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A Comparative Study of Media Literacy in Pre-service Chinese Language Teachers: Insights from Multiple Assessment Methods

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ABSTRACT

As media landscapes continue to evolve, media literacy (ML) competencies have become increasingly essential for educators, particularly pre-service Chinese language teachers (PCLTs). These teachers are at the forefront of adapting to curriculum reforms driven by China's rapid digital transformation, making their ML competencies crucial for integrating digital media into language education effectively. However, existing assessments often rely on a single method and are predominantly based on Western contexts, which limits their ability to capture the multidimensional nature of ML and adapt to China's educational landscape. To address this gap, this study examines the ML competencies of PCLTs using multiple assessment methods, explores variations across different dimensions, and seeks to optimize evaluation approaches. Grounded in Potter's cognitive model, this study employs a mixed-methods approach involving 195 third-year PCLTs. Data were collected through a self-assessment questionnaire (personal locus), a multiple-choice test (knowledge structures), and qualitative news analysis activities (skills). The results indicate that although PCLTs rate their ML competencies highly in self-assessments, objective measures reveal significant gaps in their knowledge structures and practical analytical skills. Furthermore, a strong positive correlation was found between knowledge structures and practical skills. These findings highlight the limitations of self-assessment and underscore the necessity of a multidimensional evaluation framework. Accordingly, this study advocates for the integration of multiple ML dimensions to develop a more comprehensive assessment system. By enhancing ML evaluation tools, it provides theoretical and methodological insights for ML research and teacher education.

Keywords: *Media education, digital literacy, self-assessment, qualitative method, news analysis activity.*

INTRODUCTION

ML is recognized as one of the key competences for the 21st century, promoting critical thinking and a sense of social responsibility by helping individuals to cope with the complexity of the digitally mediated environment, while advancing a vision of education for sustainable development (Ortiz & Novomisky, 2023; Tomé et al., 2022) With the acceleration of global digitalization process, ML research has expanded beyond the traditional field of communication, gradually integrating into the educational systems of various disciplines (Girwidz & Kohnle, 2022; Hidayati et al., 2023). Among them, language education is regarded as a key platform for ML education due to its central role in text comprehension, communication, and cultural transmission (Pederson, 2023). In recent years, researchers have begun to focus on the importance of multimodal language learning (Ferstephanie & Pratiwi,

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2023) and ML (Idayani et al., 2022; Hobbs, 2022) in language education, arguing that traditional literacy is no longer sufficient to meet the demands of contemporary information exchange. Educators should help citizens to develop cross-media reading (Sutrisno et al., 2024) and critical thinking skills (Wang & Li, 2022), fostering their ability to interpret and express information across different media platforms. In this context, language teachers' level of ML directly impacts the cultivation of competent citizens in the 21st century, making it a crucial issue in current education field.

As one of the fast-digitizing countries in the world, China's attention to ML education remains relatively lagging. The dissemination of the concept of ML is far slower than that of a single piece of AI-generated misinformation. However, technological advancement will not pause due to a delay in awareness. With the implementation of the Overall Plan for Development of Digital China (Council, 2023), China has achieved remarkable progress in digital transformation: according to the China Internet Development Report (2024), the country's internet penetration rate has reached 78.6%, and the added value of its core digital economy industries has exceeded 12 trillion yuan, accounting for over 10% of GDP (CNNIC, 2024). These developments highlight the urgency of integrating ML education into national education strategies.

The Chinese language curriculum has actively responded to this shift by incorporating "cross-media reading" skills and introducing new contents such as "news units", "news commentary" and "information synthesis tasks" in its updated 2022 version (Lin, 2024). For example, Junior students are required to independently select news, identify and analyse key news elements such as headline, lead, and source, and then present their findings in class discussions. These project-based assignments aim to cultivate students' critical thinking and collaborative communication skills through real-world media engagement (Du, 2024). In this case, in addition to language teaching skills, Chinese language teachers are now expected to possess core ML competencies. However, the training of PCLTs still primarily focuses on traditional language instruction and lacks a systematic ML framework (Wang, 2023). While some universities have begun integrating ML education, the lack of qualified assessment criteria makes it difficult to measure their ML competencies, which in turn hinders the development of a structured curriculum.

Although Western academia has conducted extensive research on ML assessment, existing evaluation tools still have certain limitations. First, most assessment tools lack localization and are primarily designed based on Western sociocultural contexts (Alonso-García et al., 2024; Trixa & Kaspar, 2024). These instruments often emphasize democratic participation, individual autonomy, and commercial media dynamics—concepts not always applicable to China's state-led media environment. For instance, items such as "I rely on information from alternative or independent media" (Neira et al., 2024) or "Public media such as PBS and NPR depend primarily on advertising for financial support" (Maksl et al., 2024) may not resonate with Chinese language teachers, who are trained in a context that emphasizes media's ideological and educational functions. Second, more recent Western instruments include items that are culturally misaligned when applied to China. Han et al. (2024) developed scales including items like "I use Skype, Facebook... to collaborate," where Skype/Facebook are blocked in mainland China. Similarly, Jormand et al. (2023) included "The audiences of fake media messages are individuals with obsessive-compulsive disorder personalities," which pathologize media users and may be culturally inappropriate or stigmatizing in Chinese educational settings. These examples illustrate how unlocalised

survey items can reduce validity. Third, many assessments remain single-dimension (Nguyen & Habók, 2023) focused solely on critical thinking skills (Michelot et al., 2022) or digital communication and collaboration abilities (Rodríguez-García et al., 2022), or rely heavily on self-report instruments (Alnasib, 2023; Alonso-García et al., 2024; Rodríguez-García et al., 2022; Tomczyk et al., 2023), which often inflate users' perceived abilities (Nieto-Isidro et al., 2022). Hence, despite the growing body of international literature, current ML assessment instruments remain insufficient for capturing the multifaceted and culturally specific competencies required in Chinese teacher education.

To address these gaps, this study constructs a localized multidimensional assessment framework based on Potter's cognitive model of ML. By combining self-assessment, objective knowledge tests, and practical news analysis tasks, it seeks to provide a comprehensive understanding of PCLTs' ML competencies. Specifically, this research aims to answer the following questions:

1. What is the performance of PCLTs' ML levels as measured by different assessment methods?
2. Are there significant differences among the dimensions assessed by different methods? Specifically, does the self-assessment scale method tend to systematically overestimate the ML levels of PCLTs?
3. How can multiple assessment methods be effectively combined to provide a scientific basis for optimizing ML assessment tools for PCLTs?

THEORETICAL FRAMEWORKS

a. Media Literacy Theory

From the early concept of "cultural literacy" proposed by Leavis and Thompson to the contemporary focus on critical reflection and civic engagement, the meaning and practice of ML have evolved significantly (Potter, 2022a). It has shifted from being rooted in a single protectionist ideology to embracing a multidimensional research framework that emphasizes both personal development and social participation (Mrisho & Dominic, 2023; Potter, 2022b). For nearly half a century, there has been an ongoing scholarly debate around protectionist and empowerment frameworks, which has ultimately led to the emergence of critical message interpretation, media content creation and expression as important components of ML. The Media and Information Literacy Framework proposed by UNESCO is a concrete embodiment of this idea - it establishes access to information, analysis, creativity and social participation as the core dimensions of ML (Grizzle et al., 2021).

In addition, the development of media technology has further expanded the context of social participation, which has thus spawned related concepts of ML, such as social ML, digital ML, and critical ML, suggesting that ML has evolved into multiple segments (Ili, 2025). One of the main reasons for this expansion is the widespread use of digital technology, which has increased the demand for specific media skills in different media environments (Wuyckens et al., 2022). On the other hand, the differences in political, economic, and cultural values as well as educational philosophies across countries have led to the fact that no uniform standards or common definitions have been developed in ML research (Tomczyk et al., 2023). However, despite the diversity of research frameworks, scholars generally agree that media-literate individuals possess well-structured knowledge and can effectively apply core media skills, including access, analysis, evaluation, and creation (Cho et al., 2022; Ramasubramanian et al., 2025). This perspective is strongly supported by Potter's (2022c)

cognitive model of ML, which highlights the central role of knowledge and skills in shaping ML. Furthermore, this model systematically elaborates on the knowledge structures underlying ML, offering a structured framework for assessing individuals' ML competencies. Therefore, this study combines Potter's model with the professional characteristics of PCLTs to explore how ML is assessed in teacher education.

b. The Three Dimensions of the Cognitive Model and Language Teaching Implementation

In Potter (2022)'s model, skills are conceptualized as tools for information processing, encompassing the abilities to access information, analyse and evaluate media content, and interpret it critically. Potter highlights that these skills must be actively applied by individuals during any information processing activity. Consequently, language teachers should mobilize these skills to guide students in textual analysis, cross-media reading, and conducting news-related tasks (Lin, 2024).

