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Learning sustainable metropolitan development for european students of planning

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Abstract :

Today, environmental problems and metropolitan planning concerns most of the planners threwh Europe. Consequently, it's important provide to the students tools and skills to solve them. Despite the diversity of knowledge and multiplicity of practical exercises given to the students, the methods developed by planners are heavily influenced by his own native culture. For example, Italians don't treat environmental problems and metropolization as Germans or French do. The metropolization varies from country to country. The specificity of each country approach is revealed by the legislation but also by the priority given to a particular aspect or by the tools used. Some countries focus on esthetics aspects or quantitative analysis while others prefer qualitative analysis and functional aspects.

Learning this specialties is interesting because it helps one criticize his own knowledge and skills and it helps to collaborated with foreign planners. Conferences about compared analysis helps students improve understanding of foreign approaches but they don't necessary change one's behavior.

We put 35 students together from five different countries (England, Germany, The Netherlands, France and Italy) for 10 days and we gave them a real environmental problem to solve. The topic of the programme changes each year. This year, the students deal with the environmental problem due to the extension of a medium metropolitan area. The students are mixed in multinational groups. Confronted with problems to solve, they must mobilize their skills, explain their particular point of view and find a compromise to solve the problem.

The aim of this proposal is to explain how the students are prepared both to solve a real environmental problem and to accept another system of analysis.

Keywords : European cooperation, metropolitan spread, project assessment, sustainable developement, team work

Introduction

Metropolitan areas are experiencing great development. There are several ways for a big town to develop. Old centres or old disused districts can be reinvested and densified or else the development takes place by sprawling. New houses or facilities can be scattered or, if the growth take place close to the centre, new districts can be constructed. These are the ways of metropolitan development which are traditionally observed.

Throughout Europe we can find various examples of this diversity. Hanover used the international expo of 1997 to build a new village, Njmegem set up a new quarter of dwellers, near a dyked river. Bristol is thinking about a new international airport close to the city. Tours is building a new quarter of 60 ha in a flood area. Bologna decided to densify the old area of Morano which is partially abandoned.

Nobody can contest the need for the metropolis to find new space to expand. But planners must wonder if there some ways which are more sustainable than others.

In our planning training, we teach sustainable development principles to our students. But sustainable development is still a new concept and its application is not obvious. As sustainability is a recent concept it is

interesting to compare how planners in other countries deal with it. Lectures are not sufficient to make students able to apply sustainable principles, therefore we give them real cases of planning to analyse. We aim to bring together students from five countries and to give them a real case of planning to study. Thus, they can improve their ability to apply sustainability principles and they can become conscious of the various interpretations of the concept.

The aim of this article is to present the interest of mixing student planners from five countries. We will present the sensibilities and skills developed by each country. Then, we will analyse the skills and knowledge the students are able to share in order to analyse a real case study of town planning. But first, we are going to present the Intensive Programme designed to make the students from various countries work together.

I) An Intensive Programme to make the students work on sustainable planning

A) Difficulties of a clear definition of sustainability in town planning

During the Rio round of 1992, sustainability was defined as a way of development with the aim of satisfying present needs without threatening those of future generations (Vilain, 2000). Sustainable development simultaneously combines economic efficiency and reasonable management of the environment and social fabric.

Economic efficiency is well known and there are plenty of objective criteria which can quantify it. The reasonable management of the environment needs some explanations. We can say that human activity is reasonable management from the point of view of the environment if it consumes very few non renewable resources. If it doesn't take too many renewable resources to allow stocks to reconstitute and if it produces very little waste. The definition of a reasonable management of social fabric is the most difficult. Because this variable refers to ethical values which have no precise scientific status and depend on the territory considered (Vilain, 2000).

To be sustainable, a planning project needs to take account of the three dimensions. For example, huge economic development does not allow us to be careless with the environment and so on. Comparing students' work from different countries is interesting because it shows what dimensions are privileged according to the country.

