

Developing vocations in compulsory school pupils

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It seems obvious that when designing territorial planning policies based on the competencies of local clusters, especially in relation with the knowledge economy, these policies need to consider the people who will develop that economy in the following decade. The pupils who will take the decisions in our companies tomorrow will need to have attitudes, learning patterns, capacities and values typical of the knowledge economy that need to be laid open and fostered now they are able to assume them. We are talking of the ability to innovate, creativity, getting used to teamwork, solving complex problems in networks as well as the need of conveying the passion necessary to lead companies and clusters in our territory.

Going for awareness-raising and developing professional vocations connected to local clusters poses the great challenge of inferring what the future needs of intellectual capital will be. It would be far-fetched to pretend to guess what knowledge will be required and thus set out future learning now without becoming obsolete before its use. Although it is very difficult to determine which will be the type of learning necessary to handle the future, we do infer that our economy will need talented people able to communicate, with a positive attitude, with a drive and enthusiasm and of course with vocations in science and technology.

The programme has been set out as a range of extracurricular activities done in school time in a set of schools in the 22@Barcelona district of innovation. Schoolchildren aged 10 to 14 from local public schools participate in projects, workshops and research works related with clusters in the area. For instance, pupils working on the energy cluster learn about the concept and advantages of renewable energies by means of practical workshops in which they have to build real windmills or waterfalls and compete in solar car races. They are also asked to do an energy audit at their school and submit their findings to a team of professionals who are members of the companies from the cluster. Besides, the team will be in charge of documenting and publishing the work in the internet to try to draw the attention of the maximum number of people, for which they will also be acknowledged.

The schoolchildren will also use video cameras and editing tools to document their progress and abilities also visually. This documentation task is intimately linked to the media cluster that is also part of the district.

The methodology used tries to draw the attention and motivation of the pupils by means of practical challenges requiring their genius as well as their manual abilities. Every challenge requires collaboration and teamwork as well as communication, besides fostering creativity and innovation with practical examples from each cluster. The link with the cluster comes from observational experiences in which the pupil is asked to do a simulation of a typical product of that cluster in a purely constructive and productive sense. Each challenge also comes with acknowledgement for the pupil. With that, the methodology intends to give value to the culture of effort, dedication and drive of pupils to tackle the challenge. The programme complies fully with the methodological recommendations of the Rocard Report on education and science of the European Commission.

The credibility of the project is ensured by the participation of clusters and university that validate the project by means of an impact assessment and because they participate directly in the assessment of pupils. Nevertheless, to make sure that the schoolchildren assume concepts and adopt them as own competencies, awareness needs to be raised within their closest environment. Parents and teachers participate in specific workshops to play a supporting role to talent and assimilate the corresponding creation of vocations. Involvement of teachers is paramount to give sense and consistency to the programme. Besides, teachers also adopt more positive attitudes towards vocational and creative interests of their pupils. Also the parents, in taking part in the project and learn about the importance of giving support to their children in searching those attitudes, adopt a catalytic role of innovation and creativity from a rather social perspective.

The internationalisation and globalisation part is reflected in the programme with the inclusion of English as one of the languages to the project, but especially in the participation of pupils in international events where they share their challenges and solutions.

It is the first time universities, primary and secondary schools, parents, teachers and local clusters take part in a programme to foster talent.

In the case of Barcelona, which has gone firmly for fostering talent in the long term, it has allowed to start a pioneering programme in Europe that lays the foundation to consider schoolchildren for setting out territorial planning policies.