



## THE ROLE OF SCHOOLS IN ENCOURAGING YOUNG PEOPLE'S INNOVATIVENESS AND ENTREPRENEURSHIP

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### **Abstract:**

*The paper presents the scope of innovation and entrepreneurship development in terms of invention - innovation processes that young people receive in the educational process. We are processing the idea of Secondary Catering School of Ljubljana female attendants to whom an idea occurred while taking a walk through the streets of Ljubljana. Students were looking at a small group of blind and visually impaired people who were given a presentation on Ljubljana sights by a tourist guide. They quickly realized that something was missing in the presentation. With the help of their mentor they began their research and found that Ljubljana is otherwise a friendly place for people with disabilities, but the demonstrations would be much more efficient and friendly, if the blind and partially sighted people could also touch certain things, feel them and recognise them in such a way. With the prototype, developed by the students, and offered to the market, they successfully completed the phase of the entrepreneurial process.*

*Keywords: young people, innovativeness, blind, tourist offer.*

# 1. INTRODUCTION

Globalisation and with it associated competitiveness brings countries numerous challenges and requirements. Here Slovenia cannot be an exception. The study of EIS (European Innovation Scoreboard), carried out in 2006, which analysed indicators and trends in innovativeness, shows that Slovenia is, with its common innovative index, making EU member states comparable, at 0.3, slightly under the EU average (0.45) and far behind the most developed members (in particular Sweden (0.73), Finland, Switzerland and Denmark). We may be additionally worried at the information that Slovenia is deteriorating also comparatively, since even the Czech Republic overtook us recently. Furthermore, even all the so called »statistically innovative« enterprises, which are about 35 percent in our country (Likar, 2008), in reality are not strongly innovative. Some of them have still large reserves in this area.

There are numerous reasons for this situation. It is a fact that creativity and its manifestation in innovativeness are the leverages of creative added value in the contemporary time and space, and it would therefore be necessary to activate as much potential as possible which would ensure our transfer into innovative, knowledge-and wisdom-based society. Among them we can undoubtedly classify an effective development, research area, supporting institutions with a developed network of encouraging innovation - entrepreneurial environment, then of course, the entire education system, which for young people provides from early pre-school period basic background for knowledge development, innovativity, flexibility and entrepreneurial thinking. The level of development, interconnections, and harmonious action of all factors ensures and provides a systematic and balanced development of innovativity that may be reflected in the process of inventing and entrepreneurial thinking as well as in the functioning of all stakeholders in the entrepreneurial area.

## 1.1. Platform for creativity and innovation

Creativity and innovativeness are wide, complex and multi-semantic concepts connectable with other areas. Despite several attempts in trying to find consensus in numerous definitions of both, creativity and innovativity, creativity may be understood as “ability of producing something which is simultaneously new and adequate” (Sternberg & Lubart, 1999). Innovation can be understood as “implementation of the new or significant improvement of certain goods, products, of the process of new marketing and organisational methods in business practice, of organisation of work or external relations” (OECD, 2005). Craft (2005) sees creativity as finding the opportunity/possibility that others have not perceived.

Creativity and innovativity are evidently connected. Creativity “is an infinite source of innovation” (EC, 2008 c), and innovation is the application and implementation of creativity. In the business world the term innovation is applied only if it is linked with creativity process (Sternberg & Lubart, 1999), and innovation may be perceived as the application of creative process or product. People often recognise creativity without being able to define it. The creativity concept has been used in several studies, i.e., the creativity has quite often been perceived as synonym for imagination and originality and linked with visual arts, music or artistic show. Should we take into account this assumption the implication for education area would be rather limited: creativity would be perceived merely as an artistic field and would be limited to selected subjects. There is no doubt that creativity is important in visual arts, drama and music, however, creativity enriches also other areas of knowledge and takes part in all school subjects.

