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Preparing Critical Media Literate Teachers: A Mixed-Methods Evaluation of a Pre-Service Teacher Training in Digital Basic Education (Digitale Grundbildung) in Austria

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Abstract: Media, particularly corporate media, plays a substantial role in the lives of Austrian youth. In this regard, it is imperative to cultivate critical media literacy among students by preparing media literate teachers. The present study examines the integration of critical media literacy in the teaching practices of a pre-service teacher training seminar in digital basic education (Digitale Grundbildung) in Austria. A convergent mixed-methods design and critical media literacy theory were employed to investigate this integration, and the data were collected via survey and interviews. Thirty-eight pre-service teachers completed the survey, and three trainees participated in semi-structured interviews. A narrative discussion of the results reveals convergence in both data sets in most aspects. Both quantitative and qualitative data demonstrate the integration of critical media literacy and teaching about media. In contrast to the prevailing perspectives on media literacy in teaching with and through media and protectionism, the training focused predominantly on the development of lesson plans, media creation, and critical understanding of media. While most aspects of critical media literacy were integrated into the training, the ability to criticize different ideologies was not reported as an important acquired competence. This may be due to the complexity of teaching ideology critique, which requires a more hands-on approach and practical engagement.

Keywords: *critical media literacy; digital basic education; media; mixed methods; teacher education.*
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Introduction

Corporate social media platforms have become increasingly significant in the lives of Austrian adolescents. Leading platforms such as WhatsApp, YouTube, Instagram, TikTok, and Snapchat are integral to the daily lives of young people, shaping their routines and interactions (Jugend-Internet-Monitor, 2025). Recent studies indicate that adolescents in Austria aged 11 to 18 spend an average of 135 minutes daily engaging with corporate social media content. Furthermore, approximately two-thirds of these adolescents actively follow influencers (Oö. Jugend-Medien-Studie, 2025). In this context, Austria is witnessing a shift towards a more protectionist mainstream in the field of media literacy education.

This shift is characterized by protective measures, such as prohibiting mobile devices in schools and restricting social media access for individuals under a certain age (as seen in the UK and Australia, among other countries). These measures are intended to prevent the influence of potentially harmful content; rather than fostering critical understanding and reflection of media.

The systematic implementation of media education in the Austrian school curriculum has been initiated with the introduction of digital basic education (Digitale Grundbildung) as a compulsory subject. Digital Basic Education (Digitale Grundbildung) was introduced as a compulsory subject in Austrian lower secondary schools in the 2022/23

academic year, with full implementation across grades 5–8 beginning in 2023/24. Consequently, a growing number of teacher training programs at universities and university colleges of teacher education (Pädagogische Hochschule) have begun offering training and further education for in-service and pre-service teachers under the title "Digitale Grundbildung" (Digital Basic Education). The question raised here is whether these programs integrate critical media literacy, as practicing critical media literacy requires more than merely teaching with and through media and protection. Rather, it requires a critical understanding of media within their social, political, economic, and cultural contexts.

To date, there has been a paucity of research examining the integration of critical media literacy into teaching practices in Digitale Grundbildung training for teachers in Austria. This study examines a teacher training seminar on digital basic education offered by the Teacher Education Center at the University of Vienna in Austria to address the issue in teacher training in media education.

Media Literacy in Teacher Education

A large body of research on media education in teacher training programs indicates that these programs generally prioritize using media in the classroom over teaching about media (Gretter & Yadav, 2018; Salomaa et al., 2017; Tiede et al., 2015; Tiede & Grafe, 2016).

In Austria, Swertz's (2016) study of secondary teacher education curricula found that media literacy was rarely addressed and not recognized as a distinct subject. Technology-enhanced learning is only recognized in limited contexts, primarily to help teachers become familiar with using media in their instruction. These programs have overlooked teaching about media, promoting media literacy, and preparing educators to impart media literacy skills.

Tiede, Grafe, and Hobbs (2015) found similar results in their study. The researchers examined teacher education programs at 316 colleges and universities in the United States and 64 in Germany. They utilized a survey of pre-service teachers enrolled in these institutions. A significant proportion of U.S. pre-service teachers indicated a focus on media usage in their teaching practices. A comparable trend was exhibited by their German equivalents, albeit with a stronger focus on media education (Tiede & Grafe, 2016).

In Finland, a study carried out by Salomaa, Palsa, and Malinen (2017) indicated that teacher training programs prioritize the educational uses of information and communication technologies and digital learning environments over media and sociocultural viewpoints associated with media. A survey of 448 teacher education students from Finnish universities revealed that 48.4% of respondents indicated that the teacher education programs in Finland provided inadequate media education, with 23% stating that it was much too little.