B) The preparation of the students to work together on a real case of town planning

The idea is to put together 35 students from five countries (England, Germany, France, Italy, the Netherlands). The students had to work in groups and analyse a case study. This project was possible thanks to the European Union which funded an Intensive Programme. The Intensive Programme in Tours employed a variety of different methods to teach 35 students over 11 days. These included lectures on a daily basis for the first five days of the project, field work carried out by the students themselves, field trips to local but relevant areas, tutorials in which they presented their work in small groups to the international tutors.

The students come from schools of planning (the University of Bologna, the University of West of England, Bristol, the University of Hannover, the Catholic University of Nijmegen, the University of François Rabelais, Tours). They are postgraduates in town, country, spatial or regional planning. Such students show maturity in their thought processes and have sufficient background knowledge to compare and contrast practices in different countries. Of course the students are fluent in English as the programme is delivered in English.

The activity covers two elements : the first is the presentation of ideas from their home nation, related to an agreed topic which concerns aspects of sustainability ; the second is the mixed nationality collaborative group work carried out with the aim of producing a sustainable plan for the host nation. The method of teaching is to provide lectures and talks in the academic environment and in the field with visits to a variety of places and interest to the project and with workshops and exercises during the supervised project sessions in the university. The emphasis will be on independent work but the students will be guided in the principles of collaborative group work

This year the home nation worked on the rehabilitation of the old disused area of Morano(Bologna). the realisation of new districts near the city centre (Hannover, Nijmegen and Tours). Hannover focused on the expo-village of Kronsberg while Tours and Nijmegen studied the case of building in flood areas. Lastly, Bristol worked on the potential for a new airport close the town of Bristol.

C) The subject of the Intensive Programme



Map of the district of the Deux Lions

The aim of the Intensive Programme to be held in Tours in 2004 is to assess the construction of a new district (The Deux Lions) in the built-up area of Tours in France. Presented as a showcase venture, it brings together several major issues at stake : social mix, mixed uses, access by public transport, and the presence of a natural environment. Above all, the development of this district raises the question of its link with the other urban centres of Tours and Joué-les-Tours. Keeping in mind the perspective of sustainable development and social cohesion, the objective is to analyse whether the expansion of this modern district jeopardises the regeneration of the old centres or whether it will benefit the whole of the built-up area.

Resulting from this work, the students will be expected to make recommendations for sustainable policies of development so that the Deux Lions district will play a dynamic role in the renewal of the other areas of the conurbation. The European participants will benefit from this experience for similar projects in their own countries.

The aims of the Intensive Programme are to increase awareness of issues of sustainability with regards to transportation, to learn from different European practices and apply them to planning in Tours, to make a multinational contribution to a “live” issue and to compare different approaches of different planning systems.

II) Various skills and knowledge developed in each country

A) Interest of the pedagogical process centred on the student

Pedagogical processes can be divided into three categories : lectures, team work and individual learning. The perfect process does not exist, it depends on the aims of the teacher.

During the Intensive Programme, we want to promote a high level of cognitive apprenticeships, that is to say, synthesis activities according to B. Bloom’s taxonomy (Pregent, 1990). In such activities the students are

expected to produce an original work. They mobilize their knowledge in a specific corpus to aggregate abstract relationships. Typically, the realisation of an assessment report trains the students to make syntheses. Moreover, we seek to promote the autonomy of the students. We want the students to learn to organize their time and the distribution of their effort. This autonomy makes the students more responsible and considerably increases their motivation. It promotes long term memorisation, the development of the thought process and the transposition of the apprenticeships. The impact of their work is greater.

Under these conditions, we choose a process centred on the students and we propose a project. The students have to analyse a real planning project. The case studied is simplified, they have no budget to manage. Moreover, the silent partner is fictitious and they are not expected to evaluate the impact of their propositions. The students are supervised by a tutor but they have to respect a timetable and to find pertinent information and contact the appropriate people.

