UDC: 71:378(497.4)

Alenka TEMELJOTOV SALAJ
Ajda FOŠNER
Jerneja JURCA
Irena KARČNIK
Irena RAZPOTNIK
Lidija DOVGAN ŽVEGLA

Knowledge, skills and competence in spatial planning

As a result of scientific and technical progress, as well as the increasing complexity of social processes, there is a need for interdisciplinarity of knowledge, skills and competencies for individuals working in spatial planning. The process of spatial planning requires professional and scientific knowledge from various fields, some more artistically oriented and others related to sociology, engineering and technical studies, and economic and legal studies. Individuals must add to the knowledge obtained during the formal education process with new skills and competences to successfully perform their work. We conducted a survey among experts responsible for spatial planning in Slovenia, with the purpose of recognising these new skills and competences and determining their importance. The results of the survey offer insight into the various fields that experts should be familiar with, their specific competences, innate versus learned skills, and problems they deal with at the workplace. We can only expect to find successful solutions to such problems by studying them with other disciplines. Knowledge and information often emerge from peripheral fields of science that enable the formation of new expert and scientific solutions.

Key words: spatial planning, interdisciplinarity, knowledge, skills, competences

1 Introduction

With the introduction of the new third-year course "Real Estate Law and Management" at the European Faculty of Law in Nova Gorica in the 2008/2009 school year, it has become evident that the study programme's interdisciplinary base has attracted a great variety of postgraduate students with knowledge in various fields, ranging from law to economics, building and mechanical engineering, architecture, political science and traffic engineering. The common subject involved in all of these professional fields is knowledge of spatial-planning regulations in connection with real estate. Therefore, the authors of this study have chosen spatial planning as the main topic of this article.

Under the heading of spatial planning, there are many coordinated and pre-arranged measures concerning the management of space and the balancing of socioeconomic development. The main purpose is to gain broader knowledge and consideration of natural, economic and social development relations. Community goals must also be considered (Stanič, 1997). The final goal of these processes is to set the basis for the organisation of spatial planning. The planned use of space, the criteria and conditions for changes in planned use of space and new spatial interventions are all established at the local level as elements of this final goal. Throughout these procedures, the formation of an area's aesthetic appearance as well as the protection of landscape characteristics and natural and cultural inheritance takes place. Legislation in Slovenia and elsewhere requires an assessment of the potential environmental and aesthetic effects during the spatial-planning process. The process of spatial planning must therefore include input from various fields of science: architecture (planning and adjusting the appearance of buildings in urban areas), geography (studying the development and structure of the city, characteristics and functions of the city and its connection with peripheral areas), landscape architecture (planning, protecting and developing the natural components of the city), sociology (studying the inhabitants, their movement and society, urban life), ecology (environmental protection, protection against unrestrained development), urban economy (economic aspects of city life, conditions for production and service activities, urbanism and urban planning, preparation of urban plans for the development and construction of cities and villages) and other technical fields (the building of all necessary technical elements for the development and functionality of cities and villages). All of these fields together adjust, plan and regulate the development of cities and villages (Internet 1). Due to the complexity of present processes, spatial planning encompasses so many fields and its basic form is hardly distinguishable. An involved expert may be an architect, scientist, sociologist, political scientist, psychologist or lawyer (Pogačnik, 2006). The fact that the creation of our living environment is related to the culture, system of values, history and respect for common roots makes this topic even more important. Using the survey, we obtained information regarding the knowledge, skills and competences required by spatial-planning experts.

2 Theoretical standpoints

The development of the educational system in real estate and spatial planning started in Germany much earlier than in Slovenia, with the establishment of the first real-estate academy at the University of Regensburg in 1990 (Internet 2). Even earlier, the English book *A theory of civil planning* was written in 1933 by Patrick Abercombie, the pioneer of the theory of spatial planning (Streich, 2005). At the conference on education held in Viseu, Portugal in May 2004, the European Council for Urbanism concluded the discussion on architecture and urbanism education in the global environment with the following five-point vision (Parham, 2004). First, it recommended that education be oriented towards a study of the past and not just towards encouragement of innovations. Innovations should be based on previous experience instead of building them from scratch. Therefore, students should obtain certain knowledge, analyse it and understand the interaction between architecture and social dynamics. Education in spatial planning should be planned to include expertise in architecture, urbanism and various other sciences. Students should learn to put quality ahead of quantity. Finally, students should learn to use the power of visual perception wisely.

