

## **The Questions Network (Red de las preguntas)**

Ana María Jaramillo Escobar  
Universidad de los niños EAFIT  
ajaram18@eafit.edu.co

Ana Cristina Abad Restrepo  
Universidad de los niños EAFIT  
abad@eafit.edu.co

### **Abstract**

The Questions Network (Red de las preguntas) is a digital project developed by The Children's University of EAFIT in Medellín, Colombia. This project collects questions from children and teenagers and answers them through different formats, trying to encourage curiosity, critical thinking and the sharing of knowledge.

In The Questions Network, questions have an author. Every time a child leaves a question on the microsite, he/she is asked to leave his/her name, age and contact information. Each child is notified when his/her question is published and answered.

The project is open to every young Spanish speaker in the world; to participate, a child needs only curiosity and Internet access. The project also looks to involve researchers from many areas, encouraging them to think about the essence of their work and to share their knowledge in a simple but rigorous way.

This article presents an analysis of obtained results in the first three years of the project, as well as the found difficulties from a social perspective of the knowledge gathered and the communication of Science.

## **Emergence**

The Children's University of EAFIT is a social knowledge acquisition program that was born in 2005, in Medellín, Colombia, inspired by the book, "A Children's University", published by Tübingen University in Germany.

Its purpose is to contribute to the preparation of active participants in knowledge building and the transformation of society, bringing together children and teenagers to the research carried out in the university.

This goal is achieved through workshops where the questions from children and researchers are the incentive to encourage meetings to discuss scientific knowledge and investigation.

'Encountering the Question' is the first stage of the program, which is inspired by the questions asked by children from the ages between 8 – 13 years old. The participants collect these questions circulated in the workshops at the end of each year, which results in a database that makes up more than 150 questions annually.

Only six or seven of these questions are selected for the upcoming 'Encountering the Question' workshops. Then the question is, 'What do we do with the remaining questions?'

From this concern arises 'The Question Network', a project that explores new ways of building knowledge from the young learner's questions.

## **How it operates**

The project 'The Question Network' materialised in 2011 with the creation of a sub-portal inside 'The Children's University of EAFIT'. Every month, questions and related answers are published on the subject of science. Subsequently, the children can leave new queries.

The word 'network' was chosen to name the project, and an entwined image is used to symbolise the links between the different questions and answers and those who formulate them.

The questions that feed the network come through an application and are collected during the final workshop of 'Encountering the Question'. Before being published on the

website, these questions are filtered and selected taking into account the following criteria:

- Questions should be authentic: starting from genuine curiosity from what the child sees, hears, and senses and has tasted, which leads him to doubt and understand more.
- Applicable questions: questions should be continually evolving, generating answers that will constantly ask new critical questions.
- Common questions that makes you critically think: that allows to really understand and not only accumulate information, but to acquire complexity that is not so simple.
- To see different perspectives: questions that require the structure of thought from diverse disciplines to generate more complex answers, which will then allow dialogue and discussion between different knowledge areas and points of view.
- Problematical questions: that seek for an answer in research and scientific knowledge.

The selected questions are grouped by topics and are published monthly on the website. Each month, the topic is chosen by the moderator who gives answer to the main question with the help of one or more experts. In addition, the moderator looks for people interested in the topic, possibly outside the existing team, who can give answers to other questions.

## **Results**

Since the start of the project until March 2004, 170 questions and 63 answers have been published on the website 'The Question Network' classified into ten topics: plants, animals, human being, machines and energy, history and culture, chemistry, physics, earth, universe and the Arts.

In the first two years, 'The Question Network' was fed mainly with questions formulated during the workshops. However, the flow of questions sent through the

website have considerably accumulated in the last year and it is hoped that it continues to grow.

It is difficult to quantify the database due to some incomplete information left by the users, however, the data estimates that 50% of the questions come from students who are linked to The Children's University of EAFIT.

The other remaining 50% is sent by students from educational institutions that are not directly linked to 'The Children's University of EAFIT', including other cities in Colombia (Neiva, Cali y Leticia) and another Latin American countries (Peru and Mexico).

