

Progressive elements in the context of spatial orientation of persons with visual impairment in the Czech Republic

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The position of persons with visual impairment in the majority society has significantly changed through the centuries, not only dependant on the state of society and its ability to accept persons with health impairment, but also on the abilities, skills and “wishes” of the persons with visual impairment to belong to a given community.

Today, one of the essential prerequisites of successful integration is surely the ability to independently move in space, being independent of the support of others or being able to reach a place where one wishes or requires going. However, one of the main and obvious consequences of visual perception loss is the fact that it affects the area of spatial orientation and independent movement. In order for persons with severe visual impairment to be able to learn how to move independently of others, they require much more than their intact peers and children are, therefore, required to be trained and steered towards this skill from an early age.

Spatial orientation and independent movement training is an essential matter mainly because space is objective, and it exists even if we do not perceive it. And that is why spatial orientation and independent movement training must also be included in the training and education process, which must naturally be preceded by actuating within a family. (Růžičková in Finková, Ludíková, Růžičková, 2007)

Within a family and a pre-school establishment, a child will learn how to move smoothly, how not to be afraid of space, how to fall and get up again, how to orientate him/herself in familiar surroundings, walk by hand and independently, jump, run, walk on the stairs and various surfaces. All of the above mentioned is then further trained at primary school, where the so-called walking without a cane is supplemented with educated use of the white cane.

Just like a child with visual impairment must be taught how to move without or with significantly reduced visual check, an adult, in whom such impairment occurred at a later age, must be taught the same way. However, there is no check on whether such adults enrol in some course and whether they wished to move or not. Unless there is initiative by the person with visual impairment, his/her family or possibly his/her physician, such individuals, especially seniors, may never encounter anyone who would teach them spatial orientation.

The Czech Republic, in comparison to its neighbouring states, is characteristic for a slight lag in the area of spatial orientation and independent movement, which we however managed to catch up with, and today we can state that when it comes to providing services to persons with visual impairment, including the area of spatial orientation, we are very advanced. One of the first important personalities, who laid the foundation for the said areas, was Prof. Jesenský,

who in the 1970's not only held the first courses on spatial orientation for adult blind persons, but also published the first principles and methodologies. These were in the late 1970's and early 1980's followed up by Pavel Wiener, who completed the methodology, tested it and spread it further amongst educationists as well as the blind people themselves. On the bases of the techniques, methodologies and courses tested by Pavel Wiener, spatial orientation was introduced at all primary schools for pupils with severe visual impairment and certified courses were held at organisations for adults with visual impairment.

The effort to introduce qualified and specialised teaching at primary schools reached its peak in 1997 in the form of including a compulsory subject of Spatial Orientation in the curricula (general educational programme) of all blind pupils and pupils with severe visual impairment.

The teaching subject is divided to 4 essential stages:

A. Grade 1 - 3: Pupils adopt and improve essential techniques of walking without a cane. Subsequent to mastering this stage commences stage two, which is granted one lesson per week, just like the first stage.

B. Grade 4 - 5: Given their age, pupils now have the ability to master a white cane, the control of which is therefore being trained. Training first takes place inside a building and subsequent to mastering movement in this "safe environment", it is then moved outdoors.

C. Grade 6 - 7: Owing to the demanding nature of the training, more difficult routes (routes with obstructions, walking the streets, going on public transport, etc.), teaching is granted with two lessons fortnightly.

D. Grade 8 - 9: Pupils are expected to have relatively trouble-free control of the white cane, and walking along longer routes including looking for destinations are trained as well. This stage also encompasses two lessons fortnightly.

In order for the stipulated lessons to be granted and the teaching provided, a teacher with spatial orientation instructor certificate operates at each primary school for pupils with visual impairment. For pupils, who are integrated, such teaching should be provided by special education centres.

Secondary school pupils, just like adults (regardless whether they have visual impairment since birth, infant age or went blind at a later age), may use one of the certified instructors who are usually (but not necessarily) associated in some nongovernmental non-profit organisation, providing services to adults with visual impairment – we can name the largest and the most significant one of them, Czech Blind United, or possibly their department Typhlo-service. The methodology of all instructors results from the consistent standards of their education, and it should therefore not differ in any significant essentials.

Orientation by the means of a white cane may be facilitated by using other devices and instruments, supplementing it during movement on a route. On the basis of many such devices and instruments, we can mention the so called smart stops (see Fig. no. 1), acoustic or digital phonetic beacons, or possibly leading lines, etc.