In the United States, Gretter and Yadav (2018) conducted a study that entailed semi-structured interviews with 19 pre-service elementary and secondary educators enrolled in a teacher education program at Midwestern University. The results indicated a significant deficit in preparation for teaching media and information literacy pedagogy. However, the majority of pre-service teachers acknowledged the pivotal role of media and information literacy in enhancing their future students' professional prospects and overall well-being. In a subsequent study by the same authors, employing focus groups consisting of 12 female pre-service teachers who had completed an introductory educational technology course that included media and information concepts for approximately two weeks, the predominant emphasis was found to be on teaching with technology rather than on the technology itself. The majority of participants expressed uncertainty regarding the effective instruction of media and information literacy to their students. From the perspective of the pre-service teachers, the key benefits of teaching media and information literacy included preparing students for college, educating them about internet safety, and equipping them for their personal lives.

In a study conducted by Silva and Arroio (2025) in Brazil, the researchers sought to identify training proposals for undergraduate natural and earth science teachers at the University of São Paulo. The quantitative components of the study included the number of syllabi, types of media studied, and bibliographies. The qualitative components included the types of training outlined in the documents. The findings suggest that, despite discussions and instructions regarding media, syllabi predominantly adopt an instrumental approach, emphasizing the use of media and technology for teaching and learning. Conversely, few proposals were observed regarding the historical, political, cultural, social, environmental, and scientific contextualization of media.

Numerous studies have highlighted the positive effects of teacher training in media education, particularly on educators' perceptions of the subject. Ranieri, Bruni, and Kupiainen (2018) investigated the E-Media Education Lab project across six European countries, analyzing 279 pre-service teachers. The results showed that the educators were highly satisfied with critical analysis and media production. Through surveys and field notes, the researchers demonstrated that, although the participants considered group work to be the most effective teaching strategy, they identified shortcomings in the clarity and transparency of pedagogical frameworks for media education, as well as time management challenges.

Scull and Kupersmidt's (2011) study revealed that a one-day media literacy workshop significantly influenced the beliefs and knowledge of elementary school teachers regarding media literacy. The study included 18 teachers who participated in the intervention and 23 teachers in the control group. Participants in the workshop demonstrated stronger convictions about the importance of media literacy education and a better understanding of it. Furthermore, the experimental group exhibited superior abilities in media deconstruction compared to the control group.

A study by Yavuz-Konokman (2020) emphasized the beneficial effects of a media and critical literacy course for pre-service teachers. The researchers used questionnaires and journals with open-ended questions to evaluate the

"Thinking Education" course, which was offered to pre-service social studies teachers at Bartın University's Faculty of Education in Turkey during the 2016–2017 academic year. The educators underwent training to improve their ability to think critically about media messages and texts. The results revealed that the participating teachers' scores improved, indicating their enhanced ability to critically read and write about media messages and texts.
A shift in teachers' views, transitioning from a defensive stance to a more critical one on digital and media education, is highlighted in Botturi's (2019) study. The research focuses on a digital and media literacy course designed for in-service primary and secondary teacher training at a Swiss professional university. The research utilized quantitative pre- and post-surveys, along with qualitative follow-up interviews. The results of the study further indicate that educators are integrating digital and media literacy into their teaching practices.

Dolanbay (2022) examined a European Union initiative for pre-service teachers from various disciplines at a public university during the 2021–2022 academic year. The study's findings revealed how the media literacy levels of these pre-service teachers evolved from the beginning to the end of the course. Data were gathered from 160 pre-service teachers using a media literacy scale, student activity sheets, observations, and interviews with 25 participants. The results showed that the prospective teachers developed an awareness of media literacy. They acquired knowledge and skills that enhance media literacy, such as careful use of media, critical assessment of media content, and a deeper understanding of the individual and societal effects of media.

The review of the existing literature on media literacy in teacher training reveals deficiencies in multiple areas. One salient issue is the dearth of teacher education programs that emphasize critical media literacy worldwide. Additionally, there is a paucity of research regarding the integration of critical media literacy, particularly its critical dimension, into teacher training curricula in media education, including digital basic education (Digitale Grundbildung) in Austrian teacher education programs. This study aims to address these gaps by investigating the integration of critical media literacy into instructional practices in a digital basic education course for pre-service teachers at an Austrian university. Furthermore, this research will contribute to the existing literature by deploying an international perspective on media education.

Critical Media Literacy

Following the categorization of different approaches pertaining to media literacy, including protectionist, media art education, and the media literacy movement, Kellner and Share (2005) introduce their critical perspective. The protectionist approach is exclusively aimed at protecting children and adolescents from the harmful impacts of media, while the media art education approach predominantly stresses the aesthetic qualities of media and art, as well as self-expression through media production, without engaging in critical analysis of oppression and discrimination. The media literacy movement, which finds its way into schools, often downplays and overlooks the political elements of media literacy, perceiving media as free from ideology and bias. Kellner and Share (2005) ultimately present their approach, critical media literacy, which includes aspects of the previous approaches, but "focuses on ideology critique and analyzing the politics of representation of crucial dimensions of gender, race,

class, and sexuality; incorporating alternative media production; and expanding textual analysis to include issues of social context, control, and pleasure" (Kellner & Share, 2007, p. 7).

