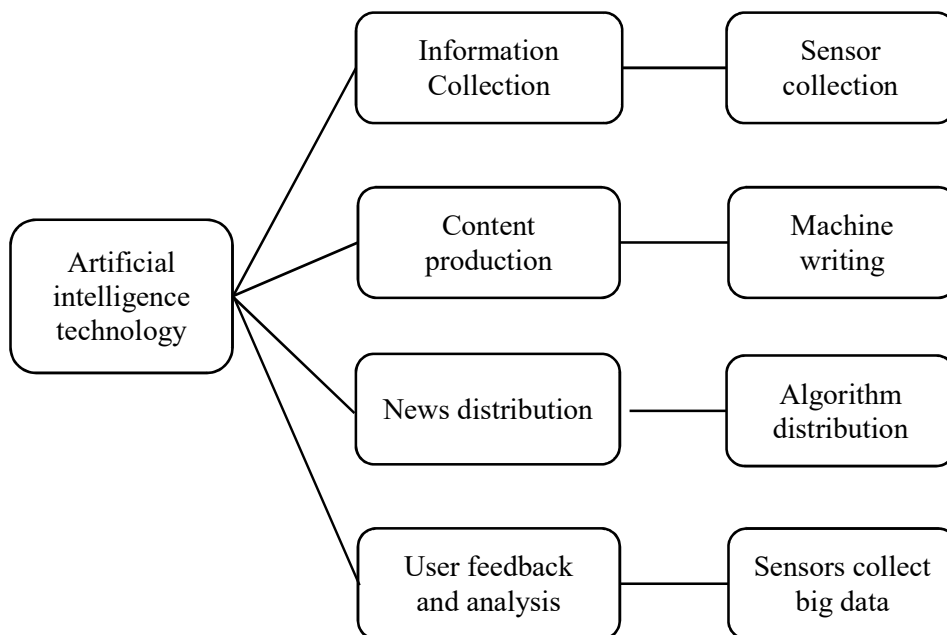
In the information gathering phase, the application of artificial intelligence technology mainly involves the use of sensors to collect information or the use of web crawlers to quickly gather information on hot events. Compared to traditional reporter field interviews, this greatly improves the speed and breadth of information collection and enhances its depth. While the use of sensor technology brings convenience to the media, it also presents challenges. The data collected by sensors lies outside the media industry, and the relevant data processing technologies may be unfamiliar to the media. Failure to adapt in a timely manner may keep the media at a disadvantage in the future [8].

In terms of content production, the application of artificial intelligence text analysis and processing technology is quite extensive, as mentioned earlier in machine writing. Machine writing surpasses humans in terms of quantity and efficiency. Machines can instantly read massive amounts of information, filter out key content, and quickly generate relevant reports based on the collected information. Currently, the time it takes for robots to generate news reports has been reduced to less than 2 seconds, with widespread applications in sports and financial news fields [3].

However, due to the template and routine nature of machine writing, it is currently more commonly applied to factual news reporting. Some social news and opinion-based articles that require independent thinking, expressing opinions, and conveying emotions still need to be completed by journalists.

In the distribution phase of news, algorithmic recommendation mechanisms to some extent perform the function of traditional "gatekeepers" in the news dissemination process [5].

Algorithmic recommendations prioritize personalized services, offering precise content based on individual preferences. On the surface, personalized services appear more convenient for individuals. However, if individuals only select information they are interested in, they may gradually become trapped in a "filter bubble", and algorithmic recommendations accelerate this process. When everyone is in a "filter bubble", the dissemination of public information and the formation of consensus in society become challenging [9]. Therefore, in the era of intelligent communication, news workers still need to play a "gatekeeping" role, emphasizing the dissemination of public information and leveraging the media's function of environmental monitoring.

In the user feedback and analysis phase, compared to traditional surveys, artificial intelligence undoubtedly provides great convenience for the news industry. Big data analysis, precise user profiling, especially the collection of users' physiological and psychological data through sensors, enable a deeper understanding of user characteristics and the production of targeted news reports based on user needs. However, this also involves more ethical issues such as user privacy, which places higher demands on news workers. In this process, it is essential to grasp the "degree" of ethical considerations and how to make reasonable use of artificial intelligence technology.