Thomas Krüger, a project-management professor for town construction and district spatial planning at the Hamburg University of Technology, came to the same conclusion. Krüger specified the importance of spreading spatial planning in one interview:

> From the historical point of view, the first column of project management is the construction of a city with roots in architecture and landscape architecture planning. The second column shows the infrastructure and legal tasks of the urban and spatial planning. The third (the new one) includes topics such as development of the concepts and efficiency, management and moderation, guiding the participants and process implementation, meaning that engineering, organisational and economic approaches should be united. I believe that such substantial addition of the competence profile of spatial planners, leading to project managers or project developers in different contexts, is sensible and necessary. (Glaser et al., 2003: 6)

The same conclusions were drawn from an opinion poll conducted among postgraduates regarding the effectiveness of geodetic engineering studies at the Faculty of Civil and Geodetic Engineering in Ljubljana in 2005 (see Drobne et al.,

2006). It revealed that, during their studies, students of geodetic engineering needed to gain interdisciplinary knowledge (e.g., economics, law, public institutions, communications and organisational science) in addition to narrow insight into their particular field.

All of this brings us to forming our first hypothesis: for individuals' successful work in spatial planning, knowledge from a broad interdisciplinary spectrum is more important than concentrated knowledge of one specific field. As a result of the growing awareness of the importance of gaining this broad knowledge base needed for spatial planning, the number of diverse study programmes is growing beyond Slovenia's borders. For this purpose, the Association of Town, Regional and Landscape Planning in Berlin issued professional recommendations for accrediting study programmes in spatial planning. They determined common educational goals, including the following abilities and competencies (Schäfer, 2002):

- Spatial and social sensitivity, including the ability to evaluate the interaction between the built-up areas and the constantly changing society;
- Integral deduction, which connects various economic, social, cultural and ecological factor,s although it remains within legal frameworks;
- Creative competency and aesthetic sensibility both helping to perceive and in a positive way preserve the traditionally rich and developed urban culture and regional identity;
- Communicative ability to present complex circumstances, results and ideas and achieve a consensus among various parties and needs involved; and
- Competence in the procedural implementation of planned solutions.

Successful work in any professional field, spatial planning included, necessitates the acquisition of new competencies and skills beyond knowledge gained within the organised educational system. Competencies, knowledge and skills are three dimensions that describe the entirety of intellectual capital (Internet 3). The connection between an individual's knowledge and awareness of society is a synthesis of experiences and cognitions. Competencies are the combination of one's classical (conceptualised) knowledge and skills (operational knowledge).

A simple definition of knowledge, which would assist in identifying the process of knowledge acquisition through formal education and informal training, could be divided into two parts: professional and technical knowledge together with experiential knowledge. Typically, professional and technical knowledge is acquired during the education process. It is necessary to work successfully later on, but is not all that is necessary to achieve excellent professional results. The other component of success is formed through experiences that cannot be gained during the formal education process. These experiences are linked to practical events that allow the individual to discover strategies that are more or less efficient. "Experience is not something that happens to you, but what you do with what happens to you" (Internet 4).

Skills provide a structure for professional knowledge. Regardless of profession, a skilled individual is capable of arranging knowledge into logical sequences of steps that must be followed to reach the goal and be successful. Often, the individual knows the procedure and uses knowledge according to those procedures. Skilled individuals avoid making mistakes and know how to reach a goal without previous tests. Skills can be transferred from one person to another during the process of training or individual coaching. Skills are therefore tools to improve an individual's efficiency and for mastering certain tasks.