## **1.2. Education areas important for the development of innovativity and entrepreneurship of young people**

The creativity concept has been poorly defined in education. It has therefore been often assumed by teachers and pupils that creativity only means talent linked with individual's personal traits in the area of arts. However, this does not mean that creativity is limited to natural capabilities and talent. On the contrary, it is significant for creative characteristics and attributes that they may be further developed, learned and reiterated (Simplico, 2000). It is a fact that there is no innovation without creativity. Literature has stated (Ferrari, Cachia, Punie, 2009) several areas to be important for creativity and innovativity development in education. It is the school's culture, curriculum, teachers, teaching and learning, education technology and interaction with the environment.

It would be difficult to claim that Slovenian primary schools have no ideas; and that they have little organised external incentives for the development of creative and innovative process for pupils. There are sufficient public calls and offers to take part in various development projects, however, the question is, how do schools tackle and realise such processes and how is their value reflected in practice. Sometimes it seems that several ideas remain at the level of abstract and do not apply in real world. Innovativeness, all in all, is nothing but being open and ready for changes. The "innovative" are ready to change, and the "non-innovative" live in conviction that everything has to change except themselves, and consequently nothing really changes.

Although educational institutions do not have an influence on business environment and other necessary resources for entrepreneurship development they can nevertheless encourage young people to consider and understand the connections among individual elements of entrepreneurship micro and macro levels. They can teach them of innovative acting and entrepreneurial thinking and they can help them to acquire some entrepreneurship experiences. The point is that pupils attempt to translate their inventive ideas through the entire invention-innovation chain into applicable results which would be interesting also for others (Likar, 2008). This also includes mastering certain phases and procedures (from idea, through invention to potential innovation and finally to invention), which pupils can be taught if properly guided. Local and regional incentives are particularly important and adequate for the development of innovativity and entrepreneurship of young people since cooperation with local community underpins joint work targeted at the formation of young people's abilities to better understand what is going on in their community. The common aim is that the programmes and concrete activities are developed in dialogue with the community and different stakeholders. Several enterprises and other organisations are fully aware of this situation, since they understand well that within the local community, where a company operates, for their innovativity it is necessary to have the support of the local environment, which provides sufficient incentives and entrepreneurial challenges to enable young people to transform their ideas into projects, linked with various fields of life at local level. This is how all EU member states act, trying to provide for young people as many innovative and entrepreneurship incentives. They implement different ways to do this, whereby certain methods are successful and others not.

## 2. FROM IDEA TO PRODUCT

Entrepreneurial ideas usually emerge from various occasions. They may occur to some people at different activities, to others when losing jobs and some people learned entrepreneurial thinking at schools (Likar, 2003). There are numerous opportunities all around us. All we need is to recognise and notice them. A good idea needs to be developed, given a proper form and then applied and one day also marketed (Likar, 2004). Only talent and strong will are not enough, other applicable knowledge is needed. The point is that pupils attempt to transfer creative ideas through the entire invention-innovation chain down to applicable results which would raise interest of someone else, too (Likar, *Ibid*). This enshrines also mastering certain phases and procedures (from idea through invention to potential innovation) which pupils learn if adequately guided. And this is how the entrepreneurship process really begins. It starts with the emerging idea (sources and recognition of the opportunity), the idea development (studying and searching for solution) till business opportunity (development of business plan), and with the production of prototype as well as market offer.

A group of female students of the Secondary Catering and Tourism School Ljubljana had a special experience (Polak, Teršar & Trampuš, 2009). The girls decided to participate in a project in a public call of 2008 Public Agency for Entrepreneurship and Foreign Investments. The idea for that occurred to them during a school sightseeing tour in Ljubljana. The tourist guide took student on a guided tour through the city and presented them the sights. Their group was followed by another group of tourists composed of senior citizens and people with defective vision who had a lot of problems during the sightseeing tour and thus turned to the guide with a lot of questions. The view caused certain unrest in the group of girls and gave student an opportunity to recognise a project concept. Assisted by their mentor who gave them directions in the project work, students were quickly faced with the question of how to solve the described problem. They found out that they would first have to collect the necessary information. In the following days they took the position of tourist guides and carefully observed some tours throughout the city of Ljubljana. They recognised that planning and carrying out a sightseeing tour for blind and partially sighted is an extremely demanding task. It is necessary to know and respect both, the theoretical recognitions on the perception of blind and partially sighted people, and also experiences students acquired while studying the case. In the following months the students were deeply absorbed in the problem of tourist offer for blind and partially sighted people who are due to their disability quite often discriminated. They found out that blind and partially sighted people represent quite a large group of disabled persons whose number due to ageing population in developed countries grows very fast. Similarly to other parts of the world also EU has recently made a large step forward to the protectionist attitude towards disabled persons in terms of its efforts to provide disabled with the opportunity to manage their lives by themselves. Ancient approaches based largely on sympathy and alleged helplessness of disabled today is unacceptable. Disabled demand equal opportunities and access to all social benefits, e.g., integrated education, new technologies, health and social programmes, sports and leisure time activities, consumer goods, products and services. This entails also equal participation of blind and partially sighted people in all tourist offers including presentation of natural and cultural heritage of tourist destinations in the most suitable way.

