

# Blueprint on the successful use of inquiry in teaching ICT

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# What the blueprint on the successful use of inquiry in teaching ICT is

- It is Intellectual Output 5 of the Teaching ICT With Inquiry (TIWI) project.
- It collects and expands some of the work produced within the framework of other Intellectual Outputs.
- It is a mix methods study on the use of inquiry in teaching ICT.
- It is a study based on both quantitative (survey) and qualitative research methods (case studies) and data.

# Target of the blueprint on the successful use of inquiry in teaching ICT



- Teachers
- Headmasters
- Educators
- Educational stakeholders
- Policy makers

# Goal of the blueprint on the successful use of inquiry in teaching ICT



- To provide educators and other educational stakeholders with evidence and concrete examples of the suitability and usefulness of teaching ICT through a pedagogical approach based on investigation.
- To offer guidance and recommendations for future applications of Inquiry-based learning scenarios (IBLS) to teach ICT.

# Structure of blueprint on the successful use of inquiry in teaching ICT

Four main sections:

- At first, the rationale, methodology and outcomes of a survey conducted with the help of a group of focus teachers are presented.
- Secondly, 5 examples of successful implementation of Inquiry-based learning scenarios are presented i.e. the winners of the European competition carried out in connection with the 2020 STEM Discovery Campaign (SDC20).

# Structure of blueprint on the successful use of inquiry in teaching ICT

## Four main sections:

- Thirdly, the main findings gathered from the survey carried out as well as the implementation stories (i.e. case-studies) are shown.
- Finally, a set of recommendations to educational authorities and policy makers is formulated by combining the findings of the survey and the lessons learnt via the case-studies. These recommendations aim at facilitating the use of Inquiry in teaching ICT and intend to maximise the exploitation of the advantages of such a method.

# The survey on the use of inquiry in teaching ICT (section one)

- The survey was carried out across 4 European Union Member States, i.e. Cyprus, France, Lithuania and Spain.
- It empirically tested the impact of the (Inquiry-based) proposed pedagogical method to teach and learn ICT.
- It made use of two different self-assessment questionnaires targeting two different populations, i.e. teachers and students.
- Scales with closed items already presented in the scientific literature as well as scales developed by the Research in Science and Technology Education Group, University of Cyprus (UCY) were used.

# Successful stories of implementation of ICT inquiry-based learning (section two)



- Five case studies were selected among the pool of 14 schools that successfully participated to the TIWI competition, which took place between February and June 2020 in the framework of the 2020 STEM Discovery Campaign (SDC20).
- The competition called for teachers to share their experience and best practices of implementation of Inquiry-based science teaching in ICT and STEM subjects.
- The stories collected included classroom as well as online activities carried out between the 1<sup>st</sup> of February and the 30<sup>th</sup> of April 2020.



# Recommendations on the use of ICT inquiry-based learning (section four)

## For teachers:

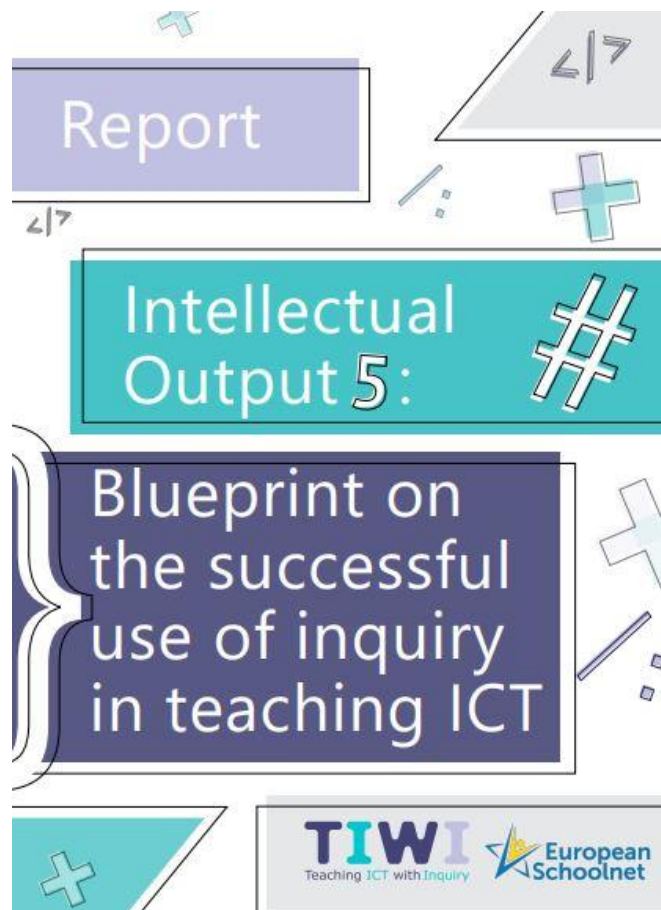
- To maximise the impact of an ICT Inquiry-based learning activity, make sure that students get good introductions to the Inquiry approach and the process to be used prior to starting the experience.
- Use real life examples – see section on case-studies for inspiration – to ignite students’ interest and involve them as much as possible in all steps of the Inquiry process.
- Associate ICT Inquiry-based activities to information on jobs and possible careers to enhance students interests and engagement to the activity – see section on case-studies for inspiration.

# Recommendations on the use of ICT inquiry-based learning (section four)

For headmasters and policy makers:

- As the study shows the validity of the Inquiry-based approach to learn ICT, it needs to be emphasized at all levels of education that Inquiry-based learning connects to ICT and enhances its teaching.
- Certain adaptations to the Teacher Training Institutions' programmes can facilitate and foster the teaching and learning of ICT through the Inquiry-based approach.
- The induction of new teachers can be adapted and designed in a way to familiarize novice teachers with Inquiry-based learning and its applications to teaching various subjects including ICT.

# Where to find the blueprint on the successful use of inquiry in teaching ICT



On the TIWI web page, under the Blueprint tab, at: <http://tiwi.eun.org/blueprint/>

# Thank you and good luck teaching ICT with inquiry!

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