Competency involves the ability to combine knowledge, capabilities and skills in order to perform a task successfully. It is the base for developing standards for knowledge levels and capabilities necessary to perform tasks successfully. Apart from specific knowledge, competency involves motivation, capabilities, characteristic features, values, interests and skills. The competence model is a collection of competencies that commonly define the activity of individuals within certain fields and defines the knowledge, capabilities and skills that are important for those individuals.

The international guidelines for support of the development of knowledge, competencies and skills throughout the educational process were adopted by the EU Council in Lisbon. Resolutions were adopted primarily on the basis of EU Council conclusions from 2005 that stipulated an orientation towards professional growth with an emphasis on knowledge, innovations, human capital and permanent learning as the basic conditions for achieving these goals. They were also adopted on the basis of guidelines for the growth and implementation of the Lisbon Strategy, which emphasised that capabilities and skills should exhibit the results of all forms and levels of learning (see Conclusions of the Council . . ., Official Journal, C 292/02/2005). The development of skills and capabilities is the most important element of a permanent learning strategy. Their acquisition must include gaining the most important capabilities and skills through efficient educational systems and training that "produces" individuals that are motivated to develop their capabilities and skills throughout life. As a result of awareness of the importance and variety of competencies and related innate/learned skills in spatial planning, we have included this second hypothesis: "For successful work of the individual in spatial planning, gained or learned skills are more important than innate ones."

3 Methods

The research was performed using a survey questionnaire. The goal was to obtain information regarding the scientific fields that spatial-planning experts make use of on a daily basis, regarding their expertise in legal regulations and the importance for them of possessing certain specific competencies and innate versus learned skills. The questionnaire was conducted as in Glynis Breakwell et al. (1995), in the form of a cross-over type survey: an opinion poll with the goal of comparing different groups within a population. The questionnaire consisted of eight questions. Two of the questions (five and eight) were open-ended questions and the other six were adjusted according to the Likert scale (1 = not at all important, 5 = very important; Hafner Fink, 2004). The first question was about the importance of knowledge of various fields that spatial-planning experts encounter as part of daily tasks. The second question evaluated the importance of knowledge of legal regulations. The third question addressed competencies that are important for work in spatial planning. The fourth question ascertained the importance of individual spatial-planning issues. The answers to the first four questions will confirm or disprove our first hypothesis. The sixth and seventh questions defined the importance of certain innate or learned skills. Answers to those questions are the basis for the evaluating the second hypothesis.

The target group involved in the research consisted of the employees of spatial-planning departments in municipal councils and administrative units, municipal urban planners, institutes and institutions dealing with spatial planning and private spatial-planning companies. We used the technique of cluster sampling; that is, taking random samples from within several sample groups (following Fendre, 2008). The survey was conducted in electronic form. Of the 376 questionnaires sent out, 109 were returned completed from the following groups: twenty-three questionnaires from administrative units (21%), twenty-five from private spatial-planning companies (23%) and sixty-one from municipal administration (56%). The completed questionnaires represented 29% of the original sample of 376. The sample was representative because its characteristics were in accordance with the characteristics of the population, having included administrative units and municipal councils in Slovenia and the majority of spatial-planning companies.

The results of the first four questions were represented by comparing individual responses to the responses of all participants. The results were displayed accordingly in pie charts. The results of the sixth and seventh questions were displayed in histograms as the arithmetic mean for each indicator and then separately for each type of organisation. The weighted arithmetic mean was calculated from these results. The results were also quantitatively defined according to the type of organisation where interviewees were employed. We calculated the arithmetic mean for separate answers according to the type of organisation. For the open-ended questions, we considered the most frequent problems that experts in spatial planning face and the most frequent remarks made regarding evaluation of the educational process they were involved in.

4 Results and discussion

4.1 Other fields involved in spatial planning

For the first question, interviewees had to estimate the importance of the following disciplines for their work: architecture, urbanism, landscape architecture, cultural heritage, geodesy, geography, geology, real estate, archaeology, civil engineering, communal infrastructure, energy engineering, traffic engineering, communications, law, economics, management, psychology, sociology, mechanical engineering and ecology.

