



Research Report

ON THE STATE OF THE ART OF THE SCIENTIFIC LITERATURE ON
CRITICAL THINKING AND MEDIA LITERACY IN VET

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Index

Summary	2
Highlights.....	3
1. Introduction.....	4
2. Literature Review	6
2.1 Method.....	6
2.1.1 Data Collection	7
2.1.2 Data Analysis	8
2.2 Results	8
2.2.1 Overview of the Contributions.....	8
2.2.2 Definition of critical thinking and media literacy	8
2.2.3 Interventions for Critical Thinking & Media Literacy and Training practices.....	11
2.2.4 Assessing critical thinking and media literacy in VET	13
3. Discussion	14
3.1 Implications	15
3.1.1 Practical implications.....	15
3.1.2 Research implications.....	17
4. Conclusions.....	19
References.....	20
Appendix	24
Figures	24
Tables	25

Summary

Nowadays, the prospects about critical thinking and media literacy among citizens in European countries appear to be uncertain. There is large agreement on the view that current social phenomena and challenges (e.g., no-vax contestation, nationalist movements) are characterized by an embedded and profound lack of meta-cognition and media literacy among citizens, which are instead largely present within individuals with vocational education and training. Therefore, researchers and practitioners in the field of initial vocational and educational training (iVET) are questioning about which educational models would be adequate to implement the current educational programs as a means to enhance critical thinking and media literacy. Accordingly, the NERDVET project intends to address this question using multiple research methods coupling different disciplines (e.g., from cognitive psychology to educational science) in order to offer a knowledge-based description of critical thinking and media literacy education in iVET students. It is in this context that we present the first research report, which contains the initial research phase, namely, the systematic scoping literature review of the state of the art of the scientific literature on critical thinking and media literacy in iVET domain.

The first task involved in the present project (i.e., the systematic scoping review) concerned a systematic review of the relevant literature on (a) the key critical thinking skills influencing the judgment decision-making process of students, and (b) the best practices and interventions conducted at International, European, national, and regional levels. The method of the systemic scoping review allows researchers and practitioners to have an initial idea about the aspects and core characteristics of a specific phenomenon by taking into account the extent of the literature on the topic under investigation. Then, the theoretical model of the intervention and educational model can be hypothesized considering the relationships between teachers practice and students' critical thinking skills and media literacy. Such a model will provide the basis for the development of a new intervention to be designed and tested in the following tasks of the project.

Indeed, in the intervention phase, building on evidence from scientific literature, we aim at designing and testing an overarching intervention model to support and enhance teachers' practices for students' critical thinking skills based on educational and training approaches and a psychological-based approach in order to develop training-packages (e.g., Educational Toolkit, a Distance Training program and a training intervention for teachers' best practices). The first training-package will deal with the improvement of an educational toolkit for the best didactical practices influencing critical thinking skills (i.e., educational toolkit for best didactical practices for iVET and technical students).

We, therefore, conducted a systematic-scoping review by which we collected and reviewed N = 19 contributions, as this report testifies. The analysis of such contribution reveals important aspects about how to define critical thinking and media literacy and what are the practical and research implications in terms of possible training intervention for enhancing iVET students critical thinking and media literacy. In the following sections of the first NERDVET report, we will describe (a) the rationale of research and the reasons for conducting a systematic scoping review of the state of the art (introduction); (b) the methodology used, and the data collection procedure coupled with the results of the research conducted (literature review section); (c) the discussion of the results and the implications for research and practice (discussion section). Our review proposes to define critical

thinking and media literacy as two connected meta-cognitive abilities that support the comprehension and judgment of – media and general – information in today's society. Moreover, findings over the training strategies suggest that three main aspects are crucial for the enhancement of critical thinking and media literacy in students, i.e., the role of the teacher; the use of examples of a lack vs higher critical thinking and media literacy; the use of stimuli for supporting students' application of critical reflection on media information. Notwithstanding the limitations of the present research, our review responds to the imperative for addressing critical thinking and media literacy in today's society opening to initial insights for practice in the domain of iVET.

Keywords: Critical thinking and Media Literacy; Vocational education and training; iVET; Systematic scoping review.