Knowledge structures are fundamental to Potter's model, shaping an individual's cognitive framework for understanding media phenomena through dimensions such as media content, industry, audience, impact, and the self (Maksl et al., 2015). Chinese language teaching, which is inherently social and practical, is increasingly influenced by the mediated nature of social life. In light of this, the *Chinese Language Curriculum Standards for Compulsory Education (2022 Edition)* emphasizes guiding students to understand, use, and critically evaluate media information. This includes recognizing the diversity and authenticity of information sources, identifying the standpoints of media, and analysing issues from multiple perspectives to foster independent judgment (Wang & Li, 2022). These requirements place significant demands on Chinese language teachers' media knowledge, including understanding the production and distribution of media products, profit models, strategies for attracting and influencing audiences, and methods for analysing and evaluating media content. These knowledge essential for language teaching align closely with the knowledge structure proposed by Potter, underscoring their relevance in modern education.

Personal locus comprises goals and motives and is significantly influenced by an individual's perception of the relevant knowledge structures and the amount of knowledge they possess (Amri et al., 2023; Zhang et al., 2022). For PCLTs, their self-perceived media knowledge accumulation directly affects their ability to integrate ML into the language curriculum. This impact manifests in their future teaching practices, such as whether they actively and comprehensively guide students to engage in cross-media reading and critically participate in news reading and writing activities.

c. Design of the Multiple Dimension Assessment Framework

This study is theoretically grounded in Potter (2022)'s Cognitive Model of ML. It integrates the three dimensions of this model with the professional characteristics of PCLTs, thereby constructing a multidimensional assessment framework. A review of relevant literature reveals that Maksl et al. (2015), building on Potter's model, developed a ML measurement tool that includes the following dimensions: Automatic vs. Mindful Thought Processing, Media Locus of Control, and News Media Knowledge Structures. Subsequently, Vraga et al. (2015) enriched the theoretical framework by introducing two additional dimensions: Self-Perceived ML (SPML) and Value for ML (VML). Empirical studies (Kendrick & Fullerton, 2018) showed that these dimensions were combined flexibly by researchers based on the specific characteristics of their study subjects to meet various assessment needs.

Based on these theoretical insights, this study localizes and innovates the framework for PCLTs by integrating the following three dimensions. In order to assess the personal locus dimension, the SPML and VML scales proposed by Vraga et al. (2015) are integrated in. These scales capture teachers' self-perception of ML competencies and their understanding of the importance of ML in daily practice, which Potter identifies as essential for critical media engagement. Moreover, the media knowledge dimension adopts Maksl et al. (2015)'s Media Knowledge Structures (MKS) framework, which has been localized to the Chinese context. It evaluates teachers' comprehension of the characteristics of media audience, media industry structures, and media content, reflecting the cognitive expertise needed for ML in China. To meet the practical needs of news unit instruction in language education, in the skills dimension, two News Analysis Tasks (NATs) were designed. These two tasks focus on Potter's five knowledge structures, aiming to evaluate PCLTs ' competencies in critical news analysis, logical reasoning, and social reflection.

The resulting assessment framework (Figure 1) integrates three complementary methods: a quantitative self-assessment questionnaire (SPML and VML), objective knowledge tests (MKS), and qualitative analysis activities (NATs). By joining these methods together, it enables the evaluation of ML competencies across multiple dimensions. Specifically, it allows for analyzing the difference between self-assessment competencies (SPML) and actual knowledge levels (MKS), assessing the consistency between quantitative (MKS) and qualitative (NATs) assessment methods, and integrating results across all three dimensions to explore the applicability of this framework. Ultimately, this multidimensional framework provides empirical support for the development of a scientific and adaptable ML assessment tool, directly addressing the three core research questions posed in this study.

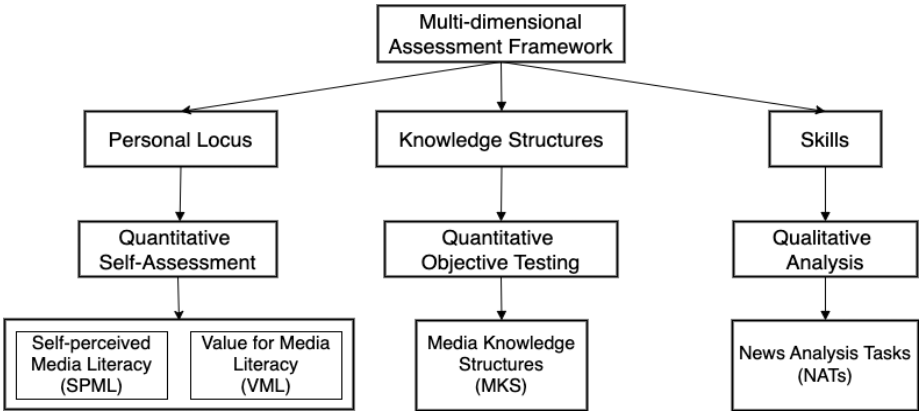


Figure 1: Multi-dimensional media literacy assessment framework

d. Scales of Quantitative Dimensions

The personal locus dimension is constructed by two scales: SPML and VML. SPML measures an individual's confidence in their ability to control media messages. Vraga et al. (2015) argue that the perception of knowledge differs from actual knowledge, although the two are often correlated. Building on Maksl et al. (2015)'s scale, Vraga and colleagues introduced the ML dimension of self-perception to capture this distinction. VML, on the other hand, measures an individual's perception of the societal value of ML (Vraga et al., 2015). Hobbs (2024) emphasizes that ML serves as a critical foundation for enhancing civic engagement, making an individual's perception of the social value of ML a meaningful indicator for assessing their

ML competencies. As the content of both two original scales were developed in the context of Western societies, this study modified them to better align with the Chinese context. For instance, the statement "ML is important to democracy" was revised to "The ML of citizens is very important to socialist democracy." Table 1 presents the items to assess the personal locus dimension.

Table 1: Scales of personal locus dimension

Scale	Item
Self-perceived Media Literacy (SPML)	S1. I have a good understanding of the concept of ML.
	S2. I'm not sure what people mean by ML.
	S3. I'm often confused about the quality of news and information.
	S4. I have the skills to interpret news messages.
	S5. I understand how news is made in China.
	S6. I am confident in my ability to judge the quality of news.
Value of Media Literacy (VML)	V1. The ML of the citizens is very important to the socialist democracy.
	V2. People should understand how media companies make decisions about news content.
	V3. People should accept information from the news on face value.
	V4. It is the role of the press to represent diverse viewpoints.
	V5. The news media have a role to play in informing citizens about civic issues.
	V6. People need to critically engage with news content.
	V7. The main purpose of the news should be to entertain viewers.

The second dimension, knowledge structures, is based on the basic media knowledge scale developed by Maksl et al. (2015). Their work synthesized five knowledge aspects from Potter's model into three key areas: the media industry, media content production, and the social impact of media in the U.S. context. This study considers the differences between the media systems of China and the United States, adapting and localizing the scale to align with the Chinese context while retaining the structural integrity of the original questions as much as possible. This dimension adopts a multi-choice question method, and all of the questions are developed from the items of Table 2.