It is evident from the results that there are no significant differences in the importance of these different fields. According to the results, interviewees rated knowledge in urbanism (7.1% of the total number of allocated points for that question) as the most important, then communal infrastructure (6.8%) and civil engineering (6.5%). Architecture and ecology were each at 6.0%, then law (5.8%) and traffic engineering (5.8%). The remaining thirteen fields were characterised by minimal differences: cultural heritage (5.5%), energy engineering (5.4%), geodesy (5.1%), landscape architecture and real estate (each 5.0%). Less important were economics and management (each 4.2%), psychology (4.0%), geography (3.8%), geology and sociology (each 3.7%), archaeology (3.3%) and mechanical engineering (3.1%). By type of organisation, the importance of professions were rated as follows: employees of administrative units (the arithmetic mean of answers was above 3.5): communal infrastructure (4.4), law (4.3), civil engineering (4.2), urban planning (4.2), architecture (4.0) and ecology (3.8); municipal councils: communal infrastructure (4.1), urbanism (4.0) and civil engineering (3.8); private companies: urbanism (4.3), architecture (3.7), ecology (3.6) and communal infrastructure (3.5). The responses from various experts show a significant difference in the importance of the following fields: legal administrative units (4.3), municipal councils (3.1) and private companies (2.1); real-estate administrative units (3.2), municipal councils (3.1) and private companies (2.1). The differences between other fields for different organisation types are statistically insignificant.

4.2 The importance of knowledge of legal regulations

The second question estimated the importance of knowledge of legal regulations. Interviewees evaluated the importance of knowledge in building legislation, environmental protection legislation, housing legislation, customer protection legislati-

on, communal legislation, municipal legislation, spatial-planning legislation, real estate legislation, traffic legislation and technical standards.

The responses to the second question can be divided into two groups: responses with more than 13.0% of the point allotment and those that fell below this level. According to interviewees, the most important are knowledge of building legislation (13.8%) and municipal legislation (13.7%). These were closely followed by spatial-planning legislation (13.4%) and environment protection legislation (13.1%). Below 13.0% were traffic legislation (11.3%), real-estate legislation (10.2%), housing legislation (9.4%) and standard legislation (8.3 %). Consumer-protection legislation received the lowest ranking (6.8%). The importance of each type of legislation was estimated similarly regardless of type of organisation.

4.3 Necessary competencies for spatial planning

The third question addressed the necessary competencies for spatial-planning experts. The survey's listed competencies were gathered from university catalogues and training brochures and included: knowledge about the history of urbanism, familiarity with various types of urban settlements, expertise in understanding the hierarchical structure of settlements, familiarity with types of infrastructure and aesthetics depending on the settlement type, expertise regarding efficient use of space and distribution of functional areas, use of technical regulations and guidelines for building infrastructure, knowledge about urban development parameters, expertise in ecology and understanding the sustainable-development principle (Internet 5, 6).

Responses to the third question showed only small variation: the difference between the highest and lowest rated competency was only 3.0%. The most important competencies were expertise regarding efficient use of space and distribution of functional areas (12.3%), understanding the sustainable-development principle (11.6%) and familiarity with various types of urban settlements (11.5%). Other responses were statistically similar: knowledge about urban development parameters (11.4%), familiarity with types of infrastructure and aesthetics depending on settlement type (11.3%), expertise in ecology (11.0%), the use of technical regulations and guidelines for building infrastructure and expertise in understanding the hierarchical structure of settlements (each 10.8%). Knowledge about the history of urbanism was ranked as the least important (9.3%). Interviewees ranked each competency similarly, meaning that professionals in municipal councils, administrative units and private companies need a wide range of competencies to be successful in their daily tasks.

