

# DECODE



## Template for National Researches and Tools

Template and tools for national researches on "Innovative training models, methods and tools for teachers in the digital age"

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## Forward

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This document is part of the IO 1 - Template for National Research and Tools of the Project DECODE - DEvelop COmpetences in Digital Era. Expertise, best practices and teaching in the XXI century / Erasmus+.

It presents the template for the research that each country partner has to carry out at local level. The template aims:

- To be a reference for all national equips;
- To give a common grid for collecting information;
- To present general guidelines to write and to present the national reports;
- To offer a proposal for the national researches index.

It can guide the first step of the research process in the Project DECODE; contribute to the delivery of the following outputs, with special reference to the IO2 National Researches on "Innovative training models, methods and tools for teachers in the digital age", in the partners' countries.

National reports have to be very concrete tools for identifying, at national level, actions targeted to the introduction, in the educational system, of training models and successful methodologies to integrate into the school staff (teachers, headmasters, administratives, etc.) digital, methodological and socio-relational skills requested by digital era.

The template constitutes as guidelines for the national researches, as project syntax, trying to present, in a synthetic way, the research drawing. It should be followed in order to show it in a conclusive report, with the objective to assure the comparability of all the gathered information on the basis of the same survey criteria; but, a flexible approach is suggested to achieve the objectives.

Objective of the national researches - "Innovative training models, methods and tools for teachers in the digital age" - is to explore the governance practices, to understand the following areas of analysis:

- Innovative policies implemented in partner countries;
- Significant experiences spread in partner countries;
- Classification of profiles and skills of educational institutions professionals in the ICT field;
- Best practices and educational successful methodologies, spread in the partners countries, for training teachers to facilitate integration of ICTs in educational context and processes.

To reach the objective, the national researches presents:

- a reconstruction of the national scenario: trends and policies activated at national level in relation to the introduction of training models and successful methodologies to integrate into school staff digital competences;
- a framework of the main national laws and legislative funding programs;
- a framework of contractual rules and career perspective in relation to the digital challenges
- the identification of local good or best practices.



The used methodology expects a qualitative approach.

Focus group and in-depth interviews methodologies will be used to collect data from key actors.

Based on these assumptions, template expects the national researches articulation in four main sections:

- Introduction
- First part: national team describes national framework
- Second part:
  - national team presents the results of the field research
  - strengths, weaknesses, risks, threats and opportunities
- Results / Conclusions

## A proposal of index

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### Introduction

The introduction of the national research presents the main characteristics of the national report.

### Description of national context

This first part of the national research can be organised in two main parts.

The first one concerns the description of:

- national legislative framework for the adoption and the development of ICTs in education (specific laws, decrees, acts);
- institutional and organisational processes;
- key institutional figures framework;
- financing programs of specific projects to implement innovative didactic methods with the support of ICTs;

The second one concerns a desk analysis to describe:

- contractual framework and career perspective for School Leaders and professors,
- Professional Profiles and Competence,
- systems of assessment and Quality Assurance

The third one concerns a desk analysis to describe:

- the main and most interesting experiences in the field of training teachers' digital skills;
- the main and most interesting pedagogical adopted models in teachers' digital skills.



## Description of the national surveys results

The second part can present:

- the main issues emerging from the focus groups;
  - the innovation vision at school,
  - Key competences and best practices,
  - professional development,
- the main issues emerging from the deepening interviews:
  - digital challenges for national education system,
  - national policies for ICT and innovating education,
  - european recommendations and current national policies,
  - problems in implementation process,
  - national specificity that is considered useful to enhance.

The objective is to illustrate:

- strengths, weaknesses, risks or opportunities in teacher training for the enhancement of their digital skills;
- needs and perspective of improvement;
- emerging teaching skills for digital era;
- the most important problems detected and possible solutions.

Focus group gets involved school leaders, head masters (management staff and coordinators).

130 headmasters/school directors will be involved in focus groups with the aim of detecting best practice, accompanying needs and coordination for the integration of ICT in teaching practices (30 in IT, 20 in FIN, 30 in EN, 30 in ES and 20 in RO).

Focus groups sessions can involve around 10 persons.

In the template, theoretical principles to observe to realize Focus Groups are also indicated (See Annex 1)

Deepening in interviews to key actors (policy makers, decision makers, institutional representatives), indicating also the theoretical principle to observe to realize interviews. At least 30 among policy and decision makers (5 for any partner country) will be interviewed with the objective to evaluate the steps taken by relatively governance integration of ICT in education system and teaching practices.

## Conclusions/results

This part presents the main and the most relevant results of the national research; the emerging key elements of the national context.



