



SOME ASPECTS OF NETWORKING OF LIFELONG LEARNING

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Abstract:

In the presented paper various views and reflections on lifelong learning concepts are provided. The main focus is on networking of providers and their collaboration. Major theoretical views are illustrated by examples and additionally, an empirical study of networking of lifelong learning in Slovenia was made and analysed using network analytic methods. The results were carefully studied and also presented with modern visualisation tools. Conclusions could serve as a possible cornerstone for further research and for guidelines when formulating policies for promotion of lifelong learning.

Keywords: lifelong learning, networking, clustering, education.

1. INTRODUCTION

Lifelong Learning (LLL) is the provision or use of both formal and informal learning opportunities throughout people's lives in order to foster the continuous development and improvement of the knowledge and skills needed for employment and personal fulfilment. It shares mixed connotations with various educational concepts, like adult education, training, continuing education, permanent education and other terms related to learning beyond the formal educational system. It is closely linked to continuing education and continuing professional development.

It can be defined as learning that is pursued throughout life: learning that is flexible, diverse and available at different times and in different places. Lifelong learning crosses sectors, promoting learning beyond traditional schooling and throughout adult life (i.e. post-compulsory education). This definition is based on Jacques Delors (1996) “four pillars” of education for the future.

- Learning to know - mastering learning tools rather than acquisition of structured knowledge.
- Learning to do – equipping people for the types of work needed now and in the future including innovation and adaptation of learning to future work environments.
- Learning to live together, and with others – peacefully resolving conflict, discovering other people and their cultures, fostering community capability, individual competence and capacity, economic resilience, and social inclusion.
- Learning to be – education contributing to a person’s complete development: mind and body, intelligence, sensitivity, aesthetic appreciation and spirituality.

The purpose for implementation of LLL is primarily to raise the educational structure of the population and address the competence deficit of the workforce. But, people learn for personal reasons as well, aiming personal development, self-fulfilment and pleasure. Nevertheless, the main reason people participate in the LLL is probably professional development and career opportunities. Therefore there is a variety of lifelong learners. They follow very different purposes for joining an educational or training program. There are young people searching vocational opportunities, employees seeking career development, older participants wishing to improve obsolete knowledge, students searching for practical experiences, individuals looking for information etc. Individual and organisational learners on the other hand follow very different interests, have different learning styles and require different kinds of knowledge. They require different teaching approaches (Jarvis et al., 2006) and search for different types of knowledge (Čater, 2003; Hislop, 2009).

The length of schooling and the amount of knowledge acquired are closely associated with personal benefits which individuals expect - increase in income or better economic status (Lavrič, 2008) as well as possibilities to acquire better social positions (Barle Lakota, 2007). Nowadays knowledge obviously cannot be a value by itself (Barle Lakota, 2007). It should be linked to some benefits for organisations and/or individuals. People usually learn better when they perceived learning to help them carrying out their work or address some key issues or problems they face at work and in personal life (Aik Chong & Tway, 2006). Chase (1997) notes that only 20–30 % of education and training is used at work a month later. In order to improve efficiency and quality of education and training, and to avoid pitfalls stemming from wrong learning content, it is necessary to identify the learning needs and to introduce learning methods and contents consistent with the needs (Council of Europe, 2005).

Jarvis et al. (2006) state that there are three main groups of education and training providers: governmental institutions like schools, universities, people's universities etc.; non-governmental organisations like language schools, religious communities, conference centres etc. and numerous enterprises as a part of for-profit sector. In many cases it is difficult to allocate members into one of these three groups, because one provider can be a member of different groups at the same time (Ličen, 2009). According to Coombs (1985) education and training organisations offer three kinds of learning: formal, non-formal and informal.

Ličen (2009) states that in Slovenia people's universities for example adapt education to local needs and offer different formal and non-formal educational programmes, training centres in some larger companies try to improve professional skills of their employees but in some cases also external participants – for example teachers in partner schools (Dermol, 2010), high-schools and universities promote different degrees studies but conducting some practical trainings as well. Secondary schools and vocational high schools educate young students and prepare them to enter either tertiary level of education or work life (Košir, 2010). There are many other providers of non-formal education as well - private training companies, training centres within employers' associations, centres within different religious communities, trade associations, non-governmental organisations etc.

2. LIFELONG LEARNING INSTITUTIONS AND THEIR NETWORKING

In the real world we can identify many examples of networking – between schools, enterprises, different associations, research organisations and also higher education institutions. There are different reasons for establishing networks, but one of the most important is to enhance the transfer of knowledge and encourage learning.