From their standpoint, critical thinking in media literacy is more than a basic cognitive concept; it cultivates social awareness and knowledge of how media operate from a sociocultural perspective (Kellner & Share, 2019b). Critical media literacy enables individuals to engage with society (Share, 2022) by providing them with a "framework and disposition to criticize the social structures, systems, and representations which reproduce and reinforce power relation and oppressive structure" (Share & Gambino, 2022, p. 17). In this context, the politics of representation and interrogating power, bias, and ideologies—such as sexism, racism, and classism—are central concerns of critical media literacy (Hammer, 2009).

Students are required to understand and learn how ideology functions to preserve dominant ideas and frameworks for interpreting the world, and how the naturalization of power relations conceals and obscures the social and historical construction of ideology (Kellner & Share, 2019b). To achieve this, students must foster the ability to pose critical inquiries that reveal the structures, histories, and social contexts that are often hidden by hegemonic ideology (Kellner & Share, 2019b, 2019a).

According to their conception, critical media literacy empowers students to realize their agency to express their voices and challenge dominant ideologies and all forms of oppression by creating their own alternative media (Kellner & Share, 2019b). Therefore, critical media literacy is not merely focused on identifying media bias and negative impacts; it also recognizes and celebrates positive representations and the beneficial aspects of media (Share, 2022).

Fostering critical media literacy can empower students by cultivating a critical awareness of media and also enabling them to create their own meanings through these platforms and technologies. In fact, media creation is a significant aspect of critical media literacy, as it "enlighten(s) students to the potential that they have, as media producers, to shape the world they live in, to help turn it into the world they imagine" (Morrell, 2012, p. 302). When young people are empowered to create their own media, they can create their own realities (Gennaro & Kellner, 2023).

Indeed, while a critical insight into media is crucial to media education, it is also significant to acknowledge that this analysis should inspire students to explore alternatives and demand change (Buckingham, 2019). Critical media literacy is a project aimed at democratic social change that develops skills that promote democratization and civic participation (Kellner & Share, 2007). This educational approach aims to empower students to counteract media manipulation and to promote their active involvement in social and political activities through constructive media engagement and alternative media creation (Kellner & Share, 2019b).

It is vital to acknowledge the role of critical media literacy in empowering marginalized and subordinated groups by providing them with a voice through critical analysis that uncovers oppressive structures, as well as supporting them in the creative development of alternative representations. Moreover, it can help students in dominant positions recognize their blind spots and enhance their sensitivity to the oppressive systems from which they benefit (Kellner & Share, 2019b).

The present study employs Kellner and Share's theory of critical media literacy as this theory seeks to foster justice-oriented citizens and promote democratic social change (Kellner & Share, 2007; Share & McBride, 2022). Additionally, Kellner and Share introduced the notion of "social and environmental justice" to highlight the critical and social justice aspects of media literacy, claiming that "without a critical frame, the core concepts [of media literacy] can become tools for neoliberalism and lose their transformative potential" (Ferguson, 2001, as cited in Share & McBride, 2022, p.165). Moreover, through this notion, they integrate environmental concerns and the climate crisis into media education, allowing for an analysis of these issues through a critical media literacy perspective, which are often neglected in many media literacy frameworks and educational approaches. Furthermore, critical media literacy employs an intersectional lens to examine classism, racism, sexism, heterosexism, and other forms of discrimination and oppression represented in media. Based on the Center for Media Literacy, Kellner and Share (2019b) developed the following core concepts and guiding questions to highlight the critical dimension:

Social Constructivism: All information is co-constructed by individuals and/or groups of people who make choices within social contexts. Who are all the possible people who made choices that helped create this text?

Languages/Semiotics: Each medium has its own language with specific grammar and semantics. How was this text constructed and delivered/accessed?

Audience/Positionality: Individuals and groups understand media messages similarly and/or differently, depending on multiple contextual factors. How could this text be understood differently?

Politics of Representation: Media messages and the medium through which they travel always have a bias and support and/or challenge dominant hierarchies of power, privilege, and pleasure. What values, points of view, and ideologies are represented or missing from this text or influenced by the medium?

Production/Institutions: All media texts have a purpose (often commercial or governmental) that is shaped by the creators and/or systems within which they operate. Why was this text created and/or shared?

Social & Environmental Justice: Media culture is a terrain of struggle that perpetuates or challenges positive and/or negative ideas about people, groups, and issues; it is never neutral. Whom does this text advantage and/or disadvantage?