4.4 Major parameters of spatial planning

The fourth question was aimed at determining the parameters of spatial planning that were most important. Interviewees were asked to rate nine parameters: the connection between legislation and the principles and guidelines of urbanism and architectonics, the limiting factors of spatial development, the different goals and needs related to public space and contradictions between them, the role of social and psychological elements, the changes to a space as a result of different space usages, the importance of urban planning in creating quality working and living conditions, personal aesthetics, visualisation ability, the role of economic parameters and the role of environmental factors.

Once again, survey results revealed minimal differences. The difference between the highest and lowest rankings was only 2.7%. The connection between legislation and the principles and guidelines of urbanism and architectonics was highest (12.2%). This was closely followed by the importance of urban planning in creating quality working and living conditions (12.1%). The limiting factors of spatial development was next (12.0 %). Following that was the role of environmental factors (11.7%), changes to a space as a result of various space usages (11.5%), the different goals and needs related to public space and contradictions between them (11.3%), the role of economic parameters (10.0%), the role of social and psychological elements (9.8%), and personal aesthetics and visualisation ability (each 9.4%). Differences in responses among individuals from different types of organisations were not statistically significant.

Analysis of the first four questions confirms our first hypothesis. The results indicate the importance of a wide range of skills (i.e., the interdisciplinary knowledge of persons working in spatial planning). The dispersion level of results shows the advantage of interdisciplinarity over having a narrow skills spectrum.

Other research obtained similar results. An article by Henning Frs (1962) revealed that working in various scientific fields motivates spatial-planning experts towards interdisciplinary study. Jurij Režek presented the same conclusions (2004: 93): "[The] need in post-modern society for connection and cooperation of various branches within the area of spatial planning has increased. The idea that one profession is able and capable of mastering all activities in modern spatial planning is obsolete." Interdisciplinarity differs from multidisciplinarity. The latter means the cooperation of various fields, each remaining within the framework and methods of their profession. Interdisciplinarity finds its place between various professions and acts as a synthesising of knowledge (Petts et al., 2008). We would also

like to mention the term "transdisciplinarity," which is neither interdisciplinarity (a mixture of separate professions) nor multidisciplinarity (many separate professions) but the establishment of a special joint academic profession as is done in other countries. In Slovenia, spatial planning remains trapped within the boundaries of set academic disciplines.

Established methods and theoretical principles of core disciplines are some of the greatest obstacles to interdisciplinarity (Frs, 1962). Hugh Petrie (1976) suggests the establishment of a mutual understanding by training researchers to learn how to observe the concepts of other involved professions. Interdisciplinarity is a method that strives towards combining knowledge from different fields (Ramadier, 2004, cited in Petts et al., 2008). The research described in Vanessa Castán Broto et al. (2009) demonstrated that survey participants had discovered that they can advance their careers through an interdisciplinary approach and thus enrich their private and professional lives.

Education within the scope of a particular profession gives researchers the chance to become involved in interdisciplinary studies. It is not the goal of interdisciplinary research to separate professions, but rather to shift the boundaries between them. Interdisciplinary work functions through an interlacing of professions, and members of interdisciplinary teams must understand and know the basic principles of all professions involved (Castán Broto et al., 2009). Having different professions involved is useful for setting the boundaries between academic fields (Bruce et al., 2004) and because operating through several disciplines is much more demanding (Evans & Marvin, 2004). In spite of the difficulties, researchers agree that interdisciplinary work achieves better results. The preconditions for its success are mutual trust between participants, respect towards professions and their limitations, the exchange of knowledge, readiness for negotiating and acknowledgment that problems can be resolved in various ways (Petts et al., 2008).

Based on the research, we may conclude that spatial planning requires the involvement of a broad spectrum of knowledge, skills, disciplines and sources.

4.5 The most prominent work-related problems and limitations

The fifth question was open-ended, allowing for individual comments, remarks and practical experiences of problems and limitations encountered during the work. The most frequently mentioned problems and limitations were used for the analysis.