For example, schools which are members of school networks collaborate to solve the problems or issues of mutual concern, which might be too large to be handled by one school only, or they cooperate to enhance school capacity and student learning (Hadfield & Chapman, 2009). When referring to entrepreneurial clustering, some authors focus on »horizontal« nature of relationship between enterprises, which both compete and collaborate with each other. This kind of clusters is typified by the industrial districts of Marshall (1961). »Vertical supply chain« clusters are seen as webs or relationships established between large enterprises and their core suppliers, but relationships develop also among enterprise with common resource base or/and common resource needs on one hand and between enterprises involved in joint innovation (Marceau, 1999). As Marceau (1999) states, effectiveness of the networks is often improved by the presence of some higher education institutions, industrial parks or research institutions.

Different studies show (Brennan, 2005; EUCEN, 2009) that universities establish links with enterprises, associations and other providers of education or training primarily for educational reasons - to upgrade and update the knowledge of employees, specialists and graduates. They suggest that education and training programmes are mostly attended by experts - younger, with higher educational levels, and higher positions in the labour market. Another reason why universities link with others is to improve accessibility of learning and adapt the learning environment to the needs of employed participants. With increased dialogue between universities and employers it is also possible to promote the exchange of knowledge, use infrastructure opportunities and develop appropriate and complementary education and

training programmes. Integration can also contribute significantly to the promotion of learning in the society.

2.1. Stakeholders within Lifelong Learning

Business organisations are important stakeholders in LLL. Education and training is actually the most frequent answer of those organisations to ambiguity of today's world (Jarvis, Holford, & Collin Griffin, 2006). Due to fast technological changes in the last 50 years it became obvious that without knowledge organisations can no longer cope with their environment. Therefore they learn from their environment either to adapt to it (Jarvis et al., 2006) or trying to impact it.

Huber (1991) realises that knowledge individuals possess increases the range of their potential behaviours but increases behaviour range of organisations as well. Education and training can have a positive impact on individuals, on their personal and professional development, individual performance but also on organisational performance (Barle Lakota, 2007).

2.2. Providers of LLL

Nowadays there are many actors in the area of education and training. Jarvis et al. (2006) state that there are three main groups of education and training providers:

- Governmental institutions like schools, universities, people's universities etc.
- Non-governmental organisations like language schools, religious communities offering training, conference centres etc. and
- Numerous enterprises as a part of for-profit sector.

In many cases it is difficult to allocate members into these three groups, because one provider can be a member of different groups at the same time (Ličen, 2009, p. 148).

It seems that networks of education and training providers should provide better learning context – paying attention to all kinds of relevant knowledge, respecting knowledge adult learners already possess, basing learning on learners' work experiences, involving mentors etc. Through specialization which improves teaching competences of learning providers and through cooperation between them better learning experience could be offered to learning individuals and organizations.

3. NETWORKING AND CLUSTERING FOR LLL

3.1. At European Universities

Linkages between universities and other LLL actors are particularly important at the regional level. In order for these relationships to be successful clear division of roles in education and training should be done in the region to provide basic infrastructure that allows cooperation. Beside that there should be a central organizational unit to ensure the coordination of activities and the partners involved contacts with users of LLL, identification of learning needs, development of appropriate training and education programmes, evaluation of education and training with appropriate feedback, etc. As already noted the key target group are experts in the first place. For higher education, this means maintaining contact with professional associations, businesses and their associations, alumni clubs, etc. The latter can be a good source of information on learning needs.

Since the participants of LLL are usually employed, appropriate methods of learning should be used - learning methods oriented to participants, experiential learning methods and work in small groups. The work based approach to education is very appropriate, which of course requires tight connections between employers and educators. It is also useful to include recognition of prior experiential learning and possibilities for the learners to acquire ECTS credits or vocational certificates. Due to time constraints posed by the job, it is necessary to account time and space constraints as well (use of distance learning, e-learning, blended learning, etc.). In particular, great attention should be put on development of short courses. The practice also stresses the importance of the existence of a coordination unit, involving all key educational institutions in the region and providing basic infrastructure to realize the connections and LLL. We recognize that there may be some regional clusters of higher education institutions, enterprises, and knowledge organizations, other public institutions, local authorities or national authorities, etc.

3.2. In Slovenia

The main aim of the research was to check the situation of formal and informal education in Slovenia and to identify possible links among organisations involved in LLL. Initially, organisations were clustered into nine organisational types, most of them were enterprises. Questionnaires were sent to all Slovenian secondary schools, high schools, HEIs, further education institutions and for-profit training providers, regional development agencies (RDAs), technology parks and incubators, to some trade unions and to a sample of Slovenian enterprises. On average the response rate was rather low – from 8 % for trade union organisations to 36 % for further education providers (people's universities).

