Guidelines for implementing critical thinking skills and media literacy in VET

Output 4.2

Co-funded by the
Erasmus+ Programme
of the European Union

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Table of contents

1. Introduction....2
1.1 Purpose of these Guidelines....2
1.2 The NERDVET Educational Toolkit....3
2. Roadmap to implement critical thinking and media literacy training in iVET....5
2.1 How to use the NERDVET Educational Toolkit....5
2.2 Strategies....6
2.3 Indications for coordinators and supporting staff....8
2.4 Indications for training staff....11
3. Additional insights....13
3.1 Anticipating and counteracting challenges....13
3.2 Tips & Tricks....16
3.3 Consolidating a long-term implementation of critical thinking and media literacy....18

1. Introduction

1.1 Purpose of these Guidelines

The **Erasmus + KA3 NERDVET project (Think smart! Enhancing critical thinking skills and media literacy in VET)** primarily aims to support Vocational Education and Training (VET) providers with an Educational Toolkit - a set of methodological, theoretical and practical tools - for strengthening critical thinking and media literacy competences in their students.

Due to the rapid changes that societies are currently facing as concerns media consumption and use of online resources, it is becoming increasingly clear that a sound training on critical thinking and media literacy is necessary for all citizens – especially the younger ones. However, being VET curricula strongly technical and work-oriented due to their very own nature, the development of citizenship and personal skills is often neglected. Yet, a holistic and comprehensive training is necessary to ensure that young people can become aware, responsible and engaged citizens: this is indeed the context that led to the development of one of the core outputs of the NERDVET project, the Educational Toolkit.

The purpose of the present document, the Guidelines for implementing critical thinking skills and media literacy in VET, is to support the implementation of the Educational Toolkit by providing a roadmap for the integration of critical thinking and media literacy skills in the teaching of VET curricular disciplines. The Guidelines therefore complement the Educational Toolkit, offering further elements to propose critical thinking and media literacy training activities within VET institutions and progressively incorporate them as systematised parts of their standard training and didactical offer.

In order to do so, the document is divided into three sections:

1. The present **introductory section** describing the context of the NERDVET project and the background of its outputs, while offering an overview of the Education Toolkit itself.
2. The **core section: a roadmap to implement critical thinking and media literacy in VET**, considering the different roles played by the coordinating, supporting and teaching staff.
3. The third section offers a **collection of additional insights**, including I. proposed **solutions to face possible challenges** in the implementation of the training, II. **tips and tricks** for trainers, coming from the direct experience of the NERDVET project, and III. some further **remarks on how to mainstream** critical thinking and media literacy in a VET organisation's training offer **in the long term**.

1.2 The NERDVET Educational Toolkit

As previously recalled, the main output of the NERDVET project is the **Educational Toolkit**.
This resource offers a unique and action-oriented training model developed by the NERDVET partnership to address gaps and challenges concerning students' capacity to think and behave critically, being able to detect and manage fake news, biases, and irrational beliefs.
The Toolkit was first designed with a bottom-up approach - "from trainers for trainers" - then tested by a group of trainers in their classes, engaging students from five EU countries (Italy, Spain, Portugal, Greece, and the Netherlands) and, finally, fine-tuned according to the results of its implementation on the field.

The ultimate goal of the NERDVET Educational Toolkit is to offer VET teachers a training pathway to unleash their fullest potential as amplifiers of innovation. This has a direct positive impact on their beneficiaries, the learners, who are to be put at the very centre of the learning process, with a motivational approach. This approach has the twofold purpose of:

1. Focusing not only on technical skills, but also on soft ones, as the latter are crucial for individuals to accomplish their personal and professional development goals and be proactive citizens.
2. Allowing trainers to be perceived as a proactive actors or positive "influencers", who are capable to turn teaching into a mutual learning process, where dialogue and support pave the way for learners' fulfilment.

Learning about the scientific background underpinning the Toolkit is fundamental not only for a more in-depth understanding of the model proposed by the NERDVET project and its functioning, but also in order to provide solid bases to the integration of critical thinking and media literacy skills into VET curricula.

To this aim, it is important to first outline what critical thinking and media literacy are. According to the NERDVET model:

> *"**Critical thinking** is a cognitive process, which consists in observing, describing, analysing, interpreting and evaluating information, problems or situations for the purpose of drawing reliable conclusions, which are at the base for rational decisions and solutions.*
>
> *Since, nowadays, people get most of the written and visual information necessary to form their opinions and ideas from the internet and social media, the notion of critical thinking shows a strong connection with the term of media literacy, which is the ability to identify different types of media and understand the messages they are sending.*
>
> ***Media literacy** is the equivalent of media information literacy, meaning the ability to access media messages, to analyse and evaluate the accessed media from a critical point of view and to create one's media messages. Media literacy encompasses the knowledge and skills to think critically about media information through an understanding of media representations, structures and implications. Through this skill, individuals can recognise the differences between real and fake news, critically analyse*

the content of information presented to them on a daily basis and make correct decisions in digital environments."