Fig. no. 1 – "the Smart Stop"



However, independent movement with a white cane is not the only option of safe movement through space. Persons with visual impairment as well as experts in the given area continuously keep on searching for further possibilities of simplifying and replacing, or at least supplementing, the white cane. One of the most utilised options also in the Czech Republic is the guide dog.

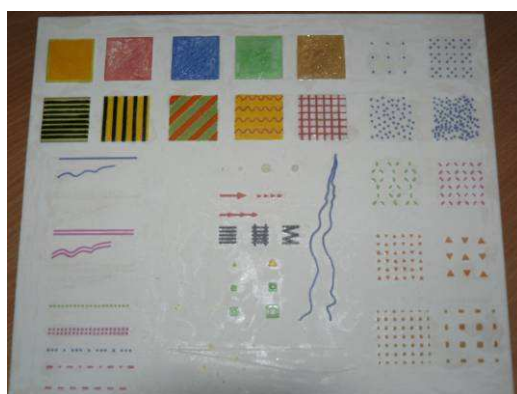
In the Czech Republic, only a person with 3/60 and lower vision is entitled to full reimbursement of a trained guide dog. Another condition, apart from visual resolution in the zone of practical blindness, is naturally also the ability to orientate with a white cane and the ability to care for a dog. Therefore, application is thus also partially limited by age, where, although not as a rule, the dog is given to an individual of at least 15 years of age. And just like a blind person may decide, whether to acquire a dog or not, he/she may also decide where to acquire such a dog from, as there are tens of private training centres in our country. However, only two organizations from the mentioned centres and specialists are members of the International Guide Dog Federation (Guide Dogs Training Centre in Prague Jinonice and Guide Dogs Training School of Milan Dvořák in Brno).

A guide dog is a living creature requiring care and looking after, has to have certain conditions created for it and due attention paid, and therefore not every individual with visual impairment will acquire it. Another not such time and attention demanding aid, which may supplement the white cane and is becoming relatively wide spread even in our conditions, is navigation by means of GPS. GPS module and the services linked with it commenced to be tested in the Czech Republic sometime at the beginning of this century, and more significant advances were reached only in recent years, when services coverage is not only limited to Prague and its vicinity, but now such services are on a much higher level. Currently, the GPS navigation system is still being tested, and we can thus only state that GPS modules are becoming increasingly more wide-spread mainly amongst the younger population; there is also the fact that more and more routes are being mapped and included in the register, and persons with visual impairment can be directed long-distance over a telephone.

Just like the options of how to supplement or replace the white cane are continuously being inquired, more progressive and better means of intermediating space, demonstrating a route or helping in completing spatial image to a person without visual perception are being searched. Currently, spatial orientation instructors or Geography teachers in the Czech Republic have basically only two options for demonstrating space. Pressed foils and plastic embossed maps (thermo-vacuum foils) are used, or teachers and instructors make such maps themselves,

usually by layering individual surfaces on top of one another. Owing to the fact that the given solutions are no more sufficient for the world-wide trends, the team of Palacký University in Olomouc (under the leadership of Prof. Voženílek from the Faculty of Natural Sciences and Prof. Ludíková (the co-solver) from the Faculty of Education) became a solver of the Czech Science Foundation project “Perception of Geospace by means of modern tactile maps”. The given project strives to create absolutely new plastic maps and plans, through a method of layering plaster (even coloured) particles in fine layers above one another – very broken and well readable maps of approximate dimensions 50 X 60 cm, which can be linked into larger units. The project has so far consumed 1.5 years of the total 3 allotted, and so far has only completed a partial aim – testing the maps’ legend (see Fig. no. 2), but currently samples of the first of the three types of maps are being created (embossed maps demonstrating the area of Europe, Czech Republic and the local area (area outside the railway station in Olomouc)). Further maps are to follow by the end of this (2009) year and the commencement of next year – a plaster matrix for creating unlimited number of maps by means of rubber or other casts, a sounding embossed map.

Fig. no. 2 – Tactile maps legend



It is clear that in the Czech Republic much has been done in the area of spatial orientation and independent movement of persons with severe visual impairment, and we believe that this trend still continues and shall continue even in the future, and persons with visual impairment, therefore, have a much better chance of integrating into the society than ever before.

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