Analysis of the research findings was carried out by R package (CRAN) software and descriptive statistical methods. Network analysis was conducted using the programme Pajek (Slovenian word for Spider) (Batagelj & Mrvar, 2004). Pajek is a program for analysing and visualising large networks (Wasserman & Faust, 1994). Both programs are an open source programs and freely available, for non commercial use.

Network analytic techniques facilitate precise insight into relations among entities. Those techniques could serve as suitable methods for the analysis of our model. In general, network consists of a set of actors and relations between them (Wasserman & Faust, 1994). Actors and relations are presented with vertices and ties, respectively. Ties may be directed (arcs) or undirected (edges) and weighted or unweighted. Described characteristics of ties are providing the type of network. The actors in our network were organizations involved in LLL and the relation was the form of cooperation (training or educational) between these organizations. Two organisations were connected in the network if collaboration between them was detected using the questionnaire. Arc initial vertex was the organisation which chose (in terms of LLL) and terminate vertex was the chosen organisation.

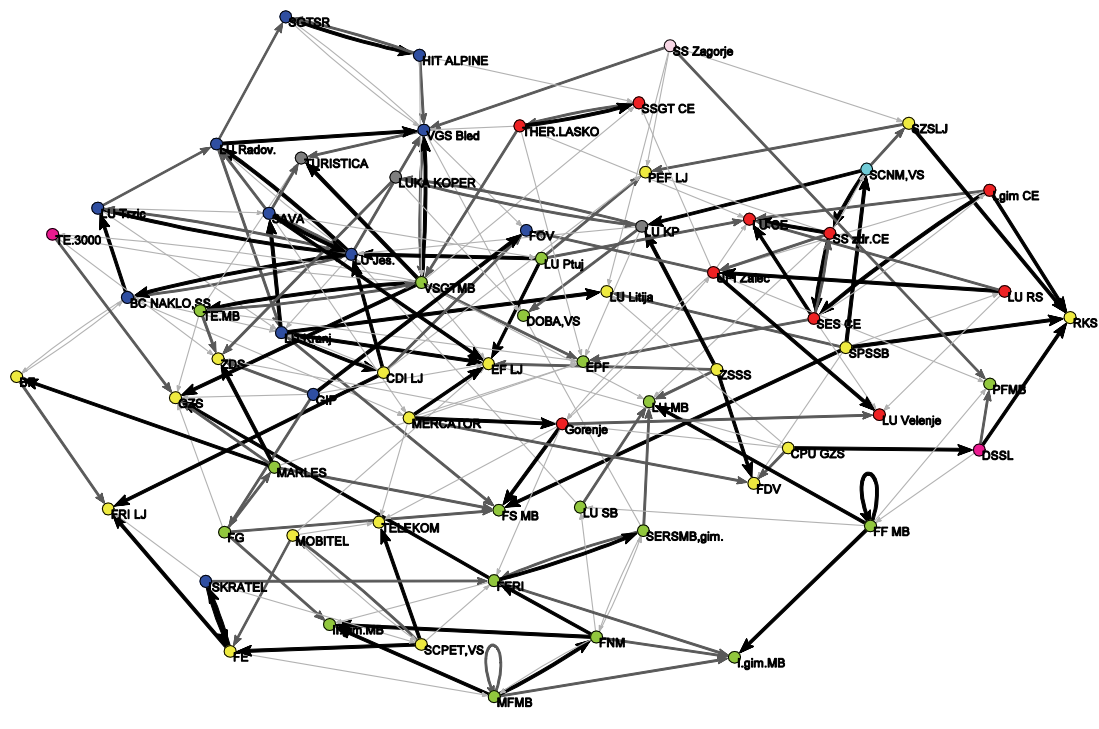
A special concern was directed to the question which organisations should be included in the network, but the boundaries of the network were practically impossible to determine in advance. The actors in our network were asked (among other questions) to rank three organisations they mostly cooperate with in terms of LLL. In the case when they marked organizations which had not been on our mailing list, we sent a questionnaire to them as well. This method is called snowball sampling approach (Goodman, 1949, Goodman, 1961).

Results

With the survey we obtained a directed one-mode network with 1277 vertices representing organizations involved in LLL. The ties were directed from the organizations which choose to organizations which are chosen and they were weighted according to the selected rank (first, second or third rank, regarding the intensity of cooperation). Therefore, the obtained network was directed and weighted.