Following the NERDVET pathway towards the enhancement of critical thinking and media literacy, a cognitive psychology approach was adopted: this discipline has a long historical tradition in themes related to rationality and information processing and has therefore developed a number of studies and strategies to help individuals think and act critically, and to make more informed choices and decisions. **Approaching critical thinking and media literacy from a cognitive perspective means focusing on how individuals understand information and concepts**. The complementarity of the concepts of critical thinking and media literacy with cognitive psychology models inspired the definition of specific educational approaches to be implemented by iVET (initial VET) trainers to efficiently support these competences in their students. According to this perspective, using critical thinking to analyse information coming from digital media implies helping people understand connections between concepts, break down information and rebuild it with logical connections, as – in so doing – their understanding of that piece information/concept will increase.

Therefore, by transferring these observations to the educational context, considering the peculiarities of the iVET sphere, the NERDVET model identifies three training approaches that are at its core:

1. **Debunking misinformation by using reliable sources**: supporting the use of specific procedures to understand whether a piece of information is fake or for real
2. **Raising awareness on biases and irrational beliefs**: acknowledging that all individuals can be irrational, as prejudice, bias and irrationality are embedded in human beings (since they linked to emotions), but that they can be reduced by becoming aware of the underlying processes
3. **Self-nudging**: enhancing an individual's ability to develop personal strategies and procedures to process information objectively

As it will be further exemplified, applying the NERDVET training approaches and practical activities in the classroom is only the last step of a broader pathway, which should synergically involve not only trainers, but also both the coordinators and supporting staff, in the pursuit of a common objective.

2. Roadmap to implement critical thinking and media literacy training in iVET

2.1 How to use the NERDVET Educational Toolkit

When planning for the integration of critical thinking and media literacy in a VET provider's didactical and training offer, the NERDVET Educational Toolkit can be considered for the full range of hands-on resources that it provides, from the planning to the implementation phase. Therefore, before presenting a Roadmap on how VET providers can set up such a process, more insights the materials that the Toolkit encompasses are described below.

The core of the Educational Toolkit is included in the **NERDVET Educational Toolkit Guide**, which provides:

1. The identification of the Toolkit's **key targets**, i.e. a) direct users: teachers and trainers and b) final beneficiaries: students. The key targets of the Toolkit are presented highlighting in which ways they can be involved in its integration in training activities, as well as how to promote their engagement and perceived impact.
   Such information are all the more useful when preliminarily choosing which strategy to adopt and in the planning phase: this section of the Educational Toolkit can indeed be used as a blueprint to be re-adapted based on the educational context, allowing for a more effective analysis and paving the way for more punctual interventions and adequate programming.

2. The **theoretical background** underpinning the NERDVET model, which is fundamental to understand the developed training approaches and practices, as well as the needs that they aim to fulfil. The context in which the NERDVET project operates is described by identifying valuable sources from the scientific literature devoted to the study of critical thinking and media literacy and to the analysis of the iVET system.

3. The **identification of three training approaches** (i.e., Debunking misinformation by using reliable sources, Raising awareness on biases and irrational beliefs, Self-nudging) and the description of how they can be used and integrated in VET training curricula by using practical applications and exercises. The **practical exercises** are organised in 9 lessons are designed to be easily adapted (in length and complexity) and used with a varied (in terms of age, educational needs and socio-cultural contexts) beneficiary group of iVET students.

4. Suggestions of **assessment methods** to evaluate the proposed critical thinking and media literacy training. These proposals can help build a sound monitoring and evaluation strategy, both to measure the impact of the activities on learners and to carry out internal assessment.

5. A **bibliography** of the most relevant resources that served as basis for the creation of the Toolkit and the NERDVET **Directory**, a collection of useful links and online materials/resources in English and national languages, for further exploration and additional insights on critical thinking and media literacy. Besides complimentary support to the theoretical and practical components of the Toolkit, the contents of these sections can also be used as single tools on their own, providing either basic or more in-depth knowledge on the subject.

Moreover, further resources can be consulted in the NERDVET e-learning platform for trainers (https://www.schoolplus.it/en/categories/nerdvet), accessible upon the registration and enrolment to the course by interested users. The platform is a comprehensive repository of all training materials produced by NERDVET, and hosts:

1. An interactive course designed around the topics addressed in the Toolkit. Within the course, users will find:

- **Ten video tutorials**, short animations designed to summarise, explain or describe briefly a concept, a process or a situation related to critical thinking and media literacy. With a storytelling approach, they include exemplifications/applications of concepts to be dealt with during the training, similes and metaphors to promote group or individual reflections, and a conclusive remark with a synthesis of the concepts or with a question aimed at starting a discussion and/or another activity.
- A **Resource centre** where users will find a variety of materials complimentary to the implementation of the Educational Toolkit, including I. **additional outputs produced within the project** and II. **supporting resources, materials and documents** that were collected or directly developed by the trainers that have tested the Toolkit in its piloting phase.
- Dedicated **spaces for discussions**, to allow trainers to have a place to exchange views and opinions on the Toolkit implementation and related matters with other peers that are also experiencing the process.

