

# Development and Evaluation of an International Co-operative Educational Project: A Website Course on Spatial Transformation in Post-apartheid South Africa

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*The website <[www.kuleuven.ac.be/south\\_africa](http://www.kuleuven.ac.be/south_africa)> is the result of an international collaboration between the Geography and Political Science departments of the Catholic University of Leuven (K.U.Leuven) in Belgium, the University of Orange Free State, and the University of Stellenbosch in South Africa. This educational project focuses on five topics reflecting intense and even problematic developments in South Africa. All five topics allow students to examine issues of spatial perspective, planning, and management. This educational project is designed for students in all locales, and is not limited to those in South Africa or Belgium. Moreover, it also provides useful information for professional geographers. The international team worked together on each component: designing the structure, choosing educational objectives, writing the theoretical framework, selecting case studies, and reviewing accuracy and clarity. Beyond the universities directly involved, the international educational community was asked to participate in the evaluation of this educational tool. The way in which an evaluation system was put in place is exceptional and will be highlighted in this paper.*

**Key Words:** website, international collaboration, international evaluation, South Africa, Belgium.

## THE CONTEXT: INTERNATIONAL COLLABORATION IN GEOGRAPHY EDUCATION

The website <[www.kuleuven.ac.be/south\\_africa](http://www.kuleuven.ac.be/south_africa)> is the result of international collaboration between the Geography and Political Science departments of the Catholic University of Leuven (K.U.Leuven), the University of Orange Free State, and the University of Stellenbosch. This project was funded by the Flemish Ministry of Education and supported by a bilateral agreement between

K.U.Leuven and the two South African universities. This educational project is designed for students, but people looking for insight into the spatial structure of South Africa and its recent evolution may also find a large quantity of useful information. The objectives and content were designed by an international team to meet both the educational and informational needs of a wide range of users. As the title suggests, this paper has a dual aim:

- 1) to give the reader insight into the objectives, target groups, structure and content of the website (section 2), and
- 2) to illustrate the steps of evaluation conducted through international collaboration and the results of that evaluation (section 3).

## **THE DEVELOPMENT OF THE WEBSITE**

### **Taking into account a large and differentiated student group**

Although the website deals with 'spatial transformation in post-apartheid South Africa,' the user group is not restricted to South African geography students. Consequently, the question of creating an educational tool for students with variations in their prior knowledge, different learning behaviour, and different transfer possibilities<sup>1</sup> was addressed. Considering the origin of the website, one can suppose that especially South African and Belgian educators will incorporate the website course in their teaching, but interested instructors and students from all over the world are also able to take advantage of the material. The same applies to people in disciplines other than geography who deal with or are interested in space. Although educational use is the main function, one can imagine the website being used by many others (e.g. by someone preparing an in-depth exploration of South Africa that goes beyond traditional tourist destinations).

The development of the website was challenging and difficult at the same time, since the material was gathered by people from differing backgrounds and languages. These include staff members from different departments and post-graduate students from both South Africa and Belgium. Student involvement through contribution to case studies was (and still is) one of the objectives. Consequently, the website had to be a tool *for* students, and partly *by* students without loss of quality and accuracy. Tasks were very much entwined, such as in the case of Belgian post-graduate students who went to South Africa for field work, were coached by South African staff, and brought back information to be transformed and translated by Belgian staff. Once the appropriate structure had been determined, the South African staff revised it both in order to make sure that mistakes and misinterpretations were minimized and that the English translation was smooth. In general, the South

African staff contributed more to the content of the website, while the Belgian staff took responsibility for the coordination and the technical issues.

## **Content and structure**

The team of Belgian and South African researchers, referred to in the website as 'the project team,' agreed on a series of 5 topics. These topics reflected intense, problematic developments on a spatial perspective that could benefit from spatial planning or management. Such developments include explosive urban growth, deficiency in housing and the problem of informal settlements, the spatial segregation of facilities, the gap between international investments and local informal economies, etc. The selected topics offered a forum for not only national but also international reflection on the impact of policy, culture, values, social processes and/or economic phenomena on the spatial structure.

