

# SWOT analysis concerning city challenges in secondary schools

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## Introduction

Nowadays, being able to gain the interest of citizens and especially young people to turn into science is the main concern of many research (Barnby et al., 2008; Bertacchini et al., 2012; Visvizi et al., 2018). This study presents the case study of Cyprus during the implementation of the Horizon program «Science in the City: Building Participation Urban Learning Community Hubs through Research and Activation – PULCHRA» (HORIZON 2020 – No 824466), in relation of open learning courses based on living in the 'urban century.



Figure: Participatory schools in Cyprus



Figure: PULCHRA methodology

The methodology of the program is based on pilot themes (termed as City Challenges) which create know-how, built trust in the science approach based on own experience, facilitate skilled use of tools and support community building as they are based upon the identity of the communities in which they take place. The school develops a City Science Team, also involving stakeholders to enrich the Science Team on scientific, technical, innovative, and social aspects. Roles are assigned to the students. The school also forms the City Science Reporters Team, in view of communicating the project and its results. The above group has a goal, to collaborate, to exchange views, to transmit knowledge and findings, to interact, and to create an innovative action.

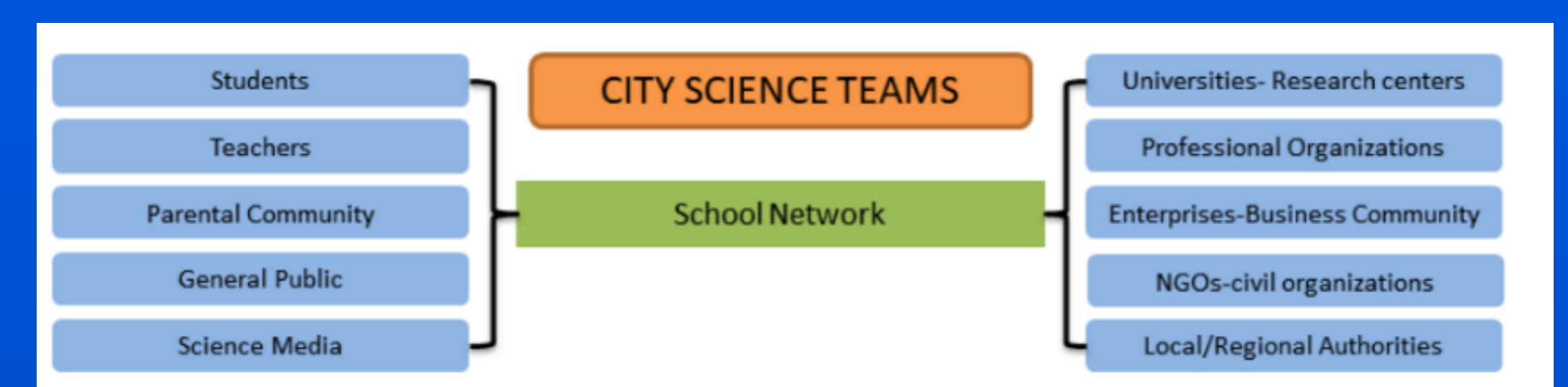


Figure: City Science Team

## Results & Discussion

The contribution of SWOT analysis is to facilitate the development of strategies that amplify the strengths, maximize the advantages of opportunities, and defend the learning methods from weaknesses and threats. Strengths are characteristics of the method that give advantages over others. Weaknesses are characteristics that place at a disadvantage. Opportunities are phenomena, generally external to the method that can be used to its advantage, and threats are external conditions that can hinder the method's ability to achieve its purpose in order to improve accessibility and quality of education development.

During the implementation of the program, the following was found:

As strengths are (a) the new partnership created during the interaction of City Science Team, (i.e. local authorities, policymakers, parents, students, teachers, scientists, and experts), (b) the financial support of the program for City Challenge (CC) activities, (c) the open learning courses that exist on the PULCHRA platform in order to increase the digital transformation in education. In addition, the program based on CC, (d) provides to the students the willingness to accept changes on a daily bases, (e) promotes the visibility of the research based on their actions, and (f) based on evidence increase the knowledge and awareness of science.

As opportunities are (a) the non-formal education and learning methods as the program was structured in a non-traditional way of learning, (b) to absorb and increase the motivation, attractiveness, and enthusiasm of the participants, (c) the competition between the schools' actions and results (d) the strengthening of participants ability to face challenges and, (e) the developing of knowledgeable, innovative and participatory communities be able to cope with.

As weaknesses are (a) the collaboration beyond the national borders is limited, (b) the schools' management system and, the (c) busy program of students and teachers. In addition (d) the partial critical or analytical thinking of students, and latest the (e) the lack of direct communication and open labs implementation during the covid-19 restriction measures.



Figure: SWOT Analysis of CCs in secondary schools

As threats are the (a) no interest of teachers and students in non-school activities in order to expand their actions and, (b) the impact of covid-19 measures.

A SWOT analysis is a tool that can provide prompts to the governors, policy-makers, management teachers and staff involved in the study of what is practical and less effective in the schools' system and procedures (i.e. financial, planning and management etc.).

## Conclusions

SWOT is a simple but comprehensive way of assessing the positive and negative forces inside and outside the program, in order to be prepared to act effectively, as well as being able to improve our next steps.

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