2. The video recordings of **two webinars**, aimed to further expand on the concepts of critical thinking and media literacy, as well as on the cognitive psychology approach used to develop the three training techniques (Critical Thinking and Media Literacy in the Context of iVET: State of the Art & Training Agenda; NERDVET Educational Toolkit: Focus on Training Techniques).

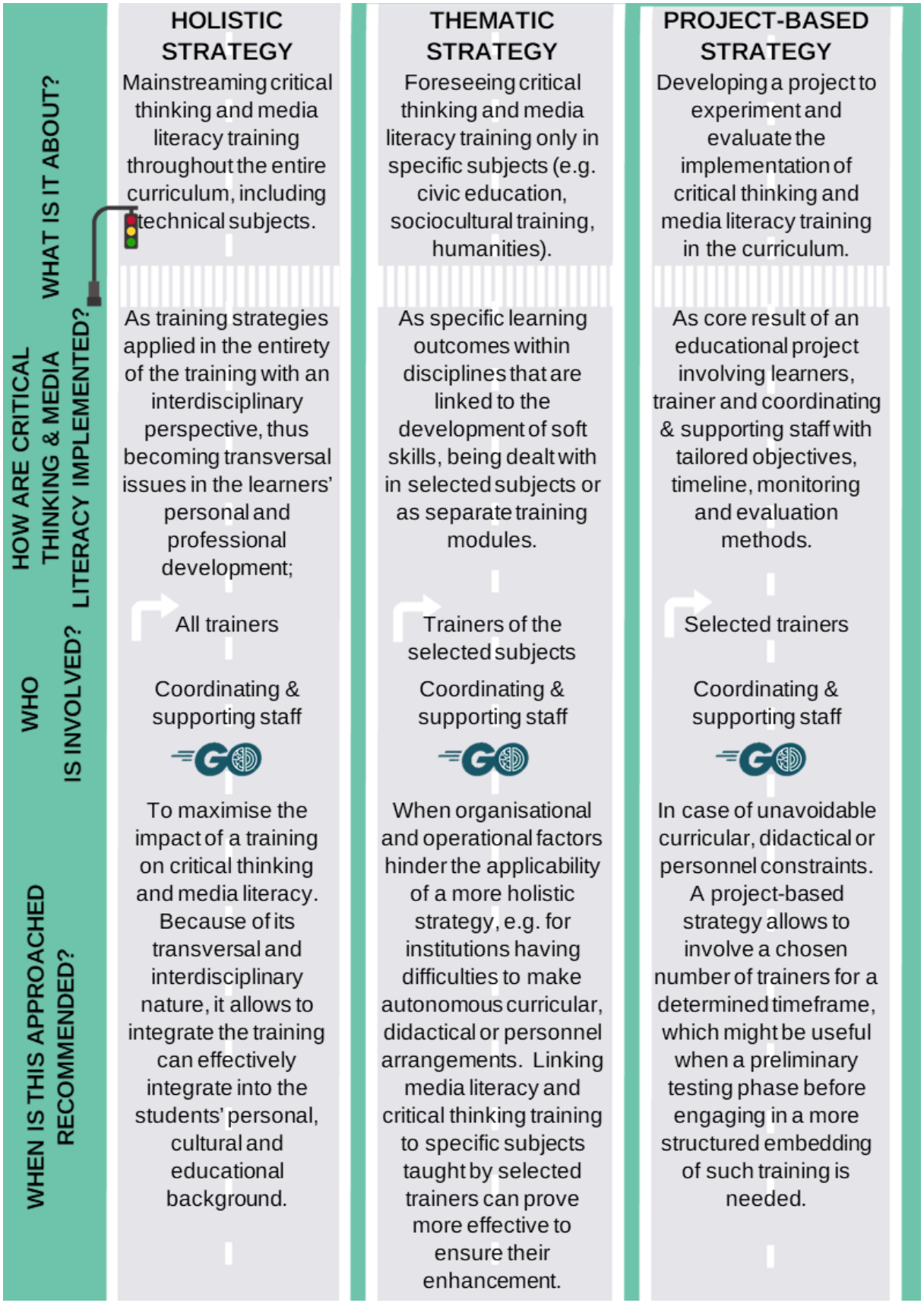
The further chapters of this section will provide a list of indications, articulated for the two categories of **coordinators and supporting staff** and **teaching staff**, representing a set of practical and methodological guidelines to ensure an effective implementation of critical thinking and media literacy as learning outcomes for VET leaners.

Starting from a proposal of **three different strategies** to be adopted at institutional level, the steps are then declined differently for the two types of actors involved, based on the connection between their roles and the different aspects they need to take into account to embed successfully these themes into the didactical and training offer.