Until now, the most common topics that children ask about are: human being (16%), machines and energy (14%), history and culture (13%), the Earth (13%) and the Universe (12%). Looking at wider categories, it can be said that the main interest topic for children accessing 'The Network Questions' is biology: being human, animals, and plants. The questions for these topics equaled 32% of the total of the questions.

Regarding the answers, developed contents are presented by the communication team and the tutors from 'The Children's University of EAFIT', with the support from experts. Also, there are contributions from people that are not linked to the program, but are interested in some of the questions.

This last point is one of the added values of the project as it has included other's opinions and linked new people to the program, especially in those areas that are not well developed within the university such as natural science subject.

Although the majority of the answers have been published as texts with no more than one page length, it has also turned to other media: slides, audios, videos, graphics and interactive images, and the intention is to continue to explore new ways of responding.

In this same way, the contributions from animators, visual communicators, photographers, and others have also been important and they have been linked to the project according to their skills.

## **Concerns**

With the creation of ‘The Question Network’, the team has faced various issues. The first one is: how not to fall into a deficit model of science communication.

The place that The Children’s University of EAFIT gives to the questions in the program comes from the awareness that traditional Colombian education has been more focused on the answers than the questions. Even though, including children's questions is already a success from ‘The Question Network’, it is not sufficient to achieve intended communication of science that goes in both directions.

For this reason, we have been working to ensure that the answers that ‘The Question Network’ offers go beyond curiosity and generate new questions, keeping the interest in a topic and motivating self-reflective answers.

From natural science and exact sciences, the intention is to show that answers are based on theories that, even if they were proved by different means, they can be disapproved at any time if there is evidence found that points to another direction.

In the case of social and human sciences, it seeks to show that rather than an absolute and indisputable truth, there are multiple truths that are built from exploration and argumentation and, therefore, it can be debated if the knowledge and arguments are applicable.

However, these intentions do not always meet the criteria in ‘The Question Network’, especially when there are external reviewers. Achieving this requires further editing work and in most cases getting deep in the field to look beyond those first answers, and to find the point that may lead to reflection, to generate critical thinking or leads to new questions.

Even though, there is a question guide for ‘The Question Network’, this works best for specific issues such as defining the length of the text, and it falls short when the intentions of the project are put into words.

In addition to the questions above, arise other issues: What do children look for in ‘The Question Network’? How do we address their concerns? How do we reply to their questions efficiently keeping focused on the project?

So far, the capacity to respond on ‘The Question Network’ (especially taking in account the restrictions mentioned before), has been slow compared to the frequency and the increasing flow of the questions.

According to some reviews, there is a certain level of discontent from the young learners expectations because after they leave a question in ‘The Question Network’, they do not have an immediate response. We have tried to solve this by direct communication with the network audience to inform when their questions are posted on the site and also when they were given an answer.

Nevertheless, it is important, and it is part of the plans for this year, to do a perception study of the young learners in ‘The Question Network’ and to establish strategies to address this sort of issue without jeopardising the reason of the project.

Regarding the purpose that names the project: ‘The Question Network’, little has been achieved so far. Even though some themes have been defined that allow linking some questions by the similarity between them, much remains to be explored on this field.

## **Conclusions**

In the three years of the project, interesting results have been achieved:

- To place a questions/answers website with a growing number of visitors based on the questions received.
- To extend the program philosophy to a new audience –inside the country and abroad.
- To engage new experts in the objective of The Children’s University of EAFIT.
- To produce content and explore new ways for communication of science.

However, as it is mentioned before, there is much more to be done:

- To consolidate a way to give answers to the children’s questions to motivate critical thinking further in the topics, developing new questions and exploration of answers by themselves.
- To develop strategies and mechanisms that allow responding to the questions effectively and opportunely.

- To build bridges between questions and answers, and also between who formulates them, to be able to have a proper ‘Question Network’.
- And finally, to work on building alliances with other projects with similar intentions to expand the scope and possibilities of this and other proposals.

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