Using the theory of critical media literacy, its conceptual understandings and guiding questions, a questionnaire and interview guide were created to address the following research question: Is critical media literacy integrated into teacher training in media education in Austria?

Mixed Method Design

A mixed methods approach is a rigorous and comprehensive method for examining the integration of critical media literacy into teacher training in media education. As highlighted by Creswell and Plano Clark (2018), a fundamental aspect of mixed methods design is integrating both quantitative and qualitative methods to address research questions.

According to Creswell and Inoue (2025), in order to identify the appropriate type of mixed methods design for a research project, researchers must consider their "intent" for collecting both quantitative and qualitative data and outline the "procedures" for linking the databases. They suggest that a convergent mixed-methods design is most suitable when the aim is to validate and merge qualitative and quantitative datasets. To achieve this objective, it is essential to determine whether the qualitative and quantitative data are consistent and mutually reinforcing (Creswell & Plano Clark, 2018).

Consequently, a convergent mixed-methods design is appropriate for this research, which aims to triangulate data on the integration of critical media literacy in teacher training in media education in Austria. In a convergent parallel design, researchers collect quantitative and qualitative data concurrently but not at exactly the same time. Rather, they collect the data at the same phase of the research process. The key idea is that collecting data using one method does not build on the results of another dataset; rather, it is an independent process. Both methods are weighed equally, and the two data sets are analyzed separately and the results are interpreted together (Creswell & Plano Clark, 2018).

The course design

A convergent mixed-methods design was employed to address the research question concerning the integration of critical media literacy into a seminar for pre-service teachers titled “Didactics of Digital Basic Education” (Fachdidaktik Digitale Grundbildung), which was offered at the Center for Teacher Education at the University of Vienna. The seminar, which was worth five European Credit Transfer System (ECTS) points, was conducted on a weekly basis, with each session lasting for one and a half hours. This equates to a total of 12 to 15 sessions per semester. One ECTS credit is equivalent to an average workload of 25 full hours. The course workload includes participation in the course, preparation for and follow-up of the course, exam time, and study time. The seminar covered a variety of media- and media education-related subjects through lectures, discussions, and group work. Students were tasked with creating lesson plans for a variety of subjects and providing feedback on these plans from their peers and the instructor.

Data collection

Quantitative data concerning the integration of critical media literacy into seminar teaching practices was obtained through a post-survey. The survey was completed by 38 pre-service teachers (30 female, 7 male, and 1 who did not indicate gender) in three semesters, winter and summer semester 2023, and winter semester 2024.

We adapted a previously created questionnaire using the core concepts of critical media literacy by Kellner and Share (2019), as well as the guiding questions, to examine the integration of critical media literacy into a kindergarten teacher training in media education. The content validity of the questionnaire was assessed by two experts in the field of media literacy. Subsequently, an expert in the field reassessed the content validity of the adapted questionnaire.

The questionnaire contained 29 items, including four demographic questions, four closed and open-ended questions regarding the participants' views on media education, two questions about challenges they experienced in the seminar as well as successes, and 19 closed-ended questions about the integration of critical media literacy. The critical media literacy assessment comprised three multiple-choice inquiries, nine Likert scale questions with a selection of responses including "never," "1 time," "2-3 times," "4-5 times," "more than 5 times," and six Likert scale questions with options such as "true," "partly true," "not true." Additionally, there was one Likert scale question with responses including "almost all," "many," "some," "a little," and "almost nothing."

As a researcher at the University of Vienna, I was permitted to collect data from the participants for academic purposes, provided that they agreed to the privacy policy. This policy included anonymizing, encrypting and storing the data on a server in Austria. For this research, the post-survey was shared with in-service teachers participated in the training via the University of Vienna's online survey tool. Before filling out the survey, the trainees were required to read the privacy policy and provide consent for their data to be used. The data was anonymized, encrypted, and stored on a server operated by the University of Vienna in Austria.

A complete set of post-survey findings was previously published (Mohammadpourkachalami, 2025). The present paper exclusively presents the results of post-survey questions that were also inquired during semi-structured interviews. Using a convergent mixed design in this study helps triangulate data and gain in-depth insight into the integration. Indeed, employing a mixed-methods approach enhances data analysis, enabling the corroboration or disconfirmation of results related to the integration of critical media literacy components.

The qualitative data were collected through semi-structured interviews with three pre-service teachers (two female and one male) who participated in the training. Since this is a convergent mixed methods study, the selection of interview participants is not based on the survey results. Participants in the training were asked if they would be interested in a semi-structured interview. Because the survey was anonymous, it is not possible to determine if the interviewees also completed the survey. The interviews were conducted via video conference. The interview guide was developed based on the primary concepts inquired about from the participating teachers in the survey questionnaire. According to Creswell and Plano Clark (2018), in a convergent mixed methods design, the qualitative and quantitative questions should address the same concepts. Merging the two databases works best in a convergent mixed methods design when the researcher asks parallel questions in both (Creswell & Plano Clark, 2018). In light of this, the main concepts of critical media literacy were addressed in both the questionnaire and the interviews.