For the identification of denser parts of the network, the organisations, which collaborate the most among themselves in terms of LLL, we used the core principle method. In Figure 1 there is a 4-core presentation of our network, consisting of 70 entities (organisations). Every organisation in this sub-network is connected with at least four other organisations from the same sub-network. Vertices representing organizations are coloured according to the region of origin.

Figure 1: 4-core presentation of LLL network



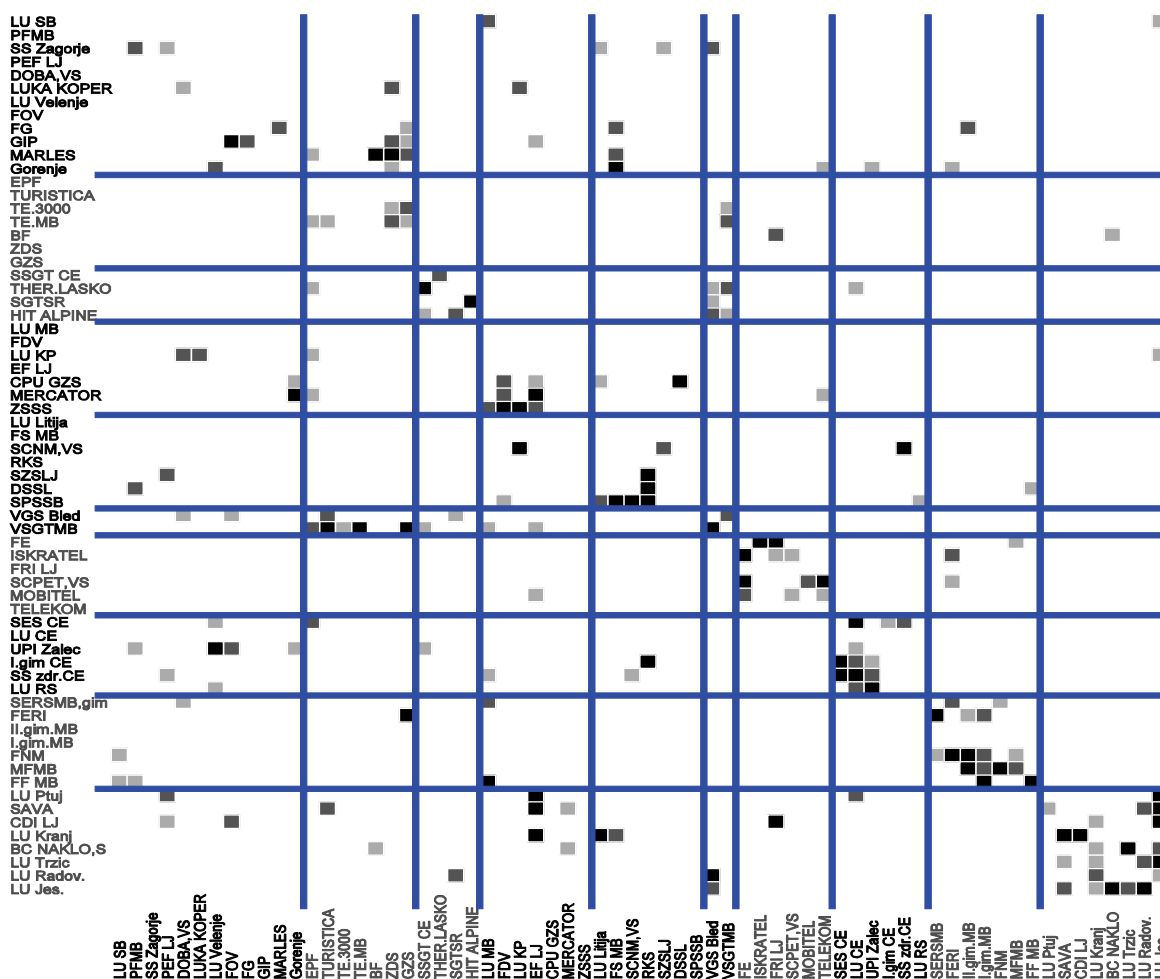
The analysis of 4-core showed unequal participation of Slovenian regions in the LLL integration, yellow and green colours of vertices are predominant. In the identified sub-network mostly educational, training and business organisations from Central Slovenia and Podravska region (yellow and green) are involved, and slightly less often the organisations from the Savinjska and Gorenjska region (red and blue). On the contrary, involvement of the organisations from other 8 Slovenian regions, geographically more distant from the Central Slovenia region, is quite weak. It is interesting to compare this information with the gross value added data. There seems to be a correlation between the amount of cooperation and the gross value added. The highest gross value added is achieved by Central Slovenia and Podravska region and slightly lower values by the Savinjska and Gorenjska regions. Other regions' gross value added is significantly lower (SURS, 2009). In Figure 1 we identified a few organizations in education and training which seem to be important centres of LLL initiatives. It is important to mention that all of them belong to the abovementioned most successful geographic regions. Among these organisations there are some engineering and