The five topics developed as modules for the website include: a) Economic restructuring (module 2), b) Dynamics and inertia of the post-apartheid city (module 3), c) The urban fringe: conflicts in the process of transformation (module 4), and d) Inequality issues in access to leisure facilities (module 5). Since the website is intended to grow by adding new case studies and modules, these topics do not constitute a closed series. Summaries of all these modules are available on the website and in the manual (Prinsloo, Jansen-Verbeke, and Vanneste 1999). The fifth module (numbered module 1), is somewhat different from the others and focuses on the historical, social and political framework for understanding the other modules. Because the historical and political context of South Africa is so complex, the first module is only a summary of a larger contextual introduction that has been published in the manual (Prinsloo, Jansen-Verbeke, and Vanneste 1999). While this manual can be considered a publication on its own, it is designed to be used in conjunction with the website.

Since the website was developed for educational purposes, each of the modules is composed of several subsections essential for guiding the learning or exploring process. The components are: the focus (of the module), setting the scene, theoretical framework, lessons from case studies, challenges and trends, and recommended readings. The core of each module consists of the theoretical framework and the lessons from case studies. In general, the project team tried to make sure that several authors contributed to each module, and that at least two case studies broadened the scope of each module. This structure does not constrain visitors to the website into the linear path typical of a classic course. On the contrary, a variety of navigation possibilities can be used throughout the website, while a general sitemap as well as a sitemap per module display the overall structure. Overall navigation buttons (to the general information topics, to the home page, to the glossary or the list of acronyms, to other modules, etc.)

are in a horizontal (top) navigation bar. Navigation through the components of each module is possible by clicking on items on a vertical (left) navigation bar or on clickable indications on the webpage itself. This kind of navigation was reviewed before it was installed on the website by experts at the ‘Impulse Centre for Innovations in (Higher) Education,’ a common initiative of K.U.Leuven and some other schools for higher education in Flanders.

## **Objectives**

One of the main objectives of the project was to create a modern and appealing educational tool about South Africa that could be used locally, but that also permitted the South African content to be accessible to international users. The ‘internationalization’ aim gave rise to particular concerns about the quantity and quality of the visual materials (allowing the user of the website to walk around at particular sites in South Africa) and about the choice of the themes that had to go beyond the local scale in order to allow international debate and comparison. Furthermore, the project was designed for multidisciplinary use. Therefore, it was necessary for the website content, structure and design to invite users into a powerful learning experience that met broad educational goals put forward by the international project team, to wit:

- the stimulation of insights into the structures and processes, rather than focusing on knowledge of facts;
- activation of the learning process by case studies and transfer by asking for comparisons with other areas.

Translated into practical aims, the most important educational goals were:

- “to inform about and guide students in tracing and understanding the spatial transformations induced by political changes in South Africa”;
- “to stimulate perspectives and debate on development models for Less Developed Countries (LDCs) for the twenty-first century”;
- “to initiate cross-cultural exchange and inspiration”;
- “to establish a framework for future (international) cooperative (educational) research.”

An overview and summary of the educational goals and the content of each module can be found at the website, <[www.kuleuven.ca.be/south\\_africa/about](http://www.kuleuven.ca.be/south_africa/about)>.

## **Why a website?**

Both Belgium and South Africa have, or until recently had, quite traditional educational systems oriented towards transfer of knowledge from teacher to student, in which the teacher plays the major part without much active cooperation from the students. In Belgium, the educational goals are being reoriented

very quickly towards active learning, participation in the construction of knowledge and taking a responsible point of view through interaction with the present day socioeconomic and policy context. The same process is beginning in South African education. Therefore, one of the priorities when developing an educational tool was to make sure that it promoted the new orientation towards socially mediated, active construction of knowledge. The latter is a hot issue at K.U.Leuven University since the so-called 'guided self study' has been promoted as the major concept for instruction. This guided self study is considered an overall concept that implicates a) a reorientation of educational goals, a taking into account of the changing role of the university in society, b) a strengthening of the relationship between research, education, *and* international collaboration, c) a reorientation of the role of instructors, assistants and students, and d) special attention to support and feedback. The general objective not only is to have the students take responsibility for their own learning process but also to stimulate an attitude of active, lifelong learning.