Table 2: Scale of knowledge structures dimension

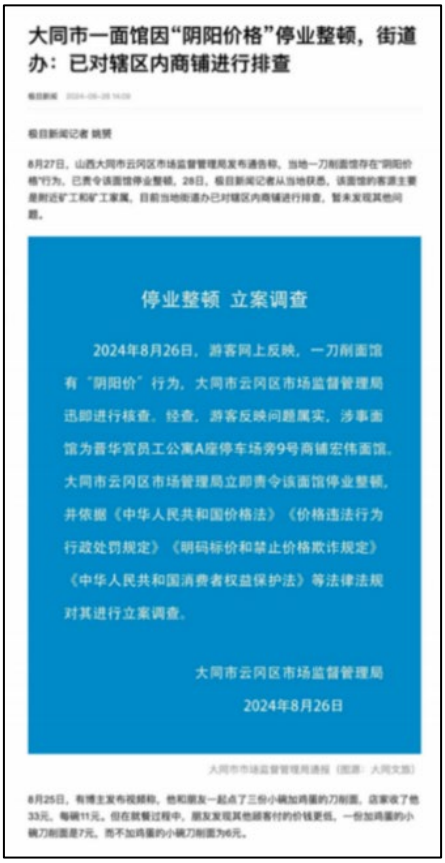
Scale	Aspect	Item
Media Knowledge Structures (MKS)	Media content	mc1. Knowing that producers have the greatest influence in determining what goes on TV news.
		mc2. Knowing that the news report is not objective mainly means that the reporter put forward his/her own views in the report.
		mc3. ten confused about the quality of news and information.
	Media effect	me1. Knowing that most people tend to think that news affects others more than it affects themselves.
		me2. Knowing that people tend to rate stories that get a lot of coverage as more important.
		me3. Knowing that some of the possible effects of news media making money primarily through advertising.
	China's media industry	cmi1. Knowing that most news agencies in China are state owned.
		cmi2. Knowing that in China journalists need a Press Credential to be able to conduct interviews.
		cmi2. Knowing that in China journalists need a Press Credential to be able to conduct interviews.
		cmi3. Knowing that Southern Weekly has reporters with interview rights, whereas Toutiao does not.

e. The Qualitative Dimension of News Analysis Tasks

The third part of this multi-dimensions assessment model uses a qualitative method to assess PCLTs' skills of ML by two news analysis tasks. The first task involves a full-page news report from the electronic edition of the Chongqing Evening News (Figure 2), which presents a survey report on the post-00s' perceptions of marriage and love. PCLTs were required to critically analyse this news. Although the article focuses on survey data about young people's views on marriage, the data was collected via a profit-driven dating platform, Carriage Encounter, founded by the Chongqing Evening News. Notably, the news page prominently promotes Carriage Encounter in the bottom-right corner, revealing a potential commercial agenda.

Figure 2: News report for the 1st news analysis task: A survey found that 50% of post-00s consider 25-30 to be the ideal age for marriage (Zhang & Wu, 2024)

The second task is analysis of two consecutive news reports on the same event (Figure 3 & 4). It began with a blogger exposing a restaurant for charging locals and tourists differently. Media followed up on regulatory actions, but soon the story shifted, suggesting the pricing aimed to support low-income miners. This sparked divided public reactions, with some defending the restaurant's intent and others emphasizing the need for price transparency. The media then issued a follow-up report reflecting these developments. PCLTs were asked to state their perceptions of the event, including examining the factual details of the news, identifying the standpoint of the news organization, and considering the potential implications of the two stories.



大同市一面馆因“阴阳价格”停业整顿，街道办：已对辖区内商铺进行排查

极目新闻记者 姚贤

8月27日，山西大同市云冈区市场监督管理局发布通告称，当地一刀削面馆存在“阴阳价格”行为，已责令该面馆停业整顿。28日，极目新闻记者从当地获悉，该面馆的客源主要是附近矿工和矿工家属。目前当地街道办已对辖区内商铺进行排查，暂未发现其他问题。

停业整顿 立案调查

2024年8月26日，游客网上反映，一刀削面馆有“阴阳价”行为，大同市云冈区市场监督管理局迅即进行核查。经查，游客反映问题属实，涉事面馆为晋华宫员工公寓A座停车场旁9号商铺宏伟面馆。大同市云冈区市场管理局立即责令该面馆停业整顿，并依据《中华人民共和国价格法》《价格违法行为行政处罚规定》《明码标价和禁止价格欺诈规定》《中华人民共和国消费者权益保护法》等法律法规对其进行立案调查。

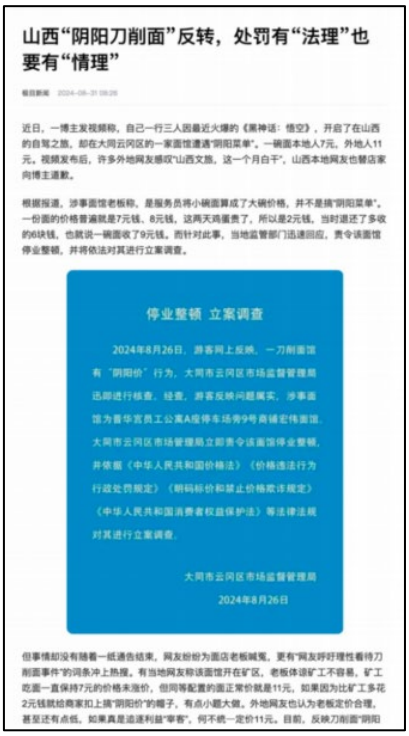
大同市云冈区市场监督管理局

2024年8月26日

大同市市场监督管理局通报（图源：大同文旅）

8月25日，有博主发布视频称，他和朋友一起点了三份小碗加鸡蛋的刀削面，店家收了他33元，每碗11元。但在就餐过程中，朋友发现其他顾客付的价钱更低，一份加鸡蛋的小碗刀削面是7元，而不加鸡蛋的小碗刀削面为6元。

Figure 3: The 1st news report for the 2nd news analysis task: A noodle shop in Datong City was ordered to suspend operations due to "dual pricing" (Yao, 2024)



山西“阴阳刀削面”反转，处罚有“法理”也要有“情理”

近日，一博主发视频称，自己一行三人因最近火爆的《黑神话：悟空》，开启了在山西的自驾之旅，却在大同云冈区的一家面馆遭遇“阴阳菜单”。一碗面本地人7元，外地人11元。视频发布后，许多外地网友感叹“山西文旅，这一个月白干”，山西本地网友也替店家向博主道歉。

根据报道，涉事面馆老板称，是服务员将小碗面算成了大碗价格，并不是搞“阴阳菜单”，一份面的价格普遍就是7元钱、8元钱，这两天鸡蛋贵了，所以是2元钱，当时退还了多收的6块钱，也就说一碗面收了9元钱。而针对此事，当地监管部门迅速回应，责令该面馆停业整顿，并将依法对其进行立案调查。

停业整顿 立案调查

2024年8月26日，游客网上反映，一刀削面馆有“阴阳价”行为，大同市云冈区市场监督管理局迅即进行核查。经查，游客反映问题属实，涉事面馆为晋华宫员工公寓A座停车场旁9号商铺宏伟面馆。大同市云冈区市场管理局立即责令该面馆停业整顿，并依据《中华人民共和国价格法》《价格违法行为行政处罚规定》《明码标价和禁止价格欺诈规定》《中华人民共和国消费者权益保护法》等法律法规对其进行立案调查。

大同市云冈区市场监督管理局

2024年8月26日

但事情却没有随着一纸通告结束，网友纷纷为面店老板喊冤，更有“网友呼吁理性看待刀削面事件”的词条冲上热搜。有当地网友称该面馆开在矿区，老板体谅矿工不容易，矿工吃面一直保持7元的价格未涨价，但同等配置的面正常价就是11元。如果因为比矿工多花2元钱就给商家扣上搞“阴阳价”的帽子，有点小题大做。外地网友也认为老板定价合理，甚至还有点低。如果真是追逐利益“宰客”，何不统一定价11元。目前，反映刀削面“阴阳

Figure 4: The 2nd news report for the 2nd news analysis task: The "Yin-Yang Knife-Cut Noodles" case in Shanxi was reassessed, emphasizing that penalties should consider both legal principles and human considerations (Jimu News, 2024)

The two tasks follow a rubric to evaluate the answers from PCLTs. This rubric is built up on five knowledge structures of Potter's model. It is presented in Table 3.