## Focus group: methodological overview

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### ***Introduction to the focus group method***

Focus groups are a data collection method. Data is collected through a semi-structured group interview process. Focus groups are moderated by a group leader; are generally used to collect data on a specific topic.

The focus groups will be conducted using the Questioning route method, a method that is often used in academic research. The focus group structuring will be high as the control of the discussion, through a structured path in which the moderator will develop articulated and detailed questions. The type of questions will be divided according to the degree of exploration to be achieved by alternating open questions to which participants respond verbally, using a list of written responses, rating scales.

### ***Characteristics of focus groups***

The design of focus group research will vary based on the research question being studied. Some general principles who have to be considered are:

- Standardization of questions. Focus groups can vary in the extent to which they follow a structured protocol or permit discussion to emerge.
- Number of focus groups conducted, or sampling will depend on the 'segmentation' or different stratifications (e.g. age, sex, socioeconomic status, health status) that the researcher identifies as important to the research topic.
- Number of participants per group. The rule of thumb has been 6-10 homogeneous strangers, but there may be reasons to have smaller or larger groups.
- Level of moderator involvement. Can vary from high to low degree of control exercised during focus groups (e.g. extent to which structured questions are asked and group dynamics are actively managed).

### ***Focus groups may be used:***

- To explore new research areas
- To explore a topic that is difficult to observe (not easy to gain access)
- To explore a topic that does not lend itself to observational techniques (e.g. attitudes and decision-making)
- To explore sensitive topics
- When you want to collect a concentrated set of observations in a short time span
- To ascertain perspectives and experiences from people on a topic
- In combination with other methods, focus groups might be used to:
  - gather preliminary data
  - aid in the development of surveys and interview guides (for this reason we suggest to organise before focus groups and then interviews)
  - clarify research findings from another method

### ***Timeline***



The planning has to start several weeks ahead of the actual session (6-8 weeks). Time is crucial to identify the participants, develop and test the questions, locate a site, invite and follow up with participants, and gather the materials for the sessions.

## ***Recording focus group data***

One of the challenges in recording focus group data is knowing who is speaking at any particular time, since often multiple people speak in overlap.

- Consider audio or video recording focus group sessions (or even both). Video will be helpful for identifying who is speaking. Recordings also provide access to nuances of the discussion and the ability to replay sessions during analysis.
- Have, if possible, 2 researchers (in addition to the moderator) attend the focus group and take notes. The focus of each researcher's note-taking efforts might be different (e.g. nonverbal behavior, group dynamics, if relevant, emergent themes).

## ***Benefits***

- Ability to produce a large amount of data on a topic in a short time
- Access to topics that might be otherwise unobservable
- Can insure that data directly targets researcher's topic
- Provide access to comparisons that focus group participants make between their experiences. This can be very valuable and provide access to consensus/diversity of experiences on a topic

## ***Identify the participants***

- Determine how many participants and who they are
  - 1 group = 10 participants
  - Headmasters, school leaders, management staff and coordinators working on ICT integration
- Develop a list of key attributes to seek in participants based on the purpose of the focus group
  - Headmasters, school leaders and staff involved in the integration of ICT in regular teaching activities, with a broad knowledge in the fields of ICT and didactics, proven experience and expertise at high operational level, experience in the development of innovative plans, knowledge in the fields of learning management and classroom activities
- Using the list of attributes, select the participants
- Secure names and contact information, finalize the list, and send invitations

## **In-depth interviews to key actors: methodological overview**

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### ***Introduction to the semi-structured interview method***

Focus identified so far are only exploratory and can be grouped into two types:

- the respondent's opinion (about nature, causes, solutions of the analysed phenomenon);
- respondent's tangible experiences of the phenomenon.

The used tool is the semi-structured Interview.



## ***Purpose of the tool***

Generally, purposes are:

- Obtain specific quantitative and qualitative information from selected respondents;
- Obtain general information relevant to specific issues (ie: to probe for what is not known);
- Gain a range of insights on specific issues.

## ***What is the specific purpose of the interviews?***

Purpose of this tool is to design a focused interview framework with key actors (policy makers, decision makers from national and local institutions etc.), as indicated in the template for national research.

Interviews aim to understand, analyze and evaluate the following topics:

- national education policies in terms of digital challenges;
- the steps taken by relatively governance integration of ICT in education system and teaching practices;
- managing digital challenges in education system with a special focus on european recommendations related to development of skills in the digital era.