Although blind and partially-sighted people wish to have tourist experiences, such offer in Slovenia is very weak. Tourist organisations while planning their offer generally ignore disabled and do not organise adapted tourist programmes which would include guided city tours. The organisation and the execution of such tours are beyond any doubt a very

demanding task since the blind and partially-sighted people have difficulties in recognising the outside world. Practical experiences and imaginations about the space are incomplete and distorted and therefore their orientation in the space is weak. They have difficulties in recognising distances and determining directions. They are limited in comparisons and generalisations. Blindness and partial-sightedness limit their entire sensual perception and the »observation« therefore last much longer for them to be adjusted to stimulations.

The modern trends in design are expected to meet with the needs of all people and provide their access and not to design special areas for the people with special needs as it once used to be the case. If we want to provide for blind and partially-sighted people a city sightseeing tour the street furniture may help us a lot; this could be divided into various groups of typical functionality. However, it quite often happens that blind and partially-sighted people are hindered and we therefore have to be careful, when planning the tourist sightseeing tour, about two kinds of accessibility: physical accessibility and content accessibility. For the physical accessibility the following is significant:

1. Lightening – console, ground, hanging lights, lights on poles, light boxes, headlights.
2. Cleaning equipment – waste baskets, dustbins, cases and other immovable equipment of city cleaners.
3. Street furniture and automatons - automatons, benches, mailboxes, notice boxes, boxes, racks, stands, boards, scales.
4. Newsstands, shelters, phone booths, jutting roofs, pavilions, closets, tobacconists.
5. Pavements and floor equipment – sewers, street slopes, nets, sidewalks, manholes, kerb stones.
6. Fences and milestones, parapets, house fronts, blind walls, walls.

Physical access ensures our way to all main public and cultural institutions. For the sightseeing tour it is important that city sights are accessible, and it is urgent that we carefully plan the adequate and thoughtful way. For blind and partially - sighted people it non-adjusted or inadequately adjusted street furniture as for example dustbins, waste cases, automatons, benches, mailboxes, telephone booths, kiosks, pavements, edges, fences, milestones are especially annoying (picture 1).

For the access to tourist attractions it is important as follows:

1. Information equipment – signposts, signboards, notices, poster pillars, station boards, advertising boards, signalisation.
2. Unique equipment – public monuments and decoration statues.
3. Water equipment – pools, hydrants, potable water stands, fountains.
4. Recreation equipment – trees and other plants used as city equipment and playgrounds.

Access to the contents and information on institutions, monuments, and city particularities etc. is in Ljubljana available only in the form which requires healthy eyesight. Tools, descriptions and instructions in audio and tactile forms are rare. If we want to make possible for the blind and partially-sighted people to make a city sightseeing tour by themselves, we have to provide them with adequately adjusted information equipment. For their orientation in the city, among all the street furniture the most important are the information boards, screens and signs on cultural monuments. Despite the fact that they are acceptable from the point of view of general design, they are hardly visible and in most cases unreadable and therefore useless.

Shortcomings are seen also in the selection of material, in unclear contrasts between the background and the inscription as well as in the type and the size of letters. Memorial board for Julija Primic is for example furnished with the inscription in an inadequate and unclear type of letters with no colour contrasts. The screen of the information terminal of the Tourist Information Centre (TIC) would need cleaning and system upgrading. The system does not ensure the increase of the picture and letter size. The information boards at the theological seminary are adequate in contrast (yellow - black contrast), but they are old-fashioned in design, too small and inadequately positioned, since they are covered by the stand.