Table 3: The assessment standards of News Analysis Tasks

Aspect	Standard	Score
Media content	Can only briefly recount the news content, lacking details, and core information.	1
	Able to extract the main content but lacks in-depth analysis.	2
	Provides a good summary of the news and can identify key information.	3
	Clearly organizes the news content and highlights changes in content across different reports.	4
	Conducts a comprehensive analysis of the news reports, clearly presenting the development trajectory and identifying implicit information.	5
Media industry	Fails to recognize the relationship between the report and the media or industry background.	1
	Demonstrates a preliminary awareness of the media or industry logic behind the report.	2
	Able to analyse the media's bias or commercial motives in reporting events.	3
	Clearly understands the role and objectives of the media and its partners in the report.	4
	Conducts in-depth analysis of the industrial logic behind the news (e.g., platform influence, commercial motives) and its impact on content presentation.	5
Media Effect	Does not mention the potential impacts of the news.	1
	Briefly touches on some superficial impacts of the news but lacks analysis.	2
	Provides an initial analysis of the news' impact on social or cultural perspectives.	3
	Offers an in-depth discussion on the multifaceted impacts of the report.	4
	Conducts a comprehensive analysis of the report's impact on different groups and presents unique insights.	5
Media Audience	Fails to identify the relationship between the news content and its target audience.	1
	Briefly mentions the appeal of the news to the audience, but the analysis is superficial.	2
	Provides an initial analysis of how the news attracts specific audiences or its significance to different groups.	3
	Clearly discusses the different audience groups targeted by the news.	4
	Conducts an in-depth analysis of the relationship between the news and diverse audiences, exploring communication strategies.	5
The Self	Fails to analyze the news with a critical reflection.	1
	Expresses a simple opinion but lacks logical connection to the news content.	2
	Provides an initial critical reflection on the report.	3
	Reflects deeply on the news report and its social significance.	4
	conducts a comprehensive critical analysis, considering multiple factors.	5

METHODOLOGY

This study employed a combination of self-assessment and objective assessment to investigate and analyse the ML competencies of PCLTs across the three dimensions of Potter's ML model. The original English items were translated into Chinese using a single-person back-translation method (Kowal, 2024). Specifically, the initial translation was conducted by a doctoral candidate in educational linguistics with extensive bilingual research experience. To verify accuracy, the back-translated version was reviewed and compared with the original

English by two bilingual experts in media and education. Any discrepancies were resolved through collaborative discussion to ensure conceptual equivalence, thereby reducing potential translation bias.

The self-perception section of the scale utilized a five-point Likert scale, with options ranging from 1 (Strongly Disagree) to 5 (Strongly Agree). The objective measure of media knowledge structures was assessed using a multiple-choice question method, where one point was awarded for each correct answer and no points for errors. For the news analysis tasks, responses were evaluated using a 1–5-point scale based on previously established standards. The entire scoring process was conducted independently by two teachers, who communicated and resolved any discrepancies in scoring.

Except for the section of MKS, the entire scale underwent pre-testing to ensure reliability. The MKS section was excluded from pre-testing because it consisted of objective multiple-choice questions with fixed correct answers, making internal consistency analysis (e.g., Cronbach's α) methodologically inappropriate for this part. The reliability results for the SPML Scale showed a Cronbach's α of 0.746. In the VML section, items V3, V4, and V7, exhibited low item-total correlations and weakened the internal consistency of the scale. These items were therefore removed prior to the formal analysis. After their removal, Cronbach's α increased to 0.758. The NATs section had a Cronbach's α of 0.783. The overall scale achieved a Cronbach's α of 0.802. According to Barrett et al. (2020), a Cronbach's α value above 0.70 is generally considered acceptable in social science research.

In addition, this study was conducted as part of a teacher training program for PCLTs at a university in western China. The participants included all 195 third-year PCLTs at the university. The average age of participants was 21.3 years, and 82% were female, reflecting the typical gender distribution in language teacher education. To ensure the comprehensiveness and consistency of the data sources, all quantitative questionnaires and news analysis tasks were completed by these students during a single class session within a professional course. While the sample was drawn from a single institution, the curriculum structure and teacher training standards of this university are aligned with those of other key normal universities in China. Therefore, the sample can be considered broadly representative of PCLTs in the national context.

The purposes of the study and some relevant information were explained to these participants. A written consent was also given to further clarify details and to obtain their voluntary agreement on this research (Boyle & Schmierbach, 2023).

RESULTS AND DISCUSSION

a. PCLTs' Performance on ML Levels in Different Assessment Methods

This section focuses on statistical descriptions to analyse the ML competencies of PCLTs obtained using the three different measures. The analysis not only presents descriptive statistical results but also provides a critical discussion of the findings.

Table 4 presents the results of the first dimension, personal locus, which includes SPML and VML scales. For SPML, higher scores indicate greater confidence in one's own ML, while lower scores suggest less confidence. For VML, higher scores indicate greater awareness of the social value of ML, whereas lower scores reflect less recognition of it.

Table 4: Results of statistical description of SPML, VML scales

Scale	Variable	Mean	Std Deviation
SPML	S1	3.23	0.584
	S2(Reverse-coded)	3.45	0.733
	S3(Reverse-coded)	3.25	0.949
	S4	3.67	0.646
	S5	3.27	0.683
	S6	3.45	0.689
	SPML·average	3.39	0.478
VML	V1	4.38	0.556
	V2	4.18	0.589
	V5	4.18	0.595
	V6	4.48	0.629
	VML·average	4.30	0.451

The overall mean score for the SPML was 3.39 (SD = 0.478), suggesting that participants rated their ML at a moderately high level, although notable differences are observed across specific dimensions. Among these, the highest score (M = 3.67, SD = 0.646) was recorded for S4 (Ability to interpret news information), reflecting participants' relatively high confidence in analysing media content. However, participants showed ambiguity in their understanding of ML, as reflected in lower scores in key areas. S1 (understanding the concept of ML) had a mean score of 3.23 (SD = 0.584), while S3 (confusion about the quality of news and information) scored 3.25 (SD = 0.949). S5 (understanding of Chinese news production) was also limited (M = 3.27, SD = 0.683). The high SD in S3 (0.949) suggests considerable variation in their self-assessed ability to analyse news and information. This dispersion may reflect varying levels of prior exposure to media analysis, individual critical thinking habits, or a lack of structured training in source evaluation. Such inconsistency further reveals disparities in foundational media literacy skills among PCLTs and emphasizes the need for more targeted instruction in critical news interpretation. These findings align with prior research, which highlights the persistent challenges of conceptualizing and operationalizing ML in educational practice (Hobbs et al., 2022; Ramasubramanian et al., 2025)

The overall mean score for ML value perceptions (VML, M = 4.30, SD = 0.451) indicates that PCLTs generally have a high level of understanding and appreciation for the social value of ML. From the data in Table 4, pre-service teachers showed a high level of agreement on the societal and democratic significance of ML (V1, M = 4.38, SD = 0.556) and the necessity of critically engaging with news content (V6, M = 4.48, SD = 0.629). They also demonstrated substantial recognition of the decision-making processes of media companies (V2, mean = 4.18, SD = 0.589) and the role of the news media in civic issues (V5, mean = 4.18, SD = 0.595), although these scores were slightly lower than their endorsement of critical engagement. This strong valuation of critical engagement suggests that PCLTs are aware of the importance of interpreting, questioning, and reflecting on media messages—a promising indication of their conceptual alignment with core principles of media literacy. Note that three items (V3, V4, and V7) were excluded from the final analysis due to reliability considerations discussed in the methodology section.

Based on the SPML and VML scores, it can be concluded that PCLTs recognize the importance of ML in daily life and feel confident in analysing media content. However, some participants exhibit confusion regarding the concept of ML and the quality of news and information, raising concerns about their content analysis abilities. Despite this, overall

performance in the personal locus dimension was strong when assessed using the self-assessment method. According to Potter (2022), a well-developed personal locus motivates learners to engage critically with media content, whereas a weak personal locus results in passive media consumption. Given these findings, it can be inferred that PCLTs not only demonstrate a strong interest in ML but also acknowledge the importance of maintaining positive attitudes and confidence when applying ML skills in daily practice.