## ***Characteristics of semi-structured interviews are:***

- The interviewer and respondents engage in a formal interview.
- The interviewer develops and uses an interview guide: a list of questions and topics that need to be covered during the conversation, usually in a particular order.
- The interviewer follows the guide, but is able to follow topical trajectories in the conversation that may stray from the guide when he or she feels this is appropriate.

Semi-structured interviews are conducted with a fairly open framework which allow for focused, conversational, two-way communication. They can be used both to give and receive information. Unlike the questionnaire framework, where detailed questions are formulating ahead of time, semi-structured interviewing starts with more general questions or topics. Relevant topics are initially identified and the possible relationship between these topics and the issues such as availability, expense, effectiveness become the basis for more specific questions which do not need to be prepared in advance. Not all questions are designed and phrased ahead of time. The majority of questions are created during the interview, allowing both the interviewer and the person being interviewed the flexibility to probe for details or discuss issues. Semi-structured interviewing is guided only in the sense that some form of interview guide, such as a matrix is prepared beforehand, and provides a framework for the interview.

The script should not be too long: most in-depth interviews ought not to exceed 90 minutes, especially if respondents receive no compensation. Many senior managers will be unable to spend more than half an hour, which means that interviews must be focused and efficient.

Respondents must be prepared for in-depth interviews. Confirm the interview (time and place) in writing, and provide a general outline of the issues to be reviewed in advance.

It is important to also indicate how much time the interview will take.





## ***Conducting the interview***

After introductory pleasantries, confirm the main purposes of the research project, the role that the interview plays, the approximate time required to complete the interview.

The respondent must do 90% of the talking. Return to incomplete points. If the respondent does not provide full information the first time a question is posed, return to incomplete points by repeating key questions throughout oblique references.

Questions must follow a general to specific order. It is important to improve neutrality by avoiding agreeing or disagreeing with the respondent, avoiding indicating that a respondent's answer is 'good', 'right', 'interesting', 'wrong' or 'poor'.

## ***Recording semi-structured interviews***

Typically, the interviewer has a paper/web-based interview guide that he or she follows. Since semi-structured interviews often contain open-ended questions and discussions may diverge from the interview guide, it is generally best to record interviews and later transcript these tapes for analysis.

Always ask permission to record an interview, and if the interview is taking place in person, have the recorder in plain view. It is also important to have a written releasing.

While it is possible to try to jot notes to capture respondents' answers, it is difficult to focus on conducting an interview and jotting notes. This approach will result in poor notes and also detract for the development of the relationship between interviewer and interviewee. Development of rapport and dialogue is essential in unstructured interviews.

## ***Benefits***

Many researchers like to use semi-structured interviews because questions can be prepared ahead of time.

They can provide reliable, comparable qualitative data; they can confirm what is already known but also provide the opportunity for learning. Often the information obtained from semi-structured interviews will provide not just answers, but the reasons for the answers.

Semi-structured interviews also allow informants the freedom to express their views in their own terms. They are less intrusive to those being interviewed as the semi-structured interview encourages two-way communication. Those being interviewed can ask questions to the interviewer. In this way semi-structured interviews can also function as an extension tool. When individuals are interviewed they may more easily discuss sensitive issues.



## Annex 1 - Focus group script

### DEvelop COmpetences in Digital Era.

#### Expertise, best practices and teaching in the XXI century

(DECODE)

### National Researches and Tools

#### FOCUS GROUP SCRIPT

Partner	
Interviewer(s)	
Facility	
Place	
Date	
Start time	
Stop time	

Participants	Role and institution	Signatures

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There are three parts to the focus group script:

- Opening section: introduction to the survey and the focus group
- Question section
- Closing section

Focus groups would be focused on the integration of ICT and the competences linked to this integration (for example best practices should be practices applied to classroom involving ICT).

## **Opening section: introduction to the survey and the focus group**

Concise summary presentation of the research project and the goals of the focus group

- Illustration of the research project (objectives, partners, etc.)

“Training models and pedagogical teaching methods for teachers in the digital age”

Outputs:

- National qualitative researches (a comparative analyses and a transnational report with the main findings pointing out similarities and disparities among the partner countries)
- ICT based Education Model
- ICT Integration School Action Plan
- Recommended ICT tools
- Quality framework and evaluation of the ICT integration in education
- Guidelines for Teachers and Education Agencies

The principal aims of this training model will be to enhance digital competence of teachers and its use in teaching practices, and to help teachers improving their digital competence with a Project Based Learning methodology.