In a project, the most important element is not the matter itself but the application of a process or of a body of knowledge. So, the resolution of a project is an excellent revelation of the particular skills or knowledge learnt.

B) Various skills developed according to the native country

To prepare the intensive programme, each planning school had to present a case of urban development. We can divide the presentations into two groups. The English and Dutch focused on analyses whereas the Italians, Germans and French developed proposals.

1) Tools for a deep analysis

Students from Bristol had to assess the potential of a new international airport to the north of the town of Bristol. The forecasted high growth of flights push the planners to imagine a new airport. The project would cover 810 ha of rural land. The initial capacity would be 3.5 million passengers per annum. It could rise to a maximum of 20-30 millions passengers per year. The students have to compare the cost and the advantages of this project. They evaluated the economic fall out and they compared them to the environmental and social impacts. The question is : "Is the airport sustainable ?". To answer, the students have to quantify the economic development induced, the quantity of pollution emitted and the disturbance to the neighbourhood. They apply a classical cost/profit process. We can notice that English students do not merely make a qualitative comparison but they produce quantitative data.

During the second part of the seminar, the British teachers proposed a SWOT analysis as a grid of diagnosis. The SWOT analysis enables us to classify the elements in Strengths, Weaknesses, Opportunities and Threats. It distinguishes the present (strengths and weaknesses) and the future (opportunities and threats). This grid proved useful for all the students because they were more precise in their analysis and they could project into the future more easily.

The Dutch students were expected to assess the sustainability of the extension of Nijmegen to the North. They presented the steps of their analysis clearly. They defined the sustainable issues then the criteria of sustainability. To improve their analysis they made a comparative analysis between two cases of city expansion (the South axis in Amsterdam and Waalsprong in Nijmegen).

The conclusion of both groups is to say whether or not the project is sustainable. They do not develop alternative proposals. This is the main difference with the three others groups.

2) The research of proposals

German people can be considered as an intermediate group. They worked on the expo village Kornberg. The world exhibition Expo 2000 took place in the city of Hannover. It was combined with an ambitious residential development project. As a model project, a completely new residential district was created outside the exhibition ground to demonstrate the world exhibition motto : "Humankind - Nature - Technology". The project aimed at presenting practicable solutions for sustainable building and housing which should be transferable to other communities. 6000 dwellings for 15000 people have been constructed in this area. Germans students make a rigorous analysis. They studied the three dimensions of sustainability. But they evaluate more precisely the concrete measures adopted to respect sustainability principles. Thus, they can say what measures are advisable to transfer to other situations.

The Italians are confronted with the rehabilitation of the Morano area Holiday homes. The Morano area was built in the 19th century to host the first "bathers". Gradually, Morano lost its function and the holiday homes were abandoned. Large parklands have also been abandoned. Today, the holiday homes are disused but there is a

renewal of interest for them by new tourists. The Italian students were expected to make a diagnosis of the situation. They made a list of opportunities and the impediments and they imagined a plan of rehabilitation which concerns the whole area. We can notice that the Italians used drawn documents intensively to explain their analysis and their proposals.

In the same way, the French students exploited their analysis in order to make proposals. They had to analyse the impact of the realisation of a new district (the Deux Lions) in the built-up area of Tours. From a sustainable point of view they had to determine whether the project of the Deux Lions district with its 2000 inhabitants, 3000 workers and 18000m² of commodities will generate a balanced development for the whole area or whether it will induce a simple transfer of already existing activities. The students developed a prospective process. They made a diagnosis and imagined a scenario. To prevent the unsustainable trends, they elaborated proposals.

Each national group of students is not necessarily representative of its country. But it is interesting to learn that depending on the university, students will be better at analysing a project or proposing practical measures. The two activities are not equivalent. Analysis is based more on a hypothesis - deductive argument - whereas proposals need an original work of the imagination. Of course, both activities remain inside the same corpus of knowledge (town planning).