Table 5: Results of statistical description of MKS scale

Scale	Variable	Mean	Std Deviation
MKS	mc1	0.64	0.481
	mc2	0.62	0.487
	mc3	0.95	0.221
	me1	0.50	0.501
	me2	0.92	0.267
	me3	0.78	0.412
	cmi1	0.35	0.479
	cmi2	0.96	0.187
	cmi3	0.49	0.501
	MKS·average	0.70	0.133

The questions in the MKS dimension differ from those in the self-assessment scale, as each question has a definitive correct answer. The results are presented in Table 5. Overall, the mean score for this dimension was 0.7 (ranging from 0 to 1), indicating that PCLTs possessed a moderate level of basic media knowledge. Strong knowledge of basic media content production and media industry concepts were demonstrated by participants, scoring high on questions (e.g., "Press releases are usually written by journalists," M = 0.95, SD = 0.221; "Journalists need a press card to conduct interviews," M = 0.96, SD = 0.187). However, comprehension declined on more complex topics. Few respondents correctly identified that most news agencies in China are government-owned (M = 0.35, SD = 0.479), indicating a limited knowledge of media industry and regulation. This knowledge gap may stem from how media literacy is framed and delivered in Chinese teacher education. As Chai (2025) observes, media literacy instruction in China often focuses on technical or operational skills. These include activities such as producing media content or using digital platforms. In contrast, critical analysis of the institutional roles of media receives limited attention. Discussions of political and structural aspects of the press, such as media ownership and regulation, are frequently downplayed or excluded from classroom instruction. Understanding of media effects was also weak. Responses to the third-person effect statement, "Many people believe that the news has a greater impact on others (Lyons, 2022)" (M = 0.50, SD = 0.501), were divided, with many selecting "Most people think news stories have the same effect on them as on others," suggesting limited awareness of media effects.

Hence, it can be concluded that while PCLTs demonstrate a solid understanding of basic media operations and journalism practices, their knowledge becomes significantly weaker when dealing with deeper structural and theoretical aspects of ML. This trend echoes earlier findings in the SPML and VML dimensions, reinforcing the importance of systematically addressing institutional media knowledge within teacher education programs. Rather than focusing solely on skills or values, curricula should also include components such as ownership structures, regulatory frameworks, and the political role of media. Such knowledge is

essential for equipping future educators to guide students in critically evaluating news sources and understanding the forces that shape public discourse.

Table 6: Results of statistical description of NATs

Variable	1st News Analysis Task		2nd News Analysis Task	
	Mean	Std Deviation	Mean	Std Deviation
Media content	2.60	1.155	2.56	0.850
Media industry	1.50	0.550	2.16	0.789
Media effect	2.15	0.765	2.37	0.842
Media audience	1.95	0.761	1.87	0.780
The self	2.08	0.773	2.54	0.801
NATs·average	2.06	0.521	2.30	0.553

As shown in Table 6, PCLTs scored relatively low in both news analysis activities (M = 2.06, 2.30) with considerable variation (SD = 0.521, 0.553). While participants demonstrated a basic understanding of news content and its societal impacts, their competence in media industry structures, audience strategies, and critical reflection was significantly weaker.

In the first news analysis, PCLTs scored an average of 2.60 (SD = 1.155) in the media content dimension. Most participants identified the central theme of the news in their analyses, with responses such as: " Based on a data analysis, the news conclude that 50% of post-00s believe the ideal marriage age is between 25 and 30 years old," and "The news reported that a large number of Post-00s think 25-30 is the best age to get married, emphasizing that contemporary young people value shared interests, companionship, and deeper spiritual communication in relationships." These responses suggest that most of them were able to grasp the core message and key data presented in the news.

However, their ability to critical analyse the news content and uncover underlying messages was generally weak. While some participants simply paraphrased the report, only a few demonstrated awareness of media framing or agenda-setting. One student, for example, observed: "The theme of the news aligns with the marriage values of most young people and has a market-driven orientation." This reflects an emerging understanding of how media narratives may be shaped by political or ideological objectives, but such responses were relatively rare.

Moreover, the media industry dimension received the lowest score in the first news analysis activity, with a mean of 1.50 (SD = 0.550). This indicates that PCLTs generally lacked an understanding of the relationship between news and media industry. In particular, they failed to recognize the partnership between Chongqing Evening News and the dating platform Van Met, as well as the commercial motives behind. For instance, one student simply described it as “a social investigation by Chongqing Evening News reflecting current trends in the marriage market,” without recognizing any commercial or institutional implications. Their inability to identify these underlying business strategies further highlights a notable gap in their critical media analysis skills.

In the second news analysis, the highest scores remained in the media content dimension (M = 2.56, SD = 0.85). This mean score is similar to that of the first news analysis. Although the SD value decreased slightly, it (SD = 0.85) still indicates differences in PCLTs' abilities in this dimension. Compared to the first task, more students demonstrated an ability to identify shifts in narrative tone and conflicting perspectives within the coverage. For example, one student observed: “This is a set of initial and follow-up reports on the same news event, and the latter aimed to clarify the lack of objectivity in the blogger's post.”

Notably, the second-highest scoring dimension in this activity was self-reflection (M = 2.54, SD = 0.801). Some students demonstrated the ability to critically reflect on the news from their own perspectives. For example, responses included "We need to be sensible when discussing events and avoid commenting without knowing the full picture." and "The blogger posted the video without understanding the whole story …… This reminded us to approach incidents rationally and avoid jumping to conclusions." This increased self-awareness may be attributed to the nature of the news itself, which had already sparked discussions online. Additionally, the article presented contrasting viewpoints, which may have further encouraged students to engage in deeper reflection.

While average scores in the media effect (M = 2.37, SD = 0.842) and media industry (M = 2.16, SD = 0.789) dimensions improved relative to the first task, the higher standard deviations indicate significant variability in students' analytical performance. Some participants demonstrated an emerging understanding of how news narratives are shaped by institutional interests and public response. One student wrote, "The same media published multiple reports mainly to guide the public toward an objective understanding." Another noted that "the follow-up reports aimed to correct the initial post's lack of objectivity." These reflections point to a growing sensitivity to media framing, corrections, and audience engagement. In contrast, a considerable number of students continued to interpret the articles as neutral descriptions of events. For example, one student wrote, "The media's main role is to inform the public about how the event developed," reflecting a passive understanding of journalism.

Overall, the media audience dimension received the lowest scores in both news analysis activities, suggesting that PCLTs had limited knowledge of media audience. Most participants could only identify a general target audience based on the main subject of the news, such as recognizing that the first news item was intended "for post-00s" and the second was "for travellers." This relatively simplistic approach to audience analysis also influenced their reflection on media impact. While they demonstrated a moderate competence in understanding and analysing media content, significant gaps remained in their comprehension of media industry, audience, and self-reflection.

The descriptive analysis of the three dimensions of ML competencies among PCLTs reveals a critical challenge: while these pre-service teachers demonstrate a strong sense of perceived importance and confidence in ML, their actual knowledge and practical skills do not align with this perception. The MKS results indicate that, compared to their good understanding of basic media knowledge, PCLTs have a weaker grasp of media industry dynamics and media effects. This gap may contribute to their lower performance in NATs, particularly in critically analysing underlying meanings related to industry and audience perspectives. This discrepancy in skill and motivation draws attention to serious shortcomings in PCLTs' ML instruction. Rasyid and Nuriyah (2023) argued that despite their desire to use digital tools, many teachers lack the essential skills to effectively teach ML. Subsequent studies have continued to emphasize this persistent gap between pre-service teachers' desire to engage with ML and their ability to implement it effectively (Taheri, 2024). Specifically, this deficiency not only limits their ability to conduct in-depth analysis and critical interpretation of media content (Hidayati et al., 2023) but also hampers their capacity to effectively integrate ML into future teaching practices (Pazilah et al., 2024). Consequently, these limitations may adversely affect their students' development of ML skills and critical thinking abilities.

b. Comparative Analysis of Pre-Service Language Teachers' ML Across Dimensions

This section presents a comparative analysis of ML competencies assessed through three different methods. To address the research question, "Are there significant differences between the assessment methods across dimensions?" a bar chart was generated based on descriptive statistical data from each dimension. Additionally, to examine whether the self-assessment method consistently overestimates the ML levels of PCLTs, a paired-samples t-test was used to compare the mean scores of SPML with those obtained from the two news analysis activities.