Interviewees made emphatic and distinctive remarks regarding the unprofessional influence of politics and finance on spatial planning. Problems with unadapted, obsolete and poorly prepared spatial regulations were rated the same. This is the result of the large number of small municipalities that cannot complete all the tasks that are required by law. The professional ability of those active in spatial planning is inadequate or insufficient and there is a lack of funding for proper creation of spatial legislation. Rapidly changing, unadjusted and unresolved pieces of legislation are other aggravating circumstances. Interviewees estimated that the expert knowledge of design bureaus is insufficient and that investor requirements are not based upon professional grounds and are not harmonised with the limiting factors of the environment. There is no environmental protection awareness and no regard towards protective legislation. Public awareness was also estimated as insufficient. Long-standing administrative procedures, unregulated ownership relations, unfinished denationalisation procedures and anachronistic expropriation procedures are causing additional problems. There is no vision towards sustainable development.

4.6 Learned skills required for spatial planning

The sixth question was used to analyse the stated skills that are important for successful work in spatial planning. Among the most important skills (those whose arithmetic mean was above 4.0) for all types of organisations were diligence, good judgement, team orientation, analytical skills, organising capability, personal appearance and goal orientation. As with other questions, the sixth showed only slight variation in results. Interviewees rated empathy and general management lowest. The weighted arithmetic mean of all answers to this question (scale from 1 to 5) was 3.9. Regardless of their profession, interviewees ranked each learned skill as approximately equally important.

4.7 Innate skills required for spatial planning

The seventh question examined innate skills necessary for successful work. The question stated ten innate skills to be evaluated by the interviewees. The results of the analysis show that the skills that received highest ranking from interviewees (i.e., with an arithmetic mean of 4.0 for all types of organisations) were accuracy and creativity. These were followed by determination, persistency and self-confidence. According to the interviewees, the lowest ranking among innate skills was dominance. The average weighted arithmetic mean of all answers was 4.0. Regardless of profession, interviewees ranked each innate skill as approximately equally important.

The results of the sixth and seventh questions, based on the minimal differences between weighted and arithmetic means, allow for a rejection of the second working hypothesis. Learned and innate skills proved to be equally important for spatial-planning experts. With analysis based upon types of organisations where interviewees were employed, the impor-

tance of learned compared with innate skills was evaluated as equally important. This shows that interviewee employment had no influence on the questionnaire results.

Silke Vogt (2001) had similar results in a study of the new spatial planning in Japan. The system of spatial planning in Japan, however, is organised differently. That system involves participants from various backgrounds: scientists, politicians and "urban laymen" (ordinary citizens). Therefore, the qualifications and skills there are different. Nevertheless, there is a common dynamic in that study, as in ours, that all skills were viewed as equally important in the decision-making process (learned as well as innate). The Urban Institute of Germany presented its point of view at the Impulskongres meeting in Berlin: "There is a common opinion that it would be ideal if the district manager – who is supposed to act as an initiator of urban spatial planning – had all necessary knowledge; in other words, he is supposed to have a high level of social, professional, organising, management and communication skills and competences while paying attention to local politics at the same time. He is expected to be punctual, conscientious and teamwork oriented" (Urban Institute of Germany, 2001: 5).

Other research suggested that a successful urban planner should master economics, social skills and urban planning as well. "One of the most important virtues is to comprehend the entirety and not just his/her own professional field" (Urban Institute of Germany, 2001: 126). The results of that German study of the importance of various skills matches the results of our research.

4.8 Interviewees' opinions regarding the training process

The eighth, open-ended question allowed interviewees to make comments regarding their education. Only the most frequent responses were selected for analysis. Interviewees mostly regarded their educational process as successful and shared the opinion that they had received a good theoretical basis, which could be built upon with further study and practical work. However, most interviewees believed that they did not gain practical, applicable skills or that they had learned them to an insufficient extent. They also believed that education should provide at least a basic knowledge of local legislation and of limitations that strongly influence spatial planning. Almost all participants stressed the need for interdisciplinary study in this field. They also shared the opinion that educational programs should keep up with technological changes and developments.