The impact of intelligent communication on journalism education.

With technologies such as artificial intelligence widely applied in the journalism industry, media outlets are continuously adapting to these new changes. The changes in the journalism industry determine the changes in the demand for journalism talents, thereby influencing the direction of journalism education reform. From the perspective of the changes in various aspects of news production in the era of intelligent communication, current demand for talents in the journalism industry mainly focuses on the following points:

Firstly, there is a growing preference for versatile talents with backgrounds in big data, artificial intelligence, and other related fields. Future journalists not only need to excel in reporting but also understand interdisciplinary knowledge such as coding.

Secondly, stricter requirements are placed on journalistic skills. While machines can already perform some basic tasks, tasks requiring deep thought still need to be completed by journalists.

Thirdly, talents with innovative thinking are needed. Innovation is the driving force behind the development of the times. The biggest difference between humans and machines is that humans can think independently and create. While machines can replace humans in simple tasks, tasks requiring strong speculation and innovation can only be completed by humans.

Fourthly, journalism talents need to possess humanistic literacy. Artificial intelligence has already been involved in various aspects of news production and has even replaced some journalistic work to a certain extent. However, fundamentally, artificial intelligence is just a "cold machine" running according to a certain program, lacking humanistic care. This requires humans to complement it and to exert their subjective values, ultimately forming an ecosystem of human-machine collaboration in production.

Thus, the changes in the journalism industry brought about by the era of intelligent communication have presented many challenges to journalism education, leading to various dilemmas.

Firstly, the educational objectives have failed to keep pace with the times. Currently, the training of journalism talents in universities still focuses on cultivating traditional journalists and editors. The courses offered predominantly revolve around traditional journalism education such as news gathering, writing, editing, and commentary, without considering the industry's demand for journalism talents [4]. The continuous advancement of technology is driving the transformation of the media industry, with the demand for talent extending to the realm of artificial intelligence technology. There is a growing need for more versatile professionals, and traditional training objectives are no longer adequate to meet the needs of technological progress.

Secondly, the curriculum system is incomplete. Currently, most universities primarily offer journalism-related courses, with very few courses from other disciplines, especially those related to fields like big data and programming. This results in a lack of interdisciplinary knowledge among students, and graduates under this framework clearly cannot meet the needs of the era of intelligent communication. Although some universities have introduced courses in computer programming and data journalism, these technical courses are not highly integrated with journalism.

Thirdly, the teaching staff is relatively homogeneous. Currently, the vast majority of teachers in journalism schools come from journalism backgrounds, with very few interdisciplinary teachers. While each teacher is proficient in their own research field, they may face difficulties in teaching interdisciplinary courses. Additionally, there is a shortage of industry-experienced teachers in current universities. Many teachers go directly to teaching at universities after obtaining their doctoral degrees, without extensive practical experience. However, journalism is a highly practical discipline, leading to a teaching focus on theoretical aspects and textbook knowledge, rather than meeting the needs of society for talent.

Education is a long-term process with inherent lag. In such a rapidly evolving era, technology iterates and updates swiftly. It's possible that journalism education is still catching up with the previous wave of technological changes. However, the emergence of new technologies is prompting journalism education to adapt to new demands and undergo reforms. Currently, journalism education not only faces the traditional issue of "technological lag", but also needs to respond to the impact of new technologies such as artificial intelligence. Therefore, journalism education in the era of intelligent communication urgently needs reform.

The direction of journalism education in the era of intelligent communication.

In response to the wave of artificial intelligence technology changing the forms of communication, it is a general trend for journalism education to cultivate interdisciplinary talents. The knowledge, theories, and resources of disciplines such as computer science and artificial intelligence need to be organically integrated with journalism education. The breaking down of disciplinary barriers also prompts a reflection on the "legitimacy" of disciplines: How can the journalism industry stand firm in the era of artificial intelligence? This is a pressing issue that journalism education urgently needs to address. Strengthening journalistic

skills and integrating artificial intelligence technology is the "change" that the journalism industry needs to adapt to the wave of artificial intelligence; while enhancing journalistic ethics and returning to the focus on "people" is the "constant" foundation of the journalism industry. Based on this, this paper believes that in the era of artificial intelligence, journalism education should cultivate "H-shaped" talents who not only have excellent journalistic skills but also possess professional capabilities in artificial intelligence, while adhering to journalistic ethics and morality. This is essential to enable journalists to hold their ground amidst the turbulent times.