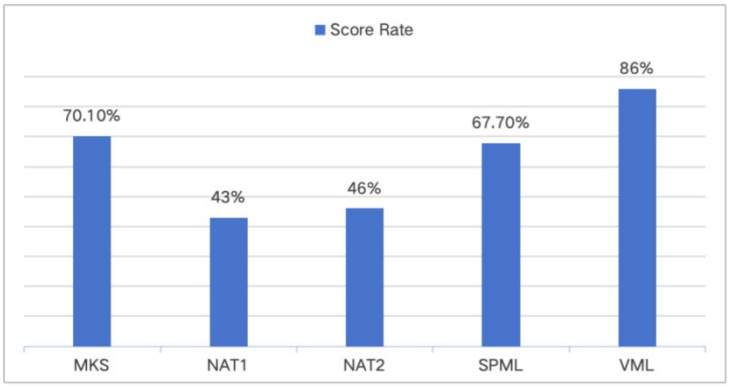


Figure 5: The score rate of variables of media literacy

Given that each measure has a different total possible score, this study utilized a score rate calculation to ensure comparability in data analysis. The score rate for each dimension was calculated using the following formula:

Score Rate = (Maximum Possible Score/Actual Score) × 100%

This standardization converted all results to a 0–100% scale, allowing direct comparison across measures with varying structures and scoring systems. As shown in the bar chart (Figure 5), the score rate for VML reached 86%, significantly higher than other measures. This highlights the relative ease of achieving high scores in value-based self-reports compared to knowledge or task-based assessments. This may be attributed to the nature of the VML scale, which measures value-oriented attitudes through self-report items. In the Chinese educational context, students are often encouraged to affirm socially desirable values such as civic responsibility. As a result, participants may have expressed strong alignment with media literacy principles, even if such values were not consistently reflected in their applied performance.

The MKS score rate from the objective multiple-choice assessment was 70.10%, slightly higher than the SPML score rate of 67.7%. In contrast, the score rates from the NATs were considerably lower, with 43% (NAT1) and 46% (NAT2), both notably below the self-assessment and objective test score rates. This result indicates that PCLTs perform well in the personal locus and knowledge structure dimensions, demonstrating both the motivation to apply media literacy and a good knowledge foundation. However, they still show deficiencies in translating this knowledge into practical skills.

Table 7: Results of paired samples t-test of SPML and NATs

Item	Mean	Std Deviation	Standard Error	95% Confidence Interval	T-Value	Sig.
SPML -NAT1	1.33	0.611	0.044	(1.24356, 1.41627)	30.373	< 0.001
SPML -NAT2	1.08	0.692	0.050	(0.98606, 1.18146)	21.879	< 0.001

To further investigate whether self-assessed ML skills were overestimated, a paired-samples t-test was performed to compare the mean scores of SPML with those obtained from NAT. As shown in Table 7, the t-test results revealed a significant difference between the self-assessment scores (SPML) and the scores from the two news analysis tasks (NAT1 & NAT2).

The mean difference between SPML and NAT1 was 1.33, indicating a significantly higher self-assessment score. The standard deviation of this difference was 0.611, suggesting relatively stable variation between the two samples. The t-value was 30.373, with a significance level of $p < 0.001$, confirming a highly significant difference. Similarly, the mean difference between SPML and NAT2 was 1.08, indicating a higher self-assessment score as well. The standard deviation of this difference was 0.692, slightly higher than that of the first news analysis task, reflecting a modest increase in variability between the samples. The corresponding t-value of 21.879 and significance level ($p < 0.001$) further confirmed the statistical significance of this difference.

Beyond statistical significance, these differences were also practically meaningful. The calculated Cohen's d values ($d= M_d/SD_d$) were 2.18 (SPML-NAT1) and 1.56 (SPML-NAT2), both representing very large effect sizes. These substantial effect sizes indicate not only that PCLTs consistently rated themselves higher than their demonstrated performance, but also that the magnitude of this gap is large enough to have educational implications. Specifically, it suggests that self-report tools alone may not accurately capture media literacy competence, and highlights the need for incorporating performance-based assessments into teacher training and evaluation frameworks. Several factors may explain this consistent overestimation. First, media literacy training in teacher education programs often emphasizes theoretical knowledge, while lacking opportunities for feedback-driven performance tasks. This can lead students to develop inflated confidence without adequate practice. Second, cultural influences may also contribute. In the Chinese context, students are often socialized to present confidence and avoid admitting uncertainty in evaluative settings, leading to socially desirable responses. These contextual and curricular factors together may account for the gap between perceived and actual competencies.

Taken together, these results reveal a broader pattern of overestimation that extends beyond self-assessment scores (SPML). Notably, the MKS score rate was also substantially higher than the NAT scores, suggesting a disconnect between theoretical knowledge and practical application. This pattern echoes findings from Nieto-Isidro et al. (2022), who reported similar overestimations across teacher groups. Such discrepancies reflect structural issues in teacher education, where knowledge acquisition is emphasized over critical media performance.

c. A Proposal for Integrating Multiple Assessment Methods to Optimize ML Evaluation Tools

The findings from the two sections above indicate that relying only on one assessment method may lead to incomplete or biased evaluations. Therefore, to better understand the ML levels of PCLTs, a more scientific approach is required. This section presents a detailed

analysis of the relationships among different assessment methods through Pearson correlation analysis. By examining the correlations between SPML, VML, MKS, and NATs, this section aims to explore how these assessment methods complement each other.

Table 8: Results of Pearson correlation coefficients among measures

Variables	MKS	SPML	VML	NAT1	NAT2
MKS	1				
SPML	0.198*	1			
VML	0.330**	0.497**	1		
NAT1	0.769**	0.229*	0.243*	1	
NAT2	0.804**	0.108	0.199*	0.684**	1

**p < 0.001; *p < 0.01

Firstly, although the score rate of SPML was close to the score rate of MKS obtained from the objective multiple-choice assessment, the correlation between the two was weak (see Table 8). Specifically, the Pearson correlation coefficient was 0.198, with a significance level of p = 0.005, indicating only a weak positive correlation. Furthermore, with a Pearson correlation coefficient of 0.497 and a significance level of p < 0.001, the correlation between the SPML and VML was higher, indicating a moderately strong positive correlation. These statistics suggest that PCLTs' subjective assessments of their ML competencies are not strongly aligned with their actual ML knowledge, and their acknowledgment of the societal significance of ML also does not accurately reflect their actual knowledge or practical proficiency. This mismatch highlights the limitations of self-assessment approaches, indicating that self-perceived competence and perceived social value cannot independently serve as reliable tools for evaluating ML skills.

Secondly, the correlation between the VML and MKS was moderately strong, with a Pearson correlation coefficient of 0.330 and a significance level of p < 0.001. However, the correlations between the VML and performance in the NATs (NAT1 & NAT2) were weaker, with Pearson coefficients of 0.243 and 0.199 and significance levels of p < 0.001 and p = 0.005, respectively. These results indicate that while PCLTs demonstrate a relatively high perception of the social value of ML, this perception is only weakly associated with their practical skills. Consequently, although media value perceptions show high score rates, their weak correlations with objective assessments suggest that they are not reliable predictors of PCLTs' actual ML competencies or analytical abilities. This finding also supports Deliveli and Balçıkanlı (2023)'s study from another perspective, that favourable perceptions do not always translate into the necessary skills or competencies.

In addition, it is noteworthy that there is a highly substantial association between the MKS and NATs (NAT1 & NAT2). In particular, the significance levels for both NAT1 and NAT2 were p < 0.001, while the Pearson correlation coefficients were 0.769 and 0.804, respectively. These findings point to a strong positive correlation between the level of ML knowledge and the news analysis skills of PCLTs. This robust correlation shows that PCLTs perform better on critical analytical tasks like logical analysis, reflecting on social meaning, and distilling news information when they are more media literate. Such findings align closely with Potter (2022)'s argument that media knowledge structure is a critical dimension of ML, enabling individuals to engage critically with media content, which is supported in some empirical research (Cebi et al., 2022). This consistency between empirical results and theoretical

perspectives highlights the fundamental role of media knowledge in developing practical ML skills.

To sum up, the weak correlation between self-assessments and objective measures suggests that self-assessment alone is insufficient for evaluating PCLTs' ML competencies. In contrast, the strong correlation between objectively assessed ML knowledge level and news analysis skills underscores the need for integrated assessment strategies that incorporate performance-based evaluations. Hence, to maximize the evaluation of ML competencies, it is essential to adopt a multi-dimensional framework including self-evaluation, objective testing, and practical application assignments. Pre-service teachers' internal motivation depends on their awareness of attitudes and perceptions related to ML, which can be evaluated through self-assessment techniques. Meanwhile, objective assessments, such as multiple-choice questions offer precise measurements of their cognitive abilities by evaluating core ML knowledge. In addition, practical activities, such as news analysis activities assess critical thinking and application skills, providing insight into their abilities for engaging in real-world media environments. This integrated assessment framework offers a comprehensive view of ML competencies, resolving the limitations of self-perceived evaluations. Further to this, it could provide a solid foundation for creating focused teacher preparation programs, guaranteeing that aspiring educators not only recognize the importance of ML but also have the knowledge and abilities to use it effectively in educational settings.