Participants who answered yes to the question about engaging in activities that presented the integration of the core concepts in the training were asked follow-up questions about their engagement and asked to provide an example of an activity. These examples revealed their level of engagement with and understanding of the core concepts. For instance, if the interviewees responded affirmatively to a question about engaging in media analysis, the follow-up questions and examples of activities would reveal the types of analysis performed and whether the core concepts of critical media literacy were embedded.

Data analysis

Descriptive statistics were used to analyze the quantitative data and determine the frequency with which participants engaged with the core concepts of critical media literacy during training. Qualitative data were analyzed using content analysis. An AI transcriber was used to transcribe the online interview verbatim. Then, the transcription was manually cross-checked for accuracy. The coding process was guided by deductive and inductive methods. Using the theory of critical media literacy, core concepts, and guiding questions, as well as a review of literature on different media literacy approaches, a code book was created. An expert in media education evaluated the code book for validity. The transcripts were coded and categorized using the code book. Any new codes were identified as necessary during the coding process. The coding was conducted by the researcher and an expert in the field audited and cross-checked the accuracy of coding.

A narrative discussion was employed to illustrate the integration of results in a convergent mixed-methods design because it is the most direct method of presenting such a design (Creswell & Plano Clark, 2018). In this approach, the results collected by each method are first presented separately, followed by a subsequent section that compares and contrasts them. In this study, the results of the quantitative survey and the qualitative semi-structured interviews will first be presented separately. A subsequent discussion will address the points of convergence and divergence among the results.

Results

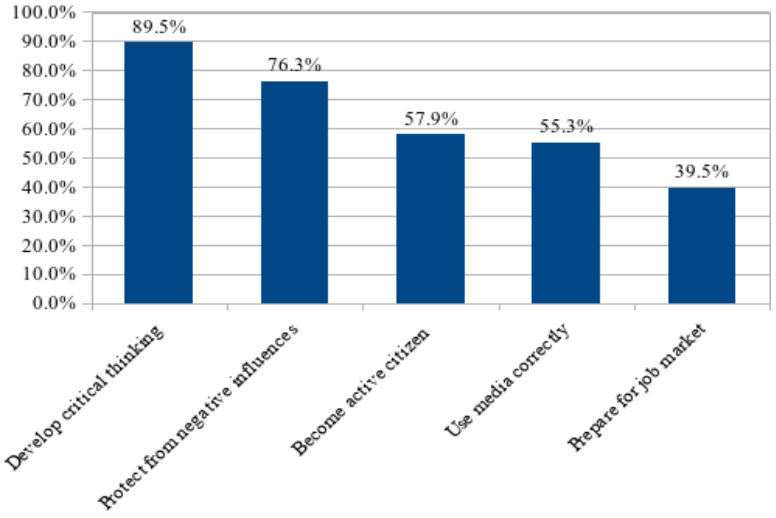
Survey Results (Quantitative)

The results presented here provide an overview of the self-reported competencies acquired by trainees during the seminar, in addition to the integration of media and critical media literacy into instructional practices of the seminar. It should be noted that three responses were permitted for the questions regarding the important reasons for teaching media literacy, the competencies acquired in the training, and the types of media created by the trainees in the training. It is also important to mention that one response was missing for the questions about media integration, engagement in the analysis of bias in algorithms, ideology critique, and media organization in Austria, and three responses were missing for the question about engagement in analyzing bias in the media.

The most important reason for teaching media literacy to children, as reported by surveyed teachers, was developing critical thinking (89.5%), followed by protecting children from negative influences (76.3%), helping children become active citizens in a just and democratic society (57.9%), promoting the correct use of media (55.3%), and preparing students for the job market (39.5%) (see Figure 1).

Figure 1

Reasons to teach media literacy



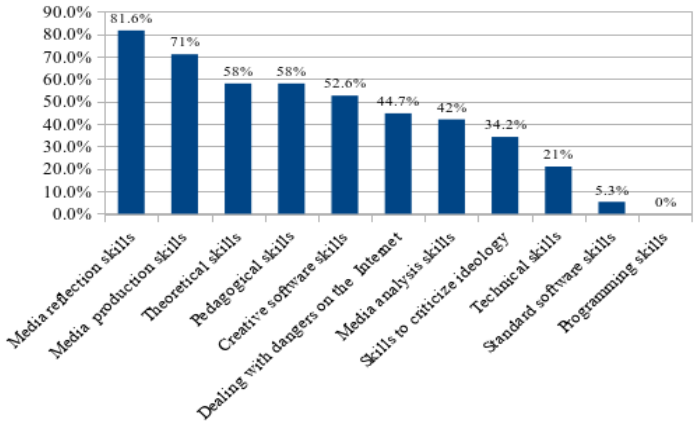
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The majority of respondents (81.6%) reported acquiring media reflection skills (e.g., media system, attention control, news value, etc.) during the seminar. However, none reported acquiring programming skills (e.g., coding, algorithms, or modeling). 34.2% of the surveyed teachers reported acquiring ideology critique skills (the ability to recognize media representations of different ideologies, such as racism, sexism, classism, and capitalism).