Table 2.

The "H-shaped" talents
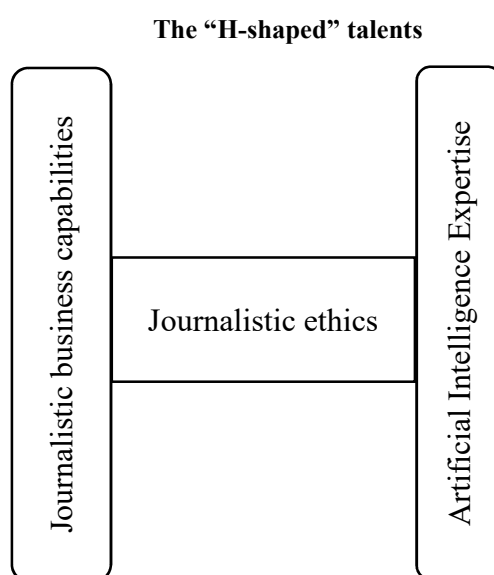
The advancement of artificial intelligence technology has led to the rapid and autonomous production of news, significantly improving the efficiency of news production. From automatically collecting data to algorithmically analyzing data, and finally generating and distributing content, artificial intelligence technology appears to be gradually replacing the functions of news reporters. However, we can also glimpse from this the future direction of the news industry.

Conclusions and Implications. The era of intelligent communication presents new requirements for news professionals, and news education, as a pathway to cultivate journalistic talents, must adapt and innovate accordingly. Starting from the top-level design of talent cultivation objectives, emphasis should be placed on fostering interdisciplinary integration and journalistic skills among news professionals through the refinement of training programs and the innovation of knowledge systems. Additionally, news education should prioritize the introduction of practical industry experience and enhance the construction of teaching staff. In the era of intelligent communication, the

phenomenon of human-machine collaborative production in news production will become increasingly common. Humans are no longer the sole agents of news production, as they need to collaborate with machines to accomplish tasks. In such a relationship, news workers must navigate how to maintain agency, assess the humanistic qualities of machine-generated content, and determine the standards for quality control. These are challenges that news professionals must face. This also places demands on news education, which, in the context of the intelligent era, should emphasize the cultivation of humanistic spirit. Humanistic values should not be overshadowed by technological advancements. Only through this approach can news education cultivate qualified journalism professionals.

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СУТНІСТЬ, СТРУКТУРА І ЗМІСТ ЛІДЕРСЬКОЇ КОМПЕТЕНТНОСТІ ЯК ПРОВІДНОГО КОМПОНЕНТА ВІЙСЬКОВО-ПРОФЕСІЙНОЇ КОМПЕТЕНТНОСТІ СУЧАСНОГО ОФІЦЕРА ЗА ДОСВІДОМ КРАЇН НАТО

З'ясовано, що в умовах повномасштабної російсько-української війни Збройним силам України необхідні не тільки добре підготовлені професійні офіцери, але й справжні лідери, які здатні швидко приймати виважені рішення, діяти рішуче й ефективно, і найголовніше – бути відповідальними за свої рішення, вчинки та результати діяльності. Нині проблема формування та розвитку лідерської компетентності офіцерів різних ланок військового управління науковцями недостатньо усвідомлена і досліджена, а її розвиток у офіцерів Збройних сил України на прикладі офіцерів країн НАТО буде аналізуватися вперше.

Визначено і розкрито зміст лідерської компетентності офіцерів країн НАТО. На основі теоретичних методів дослідження – аналіз наукових публікацій з проблеми, системний аналіз і синтез, узагальнення та конкретизація наукових джерел із проблеми дослідження, а також порівняльний аналіз – визначено структуру лідерської компетентності офіцерів країн НАТО, яка містить ціннісно-мотиваційний, суб'єктний, когнітивний, поведінково-діяльнісний і індивідуально-психічний компоненти.

Ключові слова: *лідерська компетентність; офіцер-лідер; лідер; лідерство; військовий лідер; професійна компетентність; НАТО; структура; сутність; зміст.*

Літ. 21.