CONCLUSION

By comparing and analysing the differences across three dimensions of ML assessed through different methods, this study aims to propose an optimized framework for ML evaluation. The findings offer valuable insights into enhancing the accuracy and validity of ML competencies assessment and its development within teacher education programs.

While participants demonstrated high self-perceived confidence and strong recognition of the societal value of ML, their actual understanding of media structures, ownership, and regulatory mechanisms remains limited. For example, many participants failed to identify how commercial sponsorship or state ownership could influence news framing, or to recognize the institutional affiliations of different media outlets. To address these gaps, teacher education programs should incorporate explicit instruction on media industry and regulatory systems. This could include analysing how public and commercial media differ in agenda-setting, or examining the implications of government regulation and platform algorithms on content visibility and information control. Embedding such instruction into news literacy or media studies modules would help PCLTs build a more comprehensive and critically informed understanding of today’s media environment.

Furthermore, the results revealed substantial differences across assessment methods. The self-assessment scale consistently overestimated ML competencies compared to objective knowledge and performance-based tasks, and showed only weak correlations with them. In contrast, a strong positive correlation was found between scores on the media knowledge scale (MKS) and performance in the news analysis tasks (NATs). This suggests that conceptual knowledge plays a foundational role in enabling analytical practice. To translate this finding into teacher preparation, training programs should adopt knowledge-to-practice pedagogy, linking instruction in media systems and effects to interpretive activities such as analysing news bias, identifying audience strategies, and deconstructing media messages in context.

Building on these findings, the study proposed a comprehensive assessment framework that integrates self-assessment, knowledge tests, and practical application tasks. Each method targets distinct dimensions—attitudinal, cognitive, and applied—thus complementing one another. To implement this approach in teacher education, programs should sequence these assessments progressively, beginning with attitudinal reflection, then introducing knowledge-building modules, and culminating in practical assignments like news critiques or digital media projects. Additionally, formative feedback and rubrics should be embedded throughout the process to guide reflective learning and promote analytical depth. These strategies can help bridge the gap between perceived confidence and demonstrated competence, providing a more holistic view of PCLTs' readiness to integrate ML in educational contexts.

Table 9 provides a summary of actionable recommendations for enhancing ML instruction in teacher education programs, aligned with the competencies identified through multi-method assessment. Educators are encouraged to adopt a multi-method assessment approach—including self-report, knowledge tests, and performance-based tasks—to capture a holistic view of PCLTs' ML abilities.

Table 9: Practical recommendations for teacher educators: enhancing ML in PCLTs

Key Competency Area	**Observed Gap**	**Instructional Recommendation**	**Suggested Strategies or Activities**
Media Knowledge	Limited understanding of media structure, ownership, and regulation	Introduce modules on media systems and policy	Compare public vs. commercial media agendas; analyse how algorithms and government control affect content
Media Values	High value placed on ML, but weak alignment with actual behaviour	Use reflective activities to support value-to-practice alignment	Design self-assessment tools; facilitate peer discussions on media bias and ethical dilemmas
Practical Analysis Skills	Weak critical thinking and message deconstruction in media tasks	Embed performance-based ML assignments	Use authentic news analysis with rubrics and peer feedback
Knowledge-to-Practice Transfer	Theoretical knowledge not effectively applied	Integrate knowledge–practice bridging frameworks	Adopt a "structure–effect–audience" model for analysis; include scaffolded feedback

This study has several limitations. First, the use of self-report instruments may have introduced social desirability bias, particularly in the Chinese context where students are culturally inclined to affirm normative values. Second, although the NATs were scored jointly by two instructors using a standardized rubric, potential subjectivity in interpretation cannot be fully excluded. Future research could improve reliability by adopting blind scoring or assessing inter-rater consistency. Third, the sample was drawn from a single normal university in western China, which may limit the generalizability of the findings. Expanding to cross-disciplinary or in-service teacher populations would provide a more comprehensive view of ML development.

In conclusion, this study contributes to the field of ML instruction by emphasizing the value of a multifaceted evaluation approach. This methodology, which integrates self-assessment, objective knowledge tests, and real-world analytical tasks, not only reveals PCLTs' internal motivation but also provides a more accurate reflection of their actual ML abilities. Compared to traditional self-assessment methods, this approach offers a deeper understanding of PCLTs' ML competencies in a media-driven learning environment. As this research focuses on pre-service Chinese language teachers, future studies could explore the applicability of the proposed multidimensional assessment framework to in-service teachers or educators in other subject areas, and examine how cultural or institutional contexts shape ML development. These findings underscore the importance of tailoring both instruction and assessment to bridge the knowledge–practice divide in teacher preparation.

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REFERENCES

Alnasib, B. (2023). Digital competencies: Are pre-service teachers qualified for digital education? *International Journal of Education in Mathematics, Science and Technology, 11*(1), 96–114. https://doi.org/10.46328/ijemst.2842

Alonso-García, S., Victoria-Maldonado, J. J., Martínez-Domingo, J. A., & Berral-Ortiz, B. (2024). Analysis of self-perceived digital competences in future educators: A study at the University of Granada. *Journal of Technology and Science Education, 14*(1), 4–15. https://doi.org/10.3926/jotse.2521

Barrett, K. C., Leech, N. L., Gloeckner, G. W., & Morgan, G. A. (2020). *IBM SPSS for introductory statistics: Use and interpretation* (6th ed.). Routledge.

Boyle, M., & Schmierbach, M. (2023). *Applied communication research methods: Getting started as a researcher.* Routledge.

Cebi, A., Özdemir, T. B., Reisoğlu, İ., & Colak, C. (2022). From digital competences to technology integration: Re-formation of pre-service teachers' knowledge and understanding. *International Journal of Educational Research, 113,* 101965. https://doi.org/10.1016/j.ijer.2022.101965

Cho, H., Cannon, J., Lopez, R., & Li, W. (2022). Social media literacy: A conceptual framework. *New Media & Society, 26*(2), 941–960. https://doi.org/10.1177/14614448211068530

China Internet Network Information Center (CNNIC). (2024, Nov 1). The 54th statistical report on China's Internet development. https://www.cnnic.com.cn/IDR/ReportDownloads/

Chai, L. (2025). Media literacy in China: *The impact of education on individual's media behavior. Lecture Notes in Education Psychology and Public Media, 85,* 127–133. https://doi.org/10.54254/2753-7048/2025.21300

Council of the State. (2023). Overall layout plan for the development of Digital China.

Deliveli, A., & Balçıkanlı, C. (2023). Who is in control? A qualitative inquiry into EFL teachers' perceptions of locus of control and its predictors. *International Journal of Language Academy, 46*(46), 327–346. https://doi.org/10.29228/ijla.71197

Du, F., & Lin, Y. (2024). Project-based learning in ML for junior secondary Chinese news units in the new media era [in Chinese]. *Teaching and Management,* (21), 69–73.

Ferstephanie, J., & Pratiwi, T. L. (2023). Teachersâ€™ beliefs of using multimodal resources in teaching English skills. *IDEAS: Journal on English Language Teaching and Learning Linguistics and Literature, 10*(2), 1981–1998. https://doi.org/pthx

Girwidz, R., & Kohnle, A. (2022). Multimedia and digital media in physics instruction. In Fischer, H. E., & Girwidz, R. (Eds.), *Physics education* (pp. 297–336). Springer. https://doi.org/10.1007/978-3-030-87391-2_11

Grizzle, A., Wilson, C., Tuazon, R., Cheung, C., Lau, J., Fischer, R., Gordon, D., Akyempong, K., Singh, J., & Carr, P. (2021). *Think critically, click wisely! Media and information literate citizens.* UNESCO.