Figure 2 demonstrates that a significant portion of respondents indicated they had developed media production skills (71%). The acquisition of theoretical and pedagogical skills was reported with an identical percentage (58%). This was followed by creative software skills (including video editing, sound editing, and image editing) at 52.6%. Skills related to managing online dangers (such as cyberbullying, sexting, stalking, etc.) were reported at 44.7%, while media analysis skills (pertaining to symbols in video games, film genres, etc.) were noted at 42%. Technical skills (related to device usage) were reported at 21%, and standard software skills (including operating systems and office software) were reported at 5.3%.

Figure 2

Competencies acquired in the seminar



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Regarding the frequency of media integration in training, the findings reveal that just over half of the participants (54%) indicated that they engaged with media "more than 5 times," whereas a smaller proportion (8.1%) stated that they did so "1 time." Additionally, 29.7% of the participants reported engaging with media "2-3 times" and 5.4% reported doing so "4-5 times." It is noteworthy that only 2.7% of the participants claimed to "never" have engaged with media during the seminar.

Data on the frequency with which teachers engaged in media analysis indicates that just over a third (31.6%) of respondents stated they did so "more than 5 times". Additionally, 18.4% reported engaging in it "4-5 times", 34.2% "2-3 times", and 10.5% "1 time". A mere 5.3% of the surveyed teachers indicated that they had never participated in media analysis. Although media analysis was incorporated into the training, the specific types of media analysis that the teachers engaged are unclear.

The findings regarding engagement with critical components of media literacy—which involves analyzing bias and critiquing different ideologies (e.g., racism, classism, sexism, religion, consumerism, etc.) in media representations— indicates that the analysis of bias was most frequently reported as occurring “2-3 times” by just over half of the respondents (54%). This was followed by “4-5 times” (16.2%). “1 time” and “more than 5 times” were reported with the same percentage, at 13.5%. A small fraction (2.7%) reported “never” having the opportunity to engage in such analysis. With regard to the critique of ideology, the data demonstrate that the highest rate of engagement was reported as “1 time” (37.1%). A smaller percentage (5.7%) of respondents indicated that they had never participated in this type of critique. The data suggest that 31.4% of respondents reported critiquing various ideologies “2-3 times”, followed by 20% for “4-5 times”, and 5.7% for “more than 5 times”.

Regarding the different types of media organizations in Austria, the results reveal that 86.5% of the respondents acknowledged their understanding of the differences between state, commercial, citizen, and public media. Meanwhile, 10.8% reported a "partial" understanding, and 2.7% said they did not learn about it. Since algorithm-driven media influences our understanding of the world by selecting, prioritizing, categorizing, and presenting information and communication (Dogruel, 2021), this study examined the engagement of student teachers with algorithms and their critical awareness of them. Of the teachers surveyed, 40.5% indicated that they had not engaged in creating an algorithm, while a similar percentage (29.7%) stated that they had fully or partially developed one during their training.

The most prevalent frequency for engagement in criticizing bias of algorithms was "2-3 times" (51.3%), whereas the least prevalent frequency was "more than 5 times" (2.7%). Moreover, 32.4% of the respondents indicated that they had engaged in the practice of criticizing bias in algorithms "1 time," while 8.1% stated that they had done so "4-5 times." A negligible percentage of respondents (5.4%) reported that they had never engaged in such activities. There

A foundational element of critical media literacy is media creation. In this context, slightly more than half of the respondents (56.7%) indicated that they had created media “2-3 times.” A mere 2.7% of respondents reported never having produced a media text. Among the surveyed teachers, 18.9% reported creating media “4-5 times” during their training, 13.5% stated “1 time,” and 8.1% noted “more than 5 times.” The media types created during training were reported as follows: podcasts (89.4%), videos (84.2%), and other media forms (e.g., photo, book, newspaper, magazine, digital story, game, cartoon, animation, and advertisement) each at a frequency of 10.5% .

Twenty-seven of the 38 surveyed teachers responded to an open-ended question about the benefits they gained from the training. "Creation" was a particularly prominent benefit, which included "lesson plan creation" and "media creation." The teachers designed lesson plans for various subjects and created media, such as podcasts and videos. The next benefit identified was "gaining new insight" about media and digital education. Another benefit was learning how to use media, which included becoming familiar with different types of media and learning to use Moodle.