2.2 Strategies

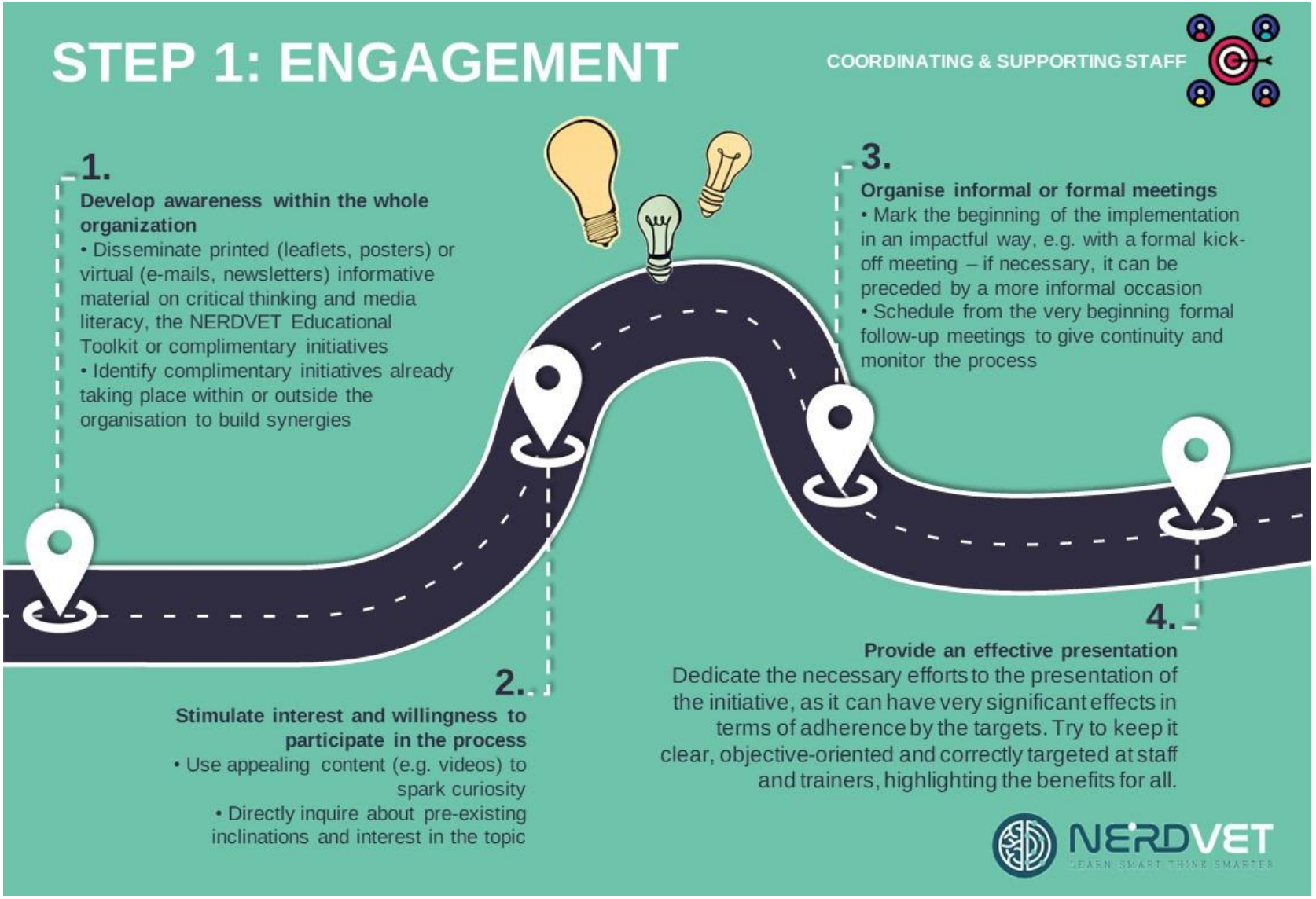
To implement critical thinking in VET curricula and in teaching practices, a broader strategy has to be adopted and backed by a sound planning.

The following proposal includes three strategies, which can be read both as single ways per se to be adopted by a VET institution, or as a continuum both time-wise and concept-wise, from a more punctual to a broader and systemic approach, to be adopted one after the other in different implementation phases.