business HEIs (Faculty of Economics in Ljubljana, Faculty of Electrical Engineering and Computer Science in Maribor, Faculty of Mechanical Engineering in Maribor), Slovenian Chamber of Commerce representing majority of Slovenian enterprises, high school and vocational secondary school in Velenje and two further education institutions - People's University in Celje and in Jesenice.

A better insight of organisations clustering in 4-core could be achieved with the matrix presentation, given in Figure 2. Each organisation participating in 4-core has its own row and column. Black spots in the row are representing units selected by the organization. Similarly, dark cells in each column are the indication that the organization was chosen by corresponding entities. Finally, organisations were clustered by a type of hierarchical clustering called the Ward method and corrected Euclidean distance (Doreian et al, 2005, Ferligoj, 1984).

We can observe that majority of the dark spots in the matrix in Figure 2 are on the main diagonal. Organisations cooperate mainly with other organisations within their cluster (clusters are separated by thicker lines) and less frequently with organisations outside the cluster. Some interesting clusters can be revealed. The bottom right cluster consists mainly of People's Universities. They collaborate very well among themselves and also try to cooperate with other providers of LLL since there are nonempty rows leading to their cluster. In the contrast, we can identify only three nonempty cells in rows associating their cluster. Remaining clusters (from bottom up) are: the educational cluster from Podravska region, the cluster containing only organisations from Savinjska region, the electronics electrical engineering cluster from Central Slovenian region etc. The matrix presentation in Figure 2 is a strong approval of varying levels of LLL integration across Slovenian regions.

Figure 2. Matrix presentation of 4-core



4. DISCUSSION AND OTHER KEY FINDINGS

Through the survey and the descriptive statistical analysis we recognised some important issues about attitudes towards cooperation and about networking mechanisms in Slovenia. In the following paragraphs we present some key ideas:

HEIs for example, strongly support integration with other educational institutions and business enterprises but their involvement in commercial training is much less frequent. Over 90 % of HEIs support participating of their experts in the implementation of education or training in other educational institutions. On the other hand, in business enterprises there is a weak support for cooperation with educational and training institutions. Management and individuals in enterprises often avoid participation in the design and implementation of educational and training programmes since they seem to believe that such cooperation is relatively insignificant for the performance of the enterprise. Besides, enterprises unlike HEIs, do not attach a special importance to the opportunities for obtaining ECTS credits or various (vocational, professional) certificates. Enterprises that are nevertheless involved in the co-development of educational or training programmes have the expectation that the programmes should be work based. In addition they are willing to contribute their infrastructure, latest technology and all the necessary equipment. In our opinion information asymmetry is an important barrier which impedes cooperation in the area of LLL. It seems that HEIs are

usually aware of the potential benefits of cooperation, ECTS principles etc. but they might not be aware of the importance of work based learning and possibilities to use equipment, infrastructure and technology of business enterprises in the context of education. Business enterprises and other related organisations on the other hand lack the information about possible benefits of cooperation with HEIs. Promotional activities, dissemination of good practices of cooperation and transfer of relevant information are examples which should be introduced in the future.

Besides, there are some additional issues which should be addressed when considering networking in education and training. One of the most important conditions to build a successful network is to structure it on the basis of previously existing links, established informal contacts and a high enough degree of trust between the involved organizations. It is also important to establish some kind of a central unit, which would be responsible for the coordination of organizations involved in the network. This unit is also a translator between the higher education environment and business environment, environments with very different cultures and ways of communication. The role of this unit would be to establish channels of communication within the organizations involved in the network as well. Central unit should act on a regional level or at the level of urban settlement and should be closely related to HEIs involved in the network.

5. CONCLUSION

With the help of SNA some important issues regarding networking and cooperation were recognised. In the study we discovered key criteria leading to LLL integration - geographic proximity especially in terms of belonging to a particular region or urban environment, common industry or sectorial membership, common organisational type and various combinations of the former three criteria. These are important messages to the creators of national policies regarding LLL about which organisations and combinations of organisations might be successful in LLL cooperation initiatives and which combinations should be avoided. They could represent a possible basis for further research and for guidelines when formulating policies for promotion of LLL.

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