Interview results (qualitative)

The interviewees believe that media literacy should be implemented in schools. However, they have different reasons for this belief. One interviewee believes it is important for students to learn about the media and digital world because the world is becoming increasingly digital. Another interviewee thinks that students are unaware of the media with which they grew up and do not know how to use it consciously. The third interviewee said that the media has become an inseparable part of our lives. Therefore, it’s important for children to learn from an early age how to properly use the media. They need to understand which media are useful and which are not. Students must

learn to identify reliable information and use the media responsibly. This also facilitates communication between students and teachers. Additionally, using the internet for homework can be beneficial. For example, teachers can incorporate media into lessons in fun ways, such as using educational games to motivate students.

Five themes emerged from the coding and categorization of data on the integration of critical media literacy into the seminar's instructional practices. The first theme was “Creation,” with two sub-themes: “Lesson Plan Creation” and “Media Creation.” Regarding lesson plan creation, participants developed plans for various seminar topics to incorporate into their future instructional practices. One interviewee noted: “ We have to do a teaching plan where we have to integrate it to our lesson”. Another said: “We had to create lesson plans every two or three weeks. Each of us was responsible for developing a lesson plan that incorporated media tools. For example, I wrote a plan on how to use Instagram for educational purposes”. For media creation, participants primarily created podcasts or videos. Sometimes, the media they created was relevant to the subject matter they would teach in the future.

The next two themes, "Media Analysis Integration" and "The Politics of Representation," were less prominent than the first theme, "Creation." Within the "Media Analysis Integration" theme, the interviewees discussed algorithm analysis, focusing on personalization, filter bubbles, and source credibility. As one of the interviewees mentioned: “ “We did an activity. I think it was mostly about sources, like which sources you can trust and which are, probably not scientific sources”. Concerning personalization by algorithm, one interviewee said:“ As I said before, like the for your page in TikTok, for example, which is different for every one, that we discussed and looked at examples from other students who shared the screen. And I think that was really interesting because I wasn't really aware of it, that it's so different”. Regarding the politics of representation, the trainees examined dominant ideologies of classism and racism on social media platforms. They also mentioned a few cases of sexism involving sexting in the media. One interviewee discussed: “We analyzed the start screen, like there's a search button on Instagram where a lot of pictures are popping up and you can scroll down and see a lot of pictures. And then we saw which people are on the front page and and in which class they are because of their outfits and what they talk about, like they talked about skiing and, like drinking alcohol and such things and that are only privilege of rich people”. Another interviewee said: “Online there's only wealthy and the rich people. There is really there are not a lot of guys which are poor. And also like with the race. I never saw like a lot of black people. I really changed my mind about those things”. Themes such as “Critical Thinking” and “Media Integration” also appeared, but they were not as important as the previous ones. Critical thinking encompasses reflection on media, their thoughts about media, and one’s filter bubble. Media integration was more closely related to technology-enhanced learning, focusing on the use of media to improve the teaching and learning of school subjects in future instructional settings.

In regard to integrating the conceptual understandings of critical media literacy, the seminar incorporated the politics of representation, as previously mentioned. Furthermore, two interviewees mentioned another core concept of critical media literacy: production/institution. The interviewees explained that they gained insight into the structure

of the Austrian media landscape and learned about different types of media organizations in Austria, including corporate media and the ORF (Austrian public service media).

One notable finding is the contradiction in the participants' responses to a few questions. For instance, regarding engagement in media analysis and critical aspects of media literacy, such as ideology critique, two participants said that they did not engage in these activities. For these participants, this knowledge was only theoretical. However, they explained that they analyzed the first page of their social media to see how wealthy white people are represented and to scrutinize those people's activities. They also analyzed algorithms, particularly personalization, as well as the credibility of resources. Yet, they said they did not engage in media analysis.

Another example of this contradiction arose when one interviewee first said they did not engage in media analysis, but then said that what they learned in the training was not applicable to their future teaching practice because they learned how to analyze media and think critically about it.

In conclusion, one student teacher articulated that the allotted time for the development of these competencies would be inadequate for their implementation in a future classroom setting. Another participant noted the necessity for greater practical experience with media texts in the context of teacher training in media education.

Discussion

Following a thorough examination of the qualitative and quantitative datasets, a comparative analysis was conducted to identify areas of convergence and divergence. Quantitative and qualitative data converge when the results of the datasets are similar. With regard to the interviewees' perspectives on the integration of media literacy into the school curriculum, although no predominant theme emerged, the three interviewees cited the primary reasons reported in the survey, including developing critical thinking by referring to the conscious and responsible use of media. One interviewee also indicated protection from the negative impact of media by noting the importance of proper media use.