WHAT IS IT ABOUT?
HOW ARE CRITICAL THINKING & MEDIA LITERACY IMPLEMENTED?
WHO IS INVOLVED?
WHEN IS THIS APPROACHED RECOMMENDED?
HOLISTIC STRATEGY
Mainstreaming critical thinking and media literacy training throughout the entire curriculum, including technical subjects.
As training strategies applied in the entirety of the training with an interdisciplinary perspective, thus becoming transversal issues in the learners' personal and professional development;
All trainers
Coordinating & supporting staff
To maximise the impact of a training on critical thinking and media literacy. Because of its transversal and interdisciplinary nature, it allows to integrate the training can effectively integrate into the students' personal, cultural and educational background.
THEMATIC STRATEGY
Foreseeing critical thinking and media literacy training only in specific subjects (e.g. civic education, sociocultural training, humanities).
As specific learning outcomes within disciplines that are linked to the development of soft skills, being dealt with in selected subjects or as separate training modules.
Trainers of the selected subjects
Coordinating & supporting staff
When organisational and operational factors hinder the applicability of a more holistic strategy, e.g. for institutions having difficulties to make autonomous curricular, didactical or personnel arrangements. Linking media literacy and critical thinking training to specific subjects taught by selected trainers can prove more effective to ensure their enhancement.
PROJECT-BASED STRATEGY
Developing a project to experiment and evaluate the implementation of critical thinking and media literacy training in the curriculum.
As core result of an educational project involving learners, trainer and coordinating & supporting staff with tailored objectives, timeline, monitoring and evaluation methods.
Selected trainers
Coordinating & supporting staff
In case of unavoidable curricular, didactical or personnel constraints. A project-based strategy allows to involve a chosen number of trainers for a determined timeframe, which might be useful when a preliminary testing phase before engaging in a more structured embedding of such training is needed.

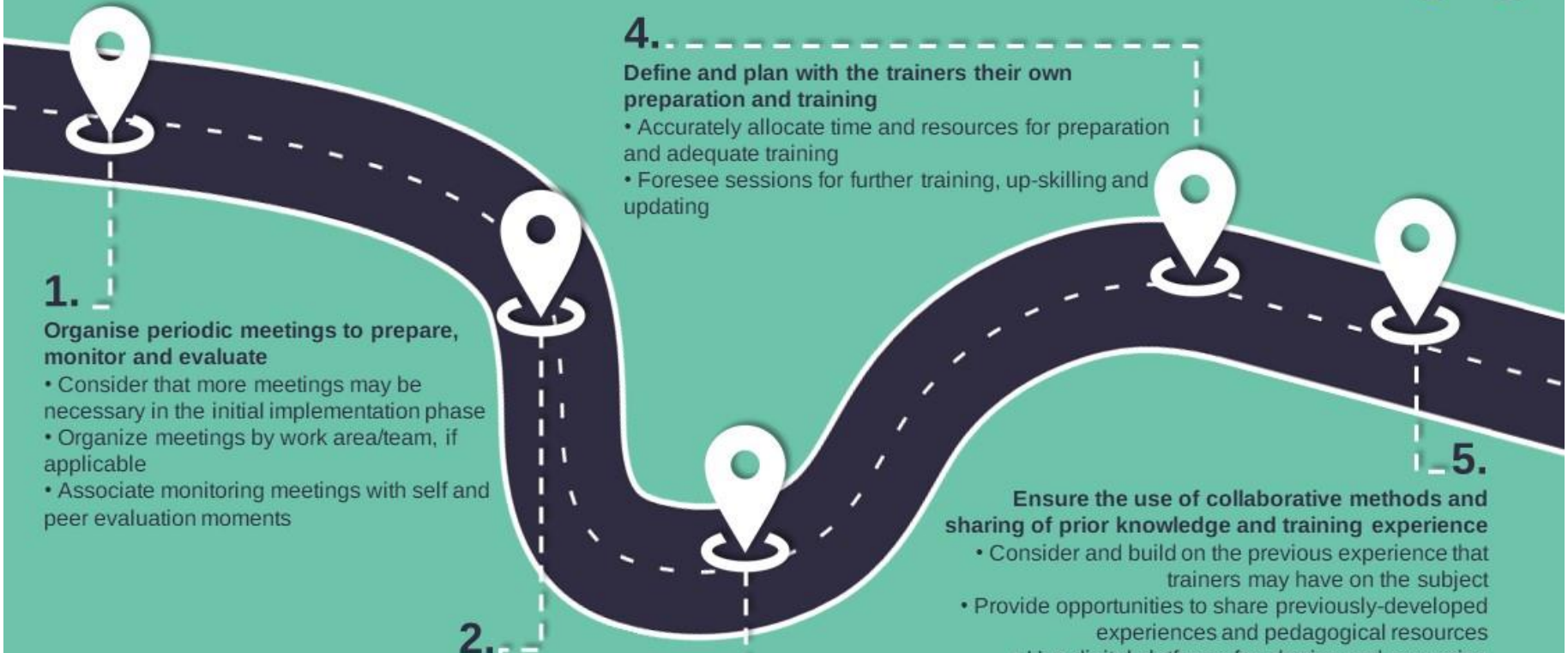
2.3 Indications for coordinators and supporting staff

Regardless of the strategy adopted, the following steps can be considered as a starting point when embedding critical thinking and media literacy in VET curricula:



STEP 2: PLANNING

COORDINATING & SUPPORTING STAFF



1.

Organise periodic meetings to prepare, monitor and evaluate

- Consider that more meetings may be necessary in the initial implementation phase
- Organize meetings by work area/team, if applicable
- Associate monitoring meetings with self and peer evaluation moments

2.

Define milestones and outcomes

- Define milestones and outcomes according to the chosen strategy
- Ensure that all target groups are involved and aware of them

3.