The second lesson that comes from the comparison of national students' work is their preference for a particular dimension of sustainability.

C) Variable sensitiveness about sustainable development

Sustainability puts on the same level and links economic development, environmental preservation and social development. The strength of the concept of sustainability is that these three dimensions must be considered at the same time. A very strong economic development cannot be justified if it does not consider its impact on natural resources or on social fabric.

Despite this principle of balance, the group focused on or related in detail some particular aspects of sustainability. The best aspect studied is the environmental impact. The German group related in particular detail environmental sustainability. They studied energy consumption, water management, waste management, transport management and they were the only group who spoke about soil management. The Dutch had a particular interest in water management and multiple land use.

The Italians and French also gave a preponderance to environmental sustainability but also took account of social sustainability. The Italians focused on aesthetic and patrimonial elements, whereas the French preferred social fairness. For example the Italians gave an importance to saving historic buildings and the French people were susceptible to a shared development. Several groups mentioned public participation but they did not develop it.

We can notice that economic sustainability is little developed except by the English group. This is paradoxical and interesting because economic development was the first to benefit from theoretical studies and there are plenty of criteria to describe it.

Finally, we notice that all the groups gave an importance to accessibility in their analysis or proposals.

The groups developed complementary skills and knowledge. In the second part of the seminar we mixed the nationalities. The interest is to sum up the strengths of each group. But the students had to communicate in English which is a foreign language for most of the students. Of course, English students have no problem with it but they were a minority. Under those conditions, it is more difficult to share specificities and easier to share already common knowledge. The students had little time but they were obliged to produce an analysis and proposals. So they had to elaborate a common thought.

III) The predominance of environmental sustainability

A) Instructions given to the groups

During the second part of the Intensive Programme students are mixed in multinational groups. Each group has the five nationalities. They are in the same proportion. Sometimes the French can be slightly over represented (two people instead of one person). Students have to make a SWOT analysis and a concept plan. They are based on observations, lectures, information from the French students and literature. At the end of this analysis the students say if sustainable principles have been respected. The swot analysis is drawn up in a concept plan. There are then three subjects to study (2 groups per subject) :

1. public spaces, gardens, parks, play areas, nature and landscaping
2. residential areas, including design, social aspects and sustainability
3. commercial and community facilities including retail, leisure, educational

The students have to imagine proposals and produce a short report including maps and prepare a presentation for 20 minutes.

B) The answers brought by the students

The main strengths of the Deux Lions district are the surrounding natural areas and corridors, the multiple land use, the carefully thought-out architecture and the proximity of the city centre. On the other hand, the main weaknesses are the weak energy, water and waste management and the location itself as the Deux Lions is an old flood area. Now it is protected by a dyke but the flow of the river has been significantly modified.

The analysis of the students' work shows that all the groups emphasised the presence of nature. There is a lake to the east, a hill side and a little river in the south, a natural plain to the west and the river Cher (dyked) in the north. Some paths have been made along these corridors. The students insisted on the need to develop more paths for bicycles and pedestrians as cars are still very present.

The idea is to test whether the students sum up their strengths to make a global analysis of sustainability. In fact they are mainly focused on environmental aspects. All the groups seek to establish a human size and convivial development.

The groups which worked on public spaces appreciated the surrounding nature. It is an opportunity and they suggested linking public space with natural areas. They expected nature to be closer to the inhabitants and the passers-by. They wanted to restore a pleasant atmosphere. With the same aim, they suggested promoting shops near the houses. They insisted on the need to install a process for water and waste management. We notice that nature is considered more as an ambient atmosphere than as an ecosystem.

The second group worked on a residential area. Like their friends they underlined the need to make nature closer to the dwellings. They suggested developing systems for waste and water management in the buildings and to educate people about it. They thought ground shops would improve the lifestyle of the inhabitants. They suggested developing citizen councils. Their philosophy is that people must find all basic requirements close at hand and they must not generate waste. They do not evaluate the profit -earning capacity for small shops.