5 Conclusion

The findings are based upon the results of the questionnaire. The goal was to obtain information regarding the scientific fields involved in spatial-planning experts' daily work, their knowledge of laws and regulations, and the importance of specific competencies as well as innate/learned skills needed for success in the field. The target groups were: employees of municipal councils and administrative units from environmental and spatial-planning departments, urban planners, and employees of spatial-planning organisations and of private companies active in this field.

Considering our analysis of responses to the first four questions, we can affirm (and confirm our first hypothesis) that for successful spatial planning it is more important to have a broad spectrum of skills from various fields than detailed knowledge of only one particular field of study. When interviewees were asked about the field that is most frequently used by spatial-planning experts, they emphasised knowledge of urbanism, communal infrastructure, building construction, architecture and ecology. When evaluating the importance of knowledge of legislation, interviewees emphasised building legislation, municipal legislation, spatial-planning legislation and environmental-protection legislation. The interviewees also evaluated various competencies that the influence spatial-planning success. No significant differences in ranking were reported; however, knowledge regarding the efficient use of space and distribution of functional areas in urban spaces was ranked highest.

Our second hypothesis was refuted based on the survey results. The interviewees shared the opinion that, for successful spatial-planning work, an individual's innate skills are equally as important as learned skills. The results of the sixth and seventh questions revealed an insignificant difference between the importance of learned and innate skills. We can assume that successful work in spatial planning requires learned as well as innate skills.

To substantiate our findings, responses from the sample of interviewees was quantitatively analysed based on the type of organisation they were employed by. No significant differences were recorded based on this determination.

The research and its findings confirm the need for a wide range of knowledge, skills and competencies within spatial planning. Interdisciplinary study programs for spatial planning need to be created that are based on communication and activities carried out among a variety of professions. The final goal of the training would be to increase the quality of spatial development and therefore lead to better living conditions. Numerous professions are linked with spatial planning and further research has the potential to spread these links to other target groups as well (e.g., ministries, universities, geodetic engineers and real-estate agents).

Alenka Temeljotov Salaj
European Faculty of Law in Nova Gorica, Nova Gorica, Slovenia
E-mail: alenka.temeljotov-salaj@gea.college.si

Ajda Fošner
European Faculty of Law in Nova Gorica, Nova Gorica, Slovenia
E-mail: ajda.fosner@gea-college.si

Jerneja Jurca
European Faculty of Law in Nova Gorica, Nova Gorica, Slovenia
E-mail: jerneja.jurca@siol.net

Irena Karčnik
European Faculty of Law in Nova Gorica, Nova Gorica, Slovenia
E-mail: irena.karcnik@siol.net

Irena Razpotnik
European Faculty of Law in Nova Gorica, Nova Gorica, Slovenia
E-mail: janez.razpotnik@amis.net

Lidija Dovgan Žvegla
European Faculty of Law in Nova Gorica, Nova Gorica, Slovenia
E-mail: lidija.zvegla@siol.net

Acknowledgement

The authors would like to express their gratitude to all involved in the survey and also to Kaliopa Dimitrovska-Andrews, Ivan Stanič and Mojca Šašek Divjak for their professional assistance in preparing this article.

References

Breakwell, M. G., Hammond, S. & Fife-Schaw, C. (1995) *Research methods in psychology*. London, SAGE Publications Ltd.

Bruce, A., Lyall, C., Tait, J. & Williams, R. (2004) Interdisciplinary integration in Europe: The case of the Fifth Framework Programme. *Futures*, 36, pp. 457–470.

Castán Broto, V., Gislason, M. & Ehlers, M. H. (2009) Practising interdisciplinarity in the interplay between disciplines: Experiences of established researchers. *Environmental Science & Policy*, 12, pp. 922–933.

Conclusions of the Council and of the Representatives of the Governments of the Member States, meeting within the Council, on the role of the development of skills and competences in taking forward the Lisbon goals. Official Journal of the European Union, no. C 292/02/2005. Luxemburg.