Define evaluation moments and methods

- Provide evaluation guidelines (criteria, data collection & analysis methods, impact assessment)
- Use data triangulation - apply questionnaires, conduct interviews and observations, organize peer learning evaluation meetings
- Consider learners' learning outcomes, but the trainers' satisfaction and performance when evaluating

4.

Define and plan with the trainers their own preparation and training

- Accurately allocate time and resources for preparation and adequate training
- Foresee sessions for further training, up-skilling and updating

5.

Ensure the use of collaborative methods and sharing of prior knowledge and training experience

- Consider and build on the previous experience that trainers may have on the subject
- Provide opportunities to share previously-developed experiences and pedagogical resources
- Use digital platforms for sharing and accessing documents and information

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STEP 3: DIDACTICAL SET-UP

COORDINATING & SUPPORTING STAFF

1.

Provide templates for the lessons' plan and schedule

Share customisable examples of how to structure lessons (e.g. choice of topics, associated materials, time distribution) as a starting point for trainers to ensure coherence and ease the preparation process

2.

Define how to integrate themes into the curriculum

Integrate and link to the lessons the pedagogical objectives and learning outcomes related to the different skills to be developed. Especially if the holistic strategy is going to be used, this step is fundamental to associate critical thinking and media literacy skills with technical skills.

3.

Harmonise tasks and activities among the trainers

- Ensure that all trainers include educational activities related to critical thinking and media literacy in a balanced way.
- Allow for a coordinated delivery of the training, especially in case it is interdisciplinary or cross-curricular

4.

Encourage access to the NERDVET platform

- Ensure that all personnel involved registers to get access to the full set of educational resources (https://www.schoolplus.it/en/categories/nerdvet)
- Establish opportunities to navigate the resources with the personnel involved, identifying a common approach

5.

Define the students' assessment methodology

Identify how the impact of the training on students will be evaluated, linking it to the expected learning outcomes

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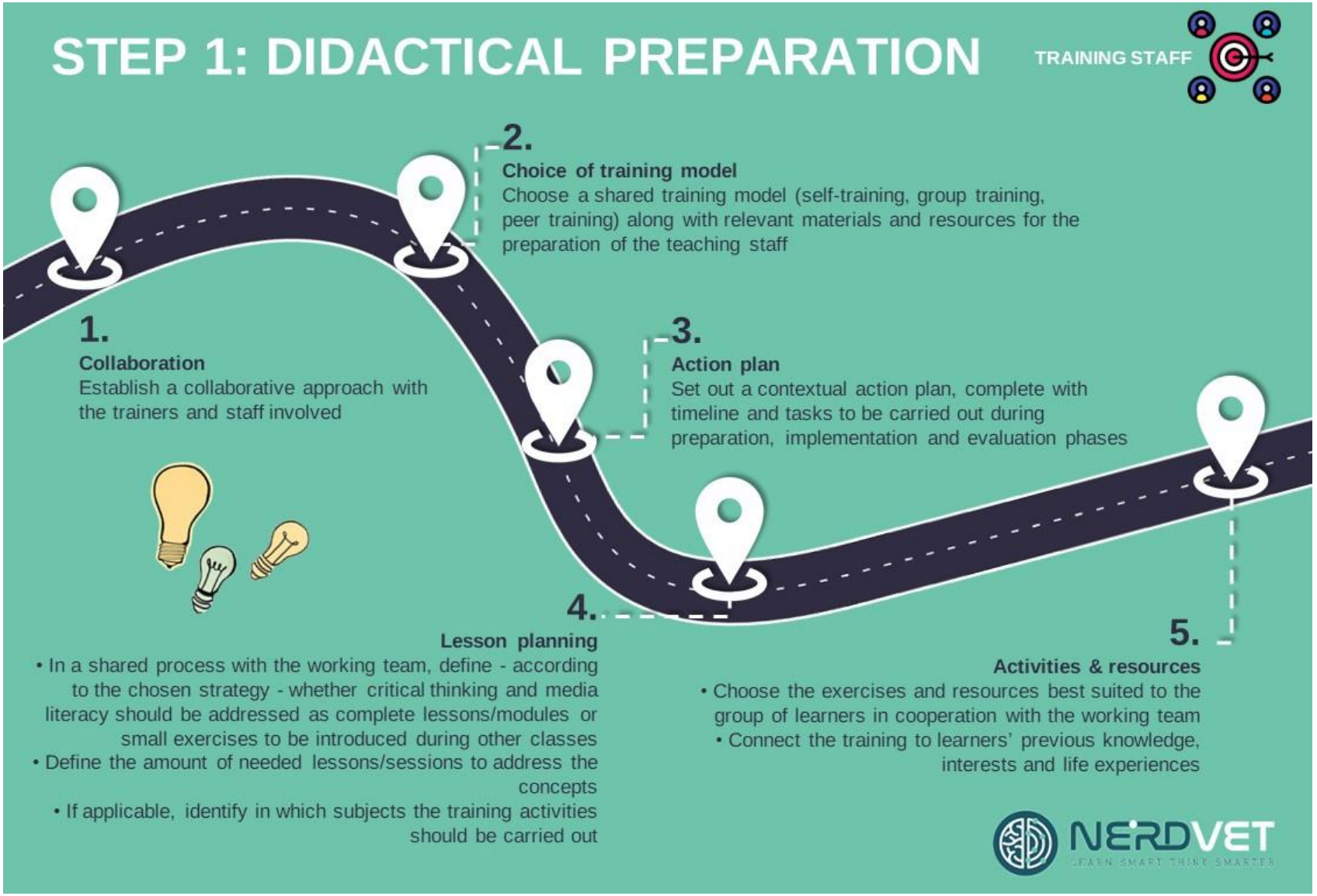
2.4 Indications for training staff