Blind and partially-sighted tourists are faced with the above mentioned problems in our Capital city. The projection of the movement of European citizens, from where the majority of tourists come to Slovenia, gives us a warning about a larger and larger share of senior tourists. The latter, according to WHO data, most often fall ill subject to ageing diseases, causing weak sight or blindness. The share of the oldest tourists shall, according to the data of EUROSTAT, increase even more in the future, and it would therefore be right to think about that now and start planning on how to bring Ljubljana closer to those visitors, in order to become more friendly and accessible.

There is a special Council for the elimination of architectural and communication barriers which takes care mostly about the prevention of new barriers in the newly constructed environment. In 2007 the Municipality of Ljubljana joined the project to acquire the charter »Community suitable for disabled«. The purpose of getting the charter is full participation of people with various disabilities in all aspects of urban life. The project envisages big changes in the city: elimination of architectural and communicational barriers, the enrichment of activities and fulfilment of various needs and interests of people with disabilities. Our project has been completely integrated in the project of the Municipality of Ljubljana, and we set ourselves the following goals:

- To recognise ways of how to transfer information to partially-sighted and blind people.
- To acquire knowledge and experience for making guided tours in Ljubljana.
- To develop and work out clear tools and implement them within the tourist offer of the city.
- To raise awareness and to inform employed in hotel industry and tourism about the problem of recognising the weak-sighted and blind and about the way how to communicate with them.
- To stimulate the interest of people and to invite them to participate in the new ideas and in the preparation of joint projects.

## **2.1. Working Methods**

The mentor, giving directions to students in the project, guided them afterwards through the phase of business planning. That is an important part in the growth of entrepreneurship idea, comprising activities important for further decisions. With the help of their mentor students gradually worked out the business plan based on market analysis. They found out that by then there had been no satisfying solution to the problem of proper sightseeing tour programmes of Ljubljana for blind and partially sighted people. They were faced with the question of how to bring the unreachable closer to the blind and partially sighted people. Based on the experiences and knowledge they acquired by reading literature and from direct contact with

people who professionally dealt with the issue of bringing the cultural and natural heritage closer blind and partially sighted people the students prepared a prototype of the product. It was a simple product usually used to verify and eliminate potential shortcomings before being put in serial production. The students checked and analysed different types of materials and came to conclusion that wood seems to be ideal for solving the problem. Using a camera they took photos of Ljubljana sights and monuments and transferred them with a special technique onto tactile tables in 3 D dimension. The outcome was a light wooden board with a certain sight or monument carved onto the surface. Several questions emerged during their work: what should the size of the tactile plate be, what the most adequate material is, what can you get at the most reasonable price and how to carry around a huge amount of materials. Consequently they decided to focus on Zmajski most (Dragon Bridge), Vodnikov trg (Vodnik Square), Stolnico svetega Nikolaja (St. Nicholas Cathedral), Mestni trg (Town Square) and Mestno hišo (Town Hall), Ribji trg (Fish Market) in The River Ljubljana, Čevljarški most (Shoemakers' Bridge), Dvorni trg (Court Square) and University, Kongresni trg (Congress Square), Prešernov trg (Prešeren Square), City Hall from 17<sup>th</sup> century, secession decorated façade of Hauptman's House, Ursulines' Church of the Holy Trinity, Mesarski most (Butchers' Bridge from 17<sup>th</sup> century), Julia Primic, tombstone from roman Emona necropolis.

When planning the route students above all took into account the aspect of physical and content adjustment to blind and partially sighted people. Physical movement adjustment signifies the following:

- to plan the tour along the least crowded streets (cars, pedestrians, still traffic),
- to avoid disorderly pavement (streets, sidewalks) and unexpected obstacles,
- to select calm areas (noise) and sufficiently big space,
- to adjust the duration of the tour (1–1,5 hour),
- to search for space for a short rest.