Drobne, S., Breznikar, A. & Babič, U. (2006) Mnenje diplomantov o učinkovitosti študija geodezije. *Geodetski vestnik*, 50(2), pp. 270–286.

Evans, R. & Marvin, S. (2004) *Disciplining the sustainable city: Moving beyond science, technology or society.* Available at: http://www.lse.ac.uk/collections/resurgentCity/Papers/marvinevans.pdf (accessed 19 Mar. 2010).

Fendre, B. (2008) *Čustvena inteligenca – pot do poslovne uspešnosti*. Master's dissertation. Ljubljana, Univerza v Ljubljani, Ekonomska fakulteta.

Frs, H. (1962) Institutional means of collaboration between the social sciences. *Social Science Information,* 1, pp. 5–22.

Glaser, J., Pohlan, J. & Schlomka, B. (2003) Harburger Absolventen befragung 2003. *Raum Planung*, 110, pp. 1–6.

Hafner Fink, M. (2004) *Metodologija družboslovnega raziskovanja*. Ljubljana, FDV.

Internet 1: http://www.slonep.net/pred–gradnjo/lokacija/prostorsko–nacrtovanje (accessed 28 Aug. 2009).

Internet 2: http://www.immobilienakademie.net/unser-unternehmen (accessed 10 Oct. 2009).

Internet 3: http://www.mnovice.com/2009/03/znanje-vescine-kompetence (accessed 9 Jun. 2009).

Internet 4: http://www.moj-mentor.si/vescine-znanja-talenti.html (accessed 9 Jun. 2009).

Internet 5: http//www.kamen.uni-mb.si/dokument.aspx?id=2215 (accessed 10 Oct. 2009).

Internet 6: http//www.ecnm.si/dokumenti/vok/Urbanizem.pdf (accessed 10 Oct. 2009).

Parham, S. (2004) *A synthesis: New strategies for education in architecture and urbanism.* Available at: http://www.ceunet.org/reportfromviseu.html (accessed 6 Sep. 2009).

Petrie, H. G. (1976) Do you see what I see? The epistemology of interdisciplinary inquiry. *Journal of Aesthetic Education*, 10(1), pp. 29–43.

Petts, J., Owens, S. & Bulkeley, H. (2008) Crossing boundaries: Interdisciplinarity in the context of urban environments. *Geoforum*, 39(2), pp. 593–601.

Pogačnik, A. (2006) Nagovor ob prejemu Fabianijeve nagrade. *Geodetski vestnik*, 50(4), pp. 698–701.

Ramadier, T. (2004) Transdisciplinarity and its challenges: The case of urban studies. *Futures*, 36, pp. 423–439.

Režek, J. (2004) Evolucija stroke in nova delovna področja geodezije. *Geodetski vestnik*, 48(1), pp. 93–98.

Schäfer, R. (2002) *Fachliche Standards für die Akkreditierung von Studiengängen der Stadtplanung, Raumplanung*. Available at: http://www.srl.de/dateien/dokumente/de/fachliche_standards_fuer_die_akkreditierung_von_studiengaengen_der_stadtplanung_raumplanung_november_2002.pdf (accessed 10 Oct. 2009).

Stanič, I. (1997) Planiranje skozi komunikacijo. *Urbani izziv*, 30/31, pp. 80–82.

Streich, B. (2005) *Stadtplanung in der Wissensgesellschaft. Ein Handbuch*. Wiesbaden, VS Verlag für Sozialwissenschaften.

Urban Institute of Germany (2001) *Arbeitspapiere Band 5, Dokumentation des Impulskongress Quartiermanagement, Berlin*. Available at: http://www.difu.de/publikationen/2001/soziale-stadt-impulskongress-quartiermanagement.html (accessed 21 Mar. 2010).

Vogt, S. (2001) *Neue Wege der Stadtplanung in Japan. Partizipationsansätze auf der Mikroebene, dargestellt anhand ausgewählter machizukuri–Projekte in Tokyo.* Munich, Iudicium Verlag GmbH.