Since trainers play a central role in accompanying the learners throughout the didactical pathway, any change in their educational practices potentially impacts on how the training is organised and, consequently, on the learners' progress. Some key steps to be considered are presented below:



STEP 2: TRAINING DELIVERY

1.

Adaptation

- Adapt the exercises to the technical training area
- Use real-life examples (e.g. a media event; a piece of news or event related to the professional area of training; a TV show)
- Complete with activities and games on online or digital platforms
- If necessary, complement with other activities or initiatives already in use within the organisation

2.

Applying the exercises

- Stimulate curiosity by using the proposed video tutorials
- Make sure to engage the trainees by presenting dilemmas, controversial issues, promoting open discussions and debate
- If possible, try to extend the debate beyond the time chosen for the exercises, should the opportunity arise in the context of other classes or subjects
- Present the topics showing the interdisciplinary connections, in order to integrate them harmonically into the didactical path

3.

Impact monitoring

- Implement the chosen students' assessment methodology
- The assessment of the learning outcomes related to critical thinking and media literacy should accompany and complement the overall assessment of the progress made by the learners in their training pathways
- The assessment tools and methods used for the learning outcomes related to these subjects should be comparable to those commonly used for the other subjects

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3. Additional insights

3.1 Anticipating and counteracting challenges

Although the definition of a solid action plan is at the basis for a smooth implementation of a training on critical thinking and media literacy, confronting reality and any obstacles that may arise, as well as the ability to overcome them, are essential elements to achieve the expected results.

This section therefore presents some potential challenges along with their suggested solutions, drawing from the experience gathered by the NERDVET partnership in the course of the Educational Toolkit's pilot action.

Challenge 1 - Finding staff members that are interested in collaborating

Some of the staff might not want to get involved for different types of reasons (e.g. avoiding additional workload, assuming that the topic is not related to their area of training, reluctance to change their teaching habits)

Create opportunities to stimulate engagement

- Consider different ways to present the training to the staff involved (e.g. formal or informal meetings, use of participative methods, peer planning, etc.)
- Use inclusive methods to ensure that trainers are involved as teams as much as possible
- Propose engaging and dynamic warm-up activities (e.g. applying the exercises from the NERDVET Toolkit) to provide a practical overview of the training
- Present the benefits not only for the learners, but also for the staff involved, highlighting the accessible and hands-on nature of the available resources

Challenge 2 - Managing additional workload for the staff members

Both for carrying out the training of trainers and for the implementation of activities, it might be difficult to manage the extra load on the staff's working time

Manage tasks and their timely execution in a balanced way

- Foresee training time for trainers by integrating it in their usual updating activities
- Ensure an equal distribution of work and staff involvement
- Plan for the integration of themes and activities in the curricula using an interdisciplinary approach
- Design alternative plans identifying appropriate remedial measures

Challenge 3 - Engaging the learners

Learners may not be motivated to learn, or their background and personal beliefs may keep them from recognising the value of a critical thinking and media literacy training

Use learner-centred methods

- Base the activities on the learners' life experiences and prior knowledge
- Adapt the exercises (language, level of difficulty, topics to be addressed) to the characteristics of the learners (age, level of qualification, socio-cultural context)
- Include debates and discussions in all activities in an open and non-judgmental way
- Design recovery plans if teaching activities do not achieve the expected learning outcomes

Challenge 4 - Effectively conveying the training concepts and contents

so that they can become part of the learners' educational and personal background

Interactive didactical approach

The NERDVET Educational Toolkit offers sound tools for an interactive and engaging didactical approach, which is the key for ensuring that critical thinking and media literacy become acquired personal skills, rather than school subjects. In order to achieve this, make sure to:

- Fully exploit the practical and interactive tools offered by the Toolkit with an interdisciplinary approach
- Create small, daily habits within the class with brief activities related to the exercise of critical thinking and the strengthening of media literacy skills
- Use daily life examples close to the learners' experience to show the pervasive relevance of critical thinking and media literacy (e.g. social media contents, news, etc.)