Adjustment in terms of contents means the following:

- from small to big ( from palpable micro space to wider macro space),
- from tiny palpable particularity to broader narration on the city development,
- to look for and to use as many accessible objects of living and non-alive nature,
- to bring closer distant objects,
- to reduce and thus to bring closer too large and too distant objects,
- to select and prepare files of contrast pictures for the partially-sighted.

While preparing practical tools the students followed the aspect of its multipurpose applicability, always taking into account that the prepared tools may be used, besides blind and partially sighted people, also other tourist with good sight. The main objective of the city tour is to make tourists familiar with individual sights and monuments of the town and the make them feel the city contemporary and ancient pulse. And for the preparation of the blind and partially sighted tourists' route they searched for and then included adequate tangible and attainable objects of architectural and cultural heritage. The results of the students participating in the project was the tactile set, composed of wooden plates of A3 format and reliefs, produced of poplar and balsa, folded in the box on wheels that tourist guides can pull behind them. The guide can at a certain location, either on a handcart or on a mobile desk, set the tactile plate in order to use it for his presentation. The blind and partially sighted people can read by themselves what the plates say, either in Braille writing or in an adjusted large writing.

The students offered the worked out prototype to the Municipality of Ljubljana and to the Tourist Information Centre where they were pleased to accept the product, as it will enrich the Ljubljana tourist offer. By offering the product to the market students accomplished the final part of their idea and thus concluded the final phase of their entrepreneurial thinking process.

### 3. CONCLUSION

Knowledge, intellectual capital and in creative thinking is nowadays the crucial factor of effective work, thus development and application of human potentials represent the central part of professional and business interest. This is particularly true for younger generations. This aim may be achieved by encouraging creativity and innovativity in people. It is a fact that young people have lots of applicable ideas and are also very much motivated to realise them. Problems may appear in the process of putting their ideas in practice, therefore they need incentives, adequate knowledge, support and help. The point is in the development of invention-innovation processes that young people receive nowadays through the educational process. Hence the question of how qualitative the narrow school environment is from the point of view of providing innovative teaching and consequently from the aspect of encouraging creative learning processes. It is also very important what types and what quality processes are available for young people at the wider local environment in order to master the entire chain of invention-innovation process. Our contribution presents a concrete project and the entire process from the birth of an idea, its growth towards a business opportunity and finally to the production of a prototype and its placement in the market.

### REFERENCE LIST

1. Craft, A. (2005). *Creativity in schools: tensions and dilemmas*. London.
2. EC (2008 c). *Lifelong Learning for Creativity and Innovation*. A Background Paper. Slovenian EU Council Presidency.
3. Ferrari, A., Cachia, R. & Punie, Y. (2009). *Innovation and Creativity in Education and Training in the EU Member States: Fostering Creative Learning and Supporting Innovative Teaching*. Seville: Institute for Prospective technological Studies.
4. Likar, B. (2003). Analiza invencijsko – inovacijskih procesov med mladimi v Sloveniji v povezavi s slovenskim podpornim okoljem. *Organizacija*, 36(5), 282–290.
5. Likar, B. (2008). Inovativnost - poslovna bližnjica ustvarjalnih in pogumnih. *Le monde diplomatique*, 4(32), 2.
6. OEDC (2005). *Oslo manual*. Guidelines for collecting and interpreting innovation data.
7. Polak, A., Teršar, T. & Trampuš, M. (2009). *Slepi in slabovidni v turizmu*. Srednja šola za gostinstvo in turizem Ljubljana (raziskovalno poročilo).
8. Simplico, J. S. (2000). Teaching classroom educators how to be more effective and creative teachers. *Education*, 120(4), 675–680.
9. Sternberg, R. J. & Lubart, T. I. (1993). Investing in Creativity. *Psychological Inquiry*, 4(3), 229–232.
10. Sternberg, R. J. & Lubart, T. I. (1999). *The concept of creativity: Prospects and Paradigms*. Cambridge.
11. Trampuš, M. & Cankar, F. (2009). *Young people, School and Innovativeness. Selling Innovative Ideas*. Maribor. International Conference on Innovation and Entrepreneurship, pp. 269-279.
12. Urhausen, J. (2008). *EUROSTAT – Statistics in focus 69, Tourism in Europe: does age matter*.