Highlights

Research questions: What are critical thinking and media literacy? How to enhance critical thinking and media literacy in the context of iVET? **Purpose:** The present report intends to focus on the need for knowledge concerning critical thinking and media literacy in the context of iVET. A review of the scientific literature is presented. **Method:** Systematic-scoping review. **Results:** *Definitions of critical thinking and media literacy.* Critical thinking can be understood as a central element both for the single individual and for the social implication that this can have, being a metacognitive competence regarding the ability to reflect, analyse and question information resulting in proactive behaviours and citizenship. We define media literacy as the correspondent of literacy for media information, where the alphabet and language used are the contents of the media. Media literacy encompasses the knowledge and skills to think critically about media information through an understanding of media representations, structures and implications. *Teaching and training strategies.* Studies of training and teaching practices suggest a wide range of relevant factors at the student, teacher, classroom and community level that can enhance critical thinking and media literacy. These include teaching practices that facilitate autonomy of thought through the stimulation of reflection to provide students with sufficient and appropriate resources for maintaining critical thinking and media literacy even outside the school context. The identified strategies aim to improve individual disposition and personal resources, as well as to reduce cases of cognitive errors and prejudices. The most important aspects for the elaboration of a training intervention in critical thinking and media literacy concern (a) the role of teachers in creating the conditions for the enhancement of critical thinking and media literacy; (b) the use of noteworthy examples to explain the implications of a higher level of critical thinking and media literacy, as well as the context in which such metacognitive aspects may occur; (c) the use of stimuli to support the application of critical reflection of media information leading to advance the possibilities that students continue being critical through self-developed personal stimuli.

1. Introduction

In the context of social movements and phenomena such as no-vax contestation, nationalists' movements, policymakers and academics have widely paid attention to the related issues of civic education, critical thinking and media literacy (Martens & Hobbs, 2013). In this context, the current transformation of the information environment with the birth of new information models and storytelling styles imposed by web and social media has been identified as one of the main causes of such social challenges reverberating the urgency of supporting individuals' competencies to understand media contents and critically reflect on social and media stimuli (Pfaff-Rüdiger & Riesmeyer, 2016). For example, the social implications of fake news and post-truth phenomena have been considered as the new means of individuals account-making for their civic participation. The no-vax ideology as well as the birth of nationalist and extremist groups are generally viewed as the consequence of the widespread and profound presence of media illiterates and the avoidance of the application of critical thinking (Bayer et al., 2019).

The embedded phenomena in current society reflect the need for meta-cognition and media literacy among citizens which are largely present within individuals with lower humanistic education. In fact, despite the information environment, such a condition is widely reconducted to the educational levels and educational quality of citizens who have not been able to develop their meta-cognitive abilities (i.e., media literacy and critical thinking). Critical thinking dispositions and media literacy, which are habits of mind and attitudes that influence positively or negatively the propensity of a person to think critically, have received particular attention in the vocational education and training domain, leading researchers and practitioners to promote interventions at the educational level (Bayer et al., 2019; Martens & Hobbs, 2013; Rauner, F., & Maclean, 2008). Within the current literature on critical thinking and media literacy, as one of the key-competences of citizens in western countries, it is largely highlighted how individuals who received technical knowledge are more prone to incur in flawed choices supporting the call for studying such specific individuals while addressing social issues. This is the case of initial vocational education and training (iVET) students since, if compared with students attending other education pathways (high secondary schools, secondary technical schools), the push for acquisition of technical knowledge can affect the development abilities for the comprehension media information and critically reflection (Banerjee et al., 2015; Barabasch & Keller, 2020; Geers et al., 2020; Lindell & Hovden, 2018).

Vocational education and training (VET) pathways place more emphasis on the acquisition of technical competencies (i.e., about an average of 70% of hours is dedicated to technical subjects; OECD, 2010) rather than literacy or transversal skills. Moreover, a considerable percentage of iVET students are often young people with previous school failures, learning difficulties and/or disadvantaged social and familiar backgrounds, which are all elements that negatively affect their access and opportunity to develop and apply critical thinking in a comprehensive way (Noorani et al., 2019). This condition is consequently capable to negatively affect their media literacy as well, which often brings to relational problems in the classroom, that teachers need to manage without, however, being fully prepared for that. Although the scientific literature has witnessed a heightened interest and knowledge on the need of educational programs capable to support iVET teachers and trainers in critical thinking and media literacy provision, there is still a lack of comprehension over which educational strategy for iVET students aimed at enhancing their critical thinking and media literacy

might be implemented and at correcting current educational pathways in the view of possible social changes (OECD, 2010; Noorani et al., 2019).

The present paper aims to address the need for enhancing critical thinking and media literacy among VET students by conducting a review of the scientific literature. As such, a literature review is intended to offer a synthesis of the literature according to a systematic and rigorous methodology in response to the core questions linked to critical thinking, media literacy and teaching methodologies in VET domain. Therefore, the present work will address the following main research questions by considering the current scientific literature:

What do critical thinking and media literacy mean? In particular in iVET systems

How to enhance critical thinking and media literacy in iVET' students?

What are the best training and teaching strategies and practices in the iVET field?

How to help students develop their critical thinking and media literacy?

By addressing these research questions via a literature review, the present article will propose a framework to support possible educational models capable to implement current iVET pathways to foster critical thinking and media literacy. The paper is organized in three main sections, the first of which will introduce the method of the systematic review and scoping syntheses as a possible vehicle to reach our goals in the context of education and training domains. The second section will present the results of the literature review by providing an overview over the current trends on critical thinking and media literacy in VET schools. Such results are later taken into account in the third section, the discussion. In this part, further perspectives and possible applied implications of our analysis are presented.