Han, H., Lee, J., & Kim, S. (2024). Developing and validating a digital literacy scale for middle school students. *Education and Information Technologies, 29,* 22895–22941. https://doi.org/10.1007/s10639-024-12662-7

Hidayati, S. N., Dasna, I. W., Munzil, M., Wonorahardjo, S., & Kohar, A. W. (2023). Prospective science teachers' information literacy and scientific argumentation skills in online learning during COVID-19 pandemic. *Jurnal Pendidikan IPA Indonesia, 12*(1), 67–79. https://doi.org/10.15294/jpii.v12i1.41798

Hobbs, R. (2024). *Media literacy in action: Questioning the media.* Rowman & Littlefield.

Hobbs, R., Moen, M., Tang, R., & Steager, P. (2022). Measuring the implementation of media literacy instructional practices in schools: Community stakeholder perspectives. *Learning, Media and Technology, 49*(2), 170-185. https://doi.org/mnf4

Idayani, A., Sailun, B., & Yuliani, S. (2022). News and media literacy for speaking practice. *Al-Ishlah Jurnal Pendidikan, 14*(2), 1733–1742. https://doi.org/pth2

Ili, B. (2025). Exploring trends in New Media Literacy (NML) field: A bibliometric analysis using bibliometrix R-Tool. *Galactica Media: Journal of Media Studies, 7*(1), 207-231.

Jormand, H., Barati, M., Bashirian, S., Khazaei, S., Jenabi, E., & Zareian, S. (2023). Developing and validation of COVID-19 media literacy scale among students during the COVID-19 pandemic. *BMC Psychology,* 11, 315. https://doi.org/10.1186/s40359-023-01353-6

Kendrick, A., & Fullerton, J. (2018, August). *Dimensions of news media literacy among US advertising students*. Paper presented at the Annual Conference of the Association for Education in Journalism and Mass Communication, Washington, DC, United States.

Kowal, M. (2024). Translation practices in cross-cultural social research and guidelines for the most popular approach: Back-translation. *Anthropological Review, 87*(3), 19–32.

Lin, X. (2024). Exploring pathways for cultivating media literacy through pre-class presentation activities: A teaching case on the learning task group of "cross-media reading and communication" [in Chinese]. *Chinese Language World, 9*, 1–4.

Lyons, B. A. (2022). Why we should rethink the third-person effect: Disentangling bias and earned confidence using behavioral data. *Journal of Communication, 72*(5), 565–577.

Maksl, A., Ashley, S., & Craft, S. (2015). Measuring news media literacy. *Journal of Media Literacy Education, 6*(3), 29–45. https://doi.org/10.23860/jmle-6-3-3

Michelot, F., Béland, S., & Poellhuber, B. (2022). A transnational comparative study of preservice teachers' critical thinking skills and metaliteracy self-efficacy. *Higher Education, Skills and Work-Based Learning, 12*(5), 866–883. https://doi.org/gpct6f

Maksl, A., Boedeker, P. J., Vraga, E. K., Craft, S., Tully, M., & Ashley, S. (2024). Developing and validating a 15-item true/false measure of news literacy knowledge. *Communication Research.* https://doi.org/10.1177/00936502241284406

Mrisho, D. H., & Dominic, N. A. (2023). Media literacy: Concept, theoretical explanation, and its importance in the digital age. *East African Journal of Arts and Social Sciences, 6*(1), 78–85. https://doi.org/10.37284/eajass.6.1.1087

Neira, A., Fuentes-Riffo, K., Vine, A., García, F., & Naranjo, G. (2024). Development and validation of a self-perception instrument for critical media literacy in Chilean pre-service teachers. *Frontiers in Education*, *9*, 1476500. https://doi.org/pth3

Nguyen, L. A. T., & Habók, A. (2023). Tools for assessing teacher digital literacy: *A review. Journal of Computers in Education, 11,* 305-346. https://doi.org/grxp24

Nieto-Isidro, S., Martínez-Abad, F., & Rodríguez-Conde, M. J. (2022). Observed and self-perceived information literacy among teachers and future teachers and their relationship with sociodemographic variables. *Revista de Educación, 396*, 35–64. https://doi.org/10.4438/1988-592x-re-2022-396-529

Ortiz, F. C., & Novomisky, S. (2023). *Navigating the infodemic with MIL: Media and information literacy* (Vol. 1). UNESCO.

Pazilah, F. N., Hashim, H., Yunus, M. M., & Rafiq, K. R. M. (2024). Exploring Malaysian ESL pre-service teachers' perceptions on knowledge of learners, digital literacy and 21st-century competency. *International Journal of Learning, Teaching and Educational Research, 23*(1), 300–317. https://doi.org/10.26803/ijlter.23.1.15

Potter, W. J. (2022a). Analysis of definitions of media literacy. *Journal of Media Literacy Education, 14*(2), 27–43. https://doi.org/10.23860/jmle-2022-14-2-3

Potter, W. J. (2022b). Analyzing the distinction between protectionism and empowerment as perspectives on media literacy education. *Journal of Media Literacy Education Pre-Prints.* https://digitalcommons.uri.edu/jmle-preprints/34

Potter, W. J. (2022c). *Media literacy* (10th ed.). SAGE Publications.

Ramasubramanian, S., Burth, S., & Johnson, P. R. (2025). Media literacy education. In Erica Scharrer (Eds.), *Children, media, and technology: Access, equity, diversity, and inclusion* (Chap. 5). Routledge.

Rasyid, F., & Nuriyah, W. A. (2023). Teachers' competence in digital literacy in the teaching of English at Islamic senior high schools. *Proceedings of the International Conference on Education*.

Rodríguez-García, A. M., Cardoso-Pulido, M. J., De la Cruz-Campos, J. C., & Martínez-Heredia, N. (2022). Communicating and collaborating with others through digital competence: A self-perception study based on teacher trainees' gender. *Education Sciences, 12*(8), 534. https://doi.org/10.3390/educsci12080534

Sutrisno, D., Azlinda, Z. A. N., Pambudi, N., Aydawati, E. N., & Sallu, S. (2024). Exploring the benefits of multimodal literacy in English teaching: Engaging students through visual, auditory, and digital modes. *Global Synthesis in Education Journal, 1*(2), 1–14.

Tomczyk, Ł., Fedeli, L., Włoch, A., Limone, P., Frania, M., Guarini, P., Szyszka, M., Mascia, M. L., & Falkowska, J. (2023). *Digital competences of pre-service teachers in Italy and Poland. Technology, Knowledge and Learning, 28*(2), 651–681. https://doi.org/g9pvkd

Tomé, V., Frau-Meigs, D., Kanižaj, I., Sikharulidze, M., & Pasichnyk, O. (2022). Equity in K-12 education in the age of COVID-19: Comparing five European countries. In B. S. De Abreu (Ed.), *Media literacy, equity, and justice* (pp. 167–181). Routledge.

Trixa, J., & Kaspar, K. (2024). Information literacy in the digital age: Information sources, evaluation strategies, and perceived teaching competences of pre-service teachers. *Frontiers in Psychology, 15,* 1336436. https://doi.org/10.3389/fpsyg.2024.1336436

Vraga, E., Tully, M., Kotcher, J. E., Smithson, A.-B., & Broeckelman-Post, M. (2015). A multi-dimensional approach to measuring news media literacy. *Journal of Media Literacy Education, 7*(3), 41–53. https://doi.org/10.23860/jmle-7-3-4

Wang, D., & Li, D. (2022). Exploring multiliteracies and multimodal pedagogies in Chinese language teaching. *International Journal of Computer-Assisted Language Learning and Teaching, 12*(1), 1–19. https://doi.org/10.4018/ijcallt.298704

Wang, L. (2023). Possibility of educating 'global citizens' through a Chinese national school curriculum. *Asia Pacific Journal of Education, 43*(1), 1–16. https://doi.org/pth4

Wuyckens, G., Landry, N., & Fastrez, P. (2022). Untangling media literacy, information literacy, and digital literacy: A systematic meta-review of core concepts in media education. *Journal of Media Literacy Education, 14*(1), 168–182. https://doi.org/grn6vr

Yao, B. (2024, August 28). A noodle shop in Datong City was ordered to suspend operations for rectification due to "dual pricing." *Jimu News.* https://baijiahao.baidu.com/s?id=1808610536830226412&wfr=spider&for=pc

Zhang, C., & Wu, Y. (2024, September 2). 50% of the post-00s believe that 25-30 is the best age to get married. *Chongqing Evening News*, p. 4. https://epaper.cqdsrb.com.cn/html/202409/02/node_004.html