The survey data revealed that media creation was the most significant skill acquired during the training. Quantitative data confirmed engagement in this activity, showing that 83.7% of respondents created media at least two to three times during the training. An open-ended question in the survey revealed that creating lesson plans and media was the greatest benefit of the seminar. Regarding the media created, the quantitative data showed that podcasts and videos were the most common. Qualitative results corroborate these findings, with the main theme being "creation," including lesson plan and media creation. Interviewees' responses about the types of media they created confirmed the survey results, showing that podcast and video creation occurred frequently.

When it came to critiquing ideologies, only a few respondents said they did not engage in critique, though not very often. Over half of the respondents (57.1%) reported having criticized an ideology at least two to three times.

Qualitative data suggest convergence, revealing the politics of representation as a theme with an emphasis on criticizing ideologies such as classism and racism. Regarding media analysis, the qualitative and quantitative data confirm each other. The survey data suggest engagement in media analysis, with 50% of respondents reporting at least 4-5 times of engagement. Qualitative data also revealed media analysis integration as a theme.

A considerable proportion of teacher training programs in media education emphasize internet safety. The quantitative results indicate that internet dangers and protection received moderate attention in the seminar, according to fewer than half of the respondents. Qualitative results support this finding: none of the interviewees mentioned internet safety.

Another mainstream approach to media literacy in teacher training is teaching with and through media (Gretter & Yadav, 2018; Salomaa et al., 2017; Tiede et al., 2015; Tiede & Grafe, 2016; Swertz,2016; Silva & Arroio,2025). Quantitative data demonstrate that technical and programming skills were among the least competencies gained during training. The data also reveal moderate media integration in the training: only 54% of participants reported using media more than five times, a finding supported by the qualitative data, which show that media integration was perceived as the least prominent theme, with a focus only on technology-enhanced learning.

The findings also suggest convergence in terms of learning about the Austrian media system. According to quantitative data, most respondents (86.5%) learned about the system by recognizing the differences between state, commercial, citizen, and public media. Two interviewees also mentioned this concept.

The data suggest convergence of engagement in ideology critique. However, the ability to critique different ideologies was one of the least self-reported acquired competencies. This discrepancy may be attributed to the complexity and invisibility of how ideology functions, making teaching and learning ideology critique challenging (Kellner & Share, 2019b). As a result, practical engagement in ideology critique is required more frequently than for other dimensions of critical media literacy.

In summary, the two datasets reveal more similarities than differences. Despite the presence of a discrepancy between the two datasets, a comprehensive evaluation of the potential causes reveals that the primary dimensions of critical media literacy were incorporated into the training teaching practices, albeit to varying degrees. In contrast to the numerous teacher training programs in media education, which prioritize teaching with and through media rather than teaching about media (Gretter & Yadav, 2018; Salomaa et al., 2017; Tiede et al., 2015; Tiede & Grafe, 2016; Swertz, 2016; Silva & Arroio, 2025), this training placed a greater emphasis on critical understanding of media and less on teaching through media, technical skills, and addressing internet safety concerns. However, there was inadequate engagement in practice.

Conclusion

In light of the crucial role teachers play in fostering critical media literacy among students in schools, the study examined the integration of critical media literacy into the teaching practices of a seminar on digital basic education (Digitale Grundbildung) for pre-service teachers at the Center for Teacher Education at the University of Vienna.

Both data sets revealed that the training primarily focused on creating lesson plans and media. A second theme that emerged was the politics of representation and the integration of media analysis. Although both quantitative and qualitative data indicate the integration of the politics of representation, the findings suggest limited proficiency in ideology critique. This may be due to insufficient engagement in ideology critique compared to other dimensions of critical media literacy, as well as the complexity of teaching and learning ideology critique. Therefore, developing the ability to critique different ideologies requires more hands-on, practical engagement than other aspects of critical media literacy.

This study shows promising results regarding the integration of critical media literacy into teacher education programs, particularly in Austria. Both data sets confirm that, unlike many teacher training programs that focus on teaching with and through media, as well as technical skills and protection in teaching media literacy, this seminar did not focus on these issues.

This study provides valuable insights; however, it is not without its shortcomings, which must be addressed in future research. First, the relatively small number of participants who completed the survey and participated in interviews limits the generalizability of the findings and an in-depth understanding of the integration of critical media literacy in teacher training in media education. In addition, since only three interviewees were conducted, the qualitative findings may not provide sufficient corroboration of the results. Furthermore, it should be noted that the present investigation is limited to the participation of pre-service teachers; the trainer has not been included in the scope of the study. Further research is necessary to refine the understanding of the integration of critical media literacy in teacher training programs for digital basic education. This could be achieved by conducting research on different training programs for digital basic education and by adding observations. It also would be advisable to expand the scope to include trainers.

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