Lastly, the groups in charge of commercial and community facilities developed once again the idea of well being for the inhabitants and workers. So they suggested developing people interactivity, proximity services and shops. They thought workers must find facilities for their children and good conditions of work. They did not develop any ideas to strengthen economic development. They suggested cooperation between the university and the companies but they did not check if there is a potential collaboration possible. This interesting suggestion remains very general. Moreover, they did not evaluate the profit -earning capacity for ground shops. To finish, they suggested that the companies should manage their waste and their energy consumption.

Conclusion

The main objectives of the programme were achieved. The students learned to work together and to listen to one another. The programme contributes to European construction by developing understanding across cultures and nations. However, it was very difficult for the students to link economic development with environmental development and social fairness. Only the English students studied economic development in depth and they concluded that the realisation of the airport was not sustainable. They did not make an alternative proposal.

This highlights the necessity for schools of planning to focus on the link between economic development and the other two aspects of sustainable development.

Bibliography

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I thank Brynie Drain for correcting my English text

Rider :**Time-table of the Intensive Programme**

Fri. 5 th of March	Sat. 6 th of March	Sun. 7 th of March	Mon. 8 th of March	Tue. 9 th of March
10:00 : Welcome from the Director of the studies of the Department of Planning 10:15 : Welcome from José Serrano 10:30 : Coffee 11:00-12:30 : National groups' presentations about sustainable development - Bristol (30') - Hannover (30') - Nijmegen (30')	9:30-10:30 : National groups' presentations about sustainable development - Bologna (30') - Tours (30') 11:00-12:30 : Lectures - Planning in France (J.P. Carrière) (60') - Centrality (S. Thibault) (25')	10:30-12:00 : Lecture The development of Tours (G. Landuré)	9:00-10:30 : Lectures - Territorial marketing (C. Deamazière) (45') - Intraurban transports (L. Guimas) (45') 11:00-12:00 : Lecture Public space of the Deux Lions (P. Herlin) (60')	9:15 : Welcome from the director of the planning departement 9:30-12:00 : Animation of groups (J. Serrano) 12:00-12:30 : The objectives of the seminar (J. Askew)
Seminar Lunch				
14:00-17:00 : Presentation of the district of Deux Lions - Projet planning and walking tour in the area (A. Goudeau, F. Tessier)		13:30-17:00 : Guided tour : The urban operations in Tours (G. Landuré)	14:00-15:00 : Architects' presentations of the district of the Deux Lions (J. Souquet) 15:15-17:00 : Lectures - The history of the Deux Lions (J.C. Drouin) (15') - The nature in the two Lions area (F. Botté) (60')	14:00-18:00 : Students' work
Evening : Night visit of the city centre				18:00-19:00 : Roundtable (Occupants of the 2 Lions)

Wed. 10 th of March	Thu. 11 th of March	Fri. 12 th of March	Sat. 13 th of March	Sun. 14 th of March
9:30-11:30 : Guided tour : Urban operations in Amboise (J.C. Buisson)	9:30-12:00 : Students' work	9:30-12:00 : Students' work	9:30-12:00 : Students' work	9:30-11:00 : Students' work 11:00-12:30 : Final presentations : - Group 1 (30') - Group 2 (30') - Group 3 (30')
Seminar Lunch		Seminar Lunch		
Independant sightseeing in Amboise, Return to Tours at 17:00	14:00-18:00 :State of advancement : each group presents their work 6 groups (40'/gr) (M. Devereux, O. Gnest, N. Muller, J. Serrano, C. Julien, D. Martouzet)	14:00-18:00 : Students' work	14:00-18:00 : Students' work	13:30-15:00 : Final presentations : - Group 4 (30') - Group 5 (30') - Group 6 (30') 15:30-16:00 : examiners assessment 16:00-16:30 : Closing ceremony of the seminar
		Evening : Distribute CESA's student degrees		