Challenge 5 - Permanently integrating critical thinking and media literacy into the curricula

avoiding for the training to be perceived as isolated and disconnected from the overall educational pathway, with the risk of being abandoned

Use a "slow but steady" approach

- Take smaller steps (e.g.: by beginning with a project approach and slowly working to reach a broader, holistic one) backed by a sound preliminary planning activity
- Administrative and teaching staff need to be engaged in a common, mutually supportive effort
- Plan regular monitoring and evaluation moments regarding both trainers and learners
- Administrative and teaching staff both have to consider carefully the peculiarities of their working context in order to choose or combine the best strategies
- Share the benefits of such a training among peer VET institutions at local, regional or national level, so to disseminate good practices and create cohesion
- Raise awareness with relevant policy makers on the importance of embedding a training on critical thinking and media literacy as a systematic component of VET curricula

3.2 Tips & Tricks

As the development of the NERDVET Educational Toolkit included a testing phase "on the field", trainers from five different EU countries engaged in testing the tools proposed by the NERDVET project partnership to enhance critical thinking and media literacy skills in their students.

Their practical experience is therefore a valuable source of valuable insights to make media literacy and critical thinking become daily themes in a trainer's work and a didactical and training practice in the classroom. Their feedback has been complementary and integrative to the NERDVET's model, in order to ensure not only its soundness, but also its applicability in a VET institution's curriculum.

The most relevant "tips and tricks" are presented below, in the very words of the NERDVET trainers and project staff:

Emotions matter

When implementing a training activity on critical thinking and media literacy, the he first thing to do is to present briefly the topics at hand, explaining and agreeing with the learners on the concepts and terminology.
Then, in order to engage the students, the discussion should address their thoughts and also their emotional dimension (feelings, experiences, memories…).
To carry out the activities it is essential to give the students space to express themselves and be proactive by asking questions.

Keep the context in mind

Keep clearly in mind the socio-economic background of the class, as it may heavily influence its receptivity and acceptance of the topics covered. Their own personal perception and beliefs are a crucial factor to take into account when stimulating critical thinking.

Be practice-oriented

Keep the training sessions very practical by connecting these themes with news, social media contents, trending topics, etc. Make sure to always hear the students' point of view and let them reference the reality they experience. Subsequently move with joint reflections on the addressed themes by letting them bring their own examples or build their positions from scratch.

Start from previous knowledge

Regardless of the topic, activity or exercise chosen, it is crucial to incorporate elements from what the students already know or think of it. There should always be a relationship between their life, interests and the topics of the proposed lesson. This approach is key to motivating students to proactively engage.

Keep it simple and clear

According to the educational and socio-economic context of the class, it may be needed to adapt the proposed training materials: in order to do so, try first to select a few topics to be seen more thoroughly through single, bite-sized classes. This can also serve as a basis and a starting point for a broader integration of these topics in the curriculum.

Focus on interactivity

The proposed video tutorials and the inputs from the NERDVET Educational Toolkit are a great starting point for discussion, in order to spark interest and stimulate an active participation. They can also be combined with interactive open source tools to present the topics and to complete the proposed exercises.

3.3 Consolidating a long-term implementation of critical thinking and media literacy

The operational and methodological steps, suggestions and indications contained in the previous chapters of these Guidelines highlight a variety of practices adopted and capitalised with NERDVET's experience in the integration of critical thinking and media literacy within VET curricula.

When attempting to make a step further in this pathway and aiming for a long-term, organic implementation of such a training in a VET provider's educational programme, the overall local, regional and national normative systems should necessarily be considered as well.
In this regard, the NERDVET project sets as one of its main goals an awareness-raising and advocacy activity to promote a shift in this direction, informing policy makers of the knowledge and outcomes produced throughout its implementation.
As grass-root approaches to policy making are becoming a more and more frequently beaten path in the EU regulatory activity, new perspective, evidence and results can be fed into the design and delivery of new policies that, in turn, impact the educational systems of European Member States.

While such considerations are explored in more depth by means of NERDVET's "Recommendation for policy makers" with a number of propositions that constitute the project's legacy that is pertinent to policy making, the following points can be assimilated at VET provider's level in order to consolidate a long-term implementation of critical thinking and media literacy:

- **Exploit pre-existing synergies**
  including local, regional or national complimentary initiatives; coordinating, supporting and teaching staff's inclinations and attitudes; students' own interest in deepening their knowledge and skills on such topics

- **Favour team work**
  among the coordinating, supporting and teaching staff, in order to boost motivation, creativity and the sustainability in the planning and implementation of the training

- **Put emphasis on interdisciplinarity**
  when organising and carrying out the training by bringing together teachers from different subject, proving how all-pervasive critical thinking and media literacy are in the learners' curricular and extra-curricular education

- **Adapt to the specific learning context**
  by choosing which components of the training should be embedded in the educational programme, mixing the most relevant elements of the proposed training techniques and blending them in the classes, varying the complexity of the topics addressed and practical exercises

- **Allow room for debate**
  also among the supporting and teaching staff to exchange views and experiences with a peer learning approach