## **Concept of competence**

**Digital competence** is a set of knowledge, skills and attitudes (thus including abilities, strategies, values and awareness) that are required when using ICT and digital media to perform tasks; solve problems; communicate; manage information; collaborate; create and share content; and build knowledge effectively, efficiently, appropriately, critically, 4 creatively, autonomously, flexibly, ethically, reflectively for work, leisure, participation, learning, socialising, consuming, and empowerment. ([Ferrari 2012](#)). European commission

Best practices

Professional development

Presentation of the project members (name, institution of origin, role)



<b>Introductory reflection</b>	The focus group will be conducted involving you in a guided discussion on core themes of the research project, train to reach a global vision of ICT integration and teachers competences in the school system.
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## Question section

To be effective, focus group questions should be open-ended and move from the general to the specific.

- Warm-up question.
- Questions on specific subjects (general and specific)

<b>Warm up question</b>	You have been chosen as people who have central and different roles within the institutions where you work. We invite you to introduce and describe your role and the school in which you work.
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<b>Question 0</b>	<p>What is your idea of school innovation?</p> <p>What is innovation in your work context?</p> <p>In what way digital revolution, also regarding the challenge of artificial intelligence, can modify learning and school practices/activities? (focus mainly on digital competences and student's needs in the digital era)</p>
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## Competences and best / effective practices

<b>Question 1</b>	Based on your personal experience, which are the competences for the twenty-first century citizen that schools can help develop through the integration of ICT?
<b>Question 2</b>	<p>Based on what has just emerged and on your personal experience, which are the best practices (in ICT integration) already existing in schools in your region? (specify name of project, school, URL, contact details)</p> <p>What makes them best/effective practices?</p>



<b>Question 3</b>	What is the level of transfer of these good practices, what facilitates and and what does restrain them?
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## *Professional development*

<b>Question 1</b>	Which are the main competences that teachers should have in order to carry on the best/effective practices mentioned before (referring also to digital, methodological and socio-relational skills)?
<b>Question 2</b>	Based on your personal experience, what does help and what does restrain the acquisition and the effective use of those competences? Focus on organizational and educational aspects: bureaucracy, logistics, timing, training models and pedagogical teaching methods.
<b>Question 3</b>	Which are the pedagogical aspects more connected with the integration of ICT in school practices?
<b>Question 4</b>	How do you keep yourself up-to-date in order to acquire the mentioned competences?
<b>Question 5</b>	Have national policies for education helped in recent years the development of teaching and methodological innovation through ICT? Can you give some examples?

## **Closing section**

- thanks to the participants
- opportunity for further input
- explanation on how the data will be used

Propose a synthesis of what emerged during the focus.

Ask participants to highlight:

- a) missing information;
- b) distortions to be rectified;
- c) wrong interpretations of what was said;
- d) underestimation of relevant aspects.

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Inform the participants that the synthesis will be shared after the meeting and that they will have a few days for the feedback.

Propose a review of the synthesis with specific reference to the issues raised by participants. Finally, ask the unanimous approval on the conclusions.



## Annex 2 - In-depth interview script

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**DEvelop COmpetences in Digital Era.**

**Expertise, best practices and teaching in the XXI century**

**(DECODE)**

**National Researches and Tools**

### **IN-DEPTH INTERVIEW SCRIPT**

<b>Partner</b>	
<b>Interviewer</b>	
<b>Hosting Institution</b>	
<b>City</b>	
<b>Date</b>	
<b>Start time</b>	
<b>Stop time</b>	

<b>Respondent</b>	
<b>Profile</b>	
<b>Signature</b>	





## Question section:

Opening: introductory pleasantries, main purposes of the research project, role of the interview, time required to finish. Explain why the respondent has been chosen (ex: “We chose you for your role in...”).

<b>Question 1</b>	Which are the most important challenges brought by the digital era that our national education system is facing?
<b>Question 2</b>	Which are the main competences that teachers should have in the digital era?
<b>Question 3</b>	Based on your personal experience, which are the best practices (in ICT integration) already existing in schools in your region? (specify name of project, school, URL, contact details)  What makes them best/effective practices?
<b>Question 4</b>	Which are the most important government acts for the integration of ICT in education system and teaching practices?
<b>Question 5</b>	What are the intervention areas that still need investment? Would you give us some examples?
<b>Question 6</b>	Considering the european recommendations related to the development of skills in the digital era, how would you rate current national policies (programme operations, processes, and outcomes/results, if any)?
<b>Question 7</b>	Are there any communicative and organizational problems in the relationship between governmental institutions (politics, policy makers, laws etc.) and schools (Headmasters, staff, administration, teachers, students, etc)? What might help in order to facilitate a better cooperation?
<b>Question 8</b>	Do you perceive any change in yourself and your beliefs as a result of your involvement in national policies on ICT and innovating education?

Last question: Is there anything further that you think is important?