The freedom offered by a website may contribute to both a more active and a more responsible role for the students. The fact of appealing constantly for students to exercise a critical attitude in evaluation and transfer is another element that incites activity and interactivity with peers. Furthermore, many black students in South Africa still have difficulty asserting their opinions or stating their views within a group. However, by using a website, the fear of expressing themselves in front of a group disappears. On the other hand, the website disallows the opportunity for anyone to 'hide' behind fellow students. All students *must* attribute significance even to difficult information and they *must* develop a critical view independently. Furthermore, a website allows substantial amounts of research material, especially about case studies, to reach the target group. By contrast, in a classic lecturing situation, the limited time and the linear development of the course may prevent the abundant use and recall of examples and visuals.

## **EVALUATION OF THE WEBSITE**

Even when objectives are carefully chosen and contents are close to reality and well illustrated, it may be that targeted learning is not all or not completely accomplished and that understanding of contents or the development of learning processes can be improved upon. Therefore, a procedure of international evaluation was put in place in order to optimise the educational function of the website for the broader learning community. The evaluation was conducted on two levels: 1) by technical and educational experts on information and communication technology (ICT) for educational purposes and 2) by students in both countries, from different educational levels and from different disciplines.

## **Evaluation by experts**

At the first stage, when the structure of the website was put in place, a group of experts at the K.U.Leuven offered a first screening of the website.<sup>2</sup> They examined the design of the website and its consequences for the relationship between ICT and education in general and for self-study purposes in particular. This feedback was particularly useful as it provided concrete examples of what, and especially what not, to expect from an educational website. In the second stage, when half of the modules were ready, the website was presented to South African and American colleagues<sup>3</sup> for evaluation and testing. The South African colleagues corrected errors in content and interpretation, but their overall reaction on the website as an educational tool was positive. They considered the website complementary to their way of teaching and helpful in making the first, experimental move towards a new way of educational practice. Nevertheless, they noted that major technical difficulties for using this kind of ICT-guided learning remained – specifically, problems with computer equipment and telecommunications infrastructure outside the universities were cited as making the possibilities for use less widely available.

## **Evaluation by students**

In order to get the opinion of students, quantitative as well as qualitative evaluation sessions were organised with students in both South Africa and Belgium (K.U.Leuven). The evaluation by students was exceptional in its extent because students from both countries, several disciplines and different educational traditions participated in this evaluation, using both open discussion and written documents. All South African students were geographers, but in Belgium there was the opportunity to evaluate the website between two disciplines, geography and history, since the historians were taking a compulsory course in geography. In the future the evaluation will be continued with economics students of the K.U.Leuven since, they too, have geography courses in which specific modules of the website will be used.

The qualitative data were obtained by recording and analysing open discussion in a classroom by geography students and by short papers for history students. At first, the students, especially the Belgian history students, were not happy with the assignment since most of them were convinced of their knowledge about South Africa, especially about apartheid and the abolition of apartheid associated with the release of Nelson Mandela. After the assignment, students recognized that they did not know that the apartheid society was strongly organized and regulated along spatial guidelines. The students did not realize that this heritage so strongly influenced present-day social patterns, and none of

them had any idea of what it meant to manage spatial and social developments after the abolition of the spatial restrictions that were anchored in the spatial apartheid planning. After working through the modules, the students recognized the importance of spatial inertia much better than before. They also used what they had learned about the social structure in the South African apartheid city to compare with European pre-industrial social patterns. In addition, they identified similarities between present urban growth in South Africa and other parts of the developing world, as well as between South Africa and the conditions in nineteenth century industrial towns in Europe.

These data were an excellent illustration of how the notion of 'transfer' from one geographic context to another can be put into practice. Discussion with geography students of the University of Orange Free State revealed an even more positive attitude toward the website as an educational tool. It was summarized as "very stimulating and inciting critical thinking." Some (especially Belgian) students mentioned the exploration of modules as too time consuming, but they also associated this belief with predispositions towards websites used for educational purposes. The quantitative analysis was made on the data collected via an evaluation form that was attached to the home page of the website. This evaluation form consisted of seventy items, each offering six response categories from "Strongly Disagree" (score = 1) to "Strongly Agree" (score = 6). The questions covered several topics, such as the overall impression (3 questions), my learning (18), the content (20), interaction and communication (10), navigation and control (9) and screen design (8), completed with demographic and background information about the respondents.

The analysis of these data suggest the positive opinions and attitudes towards the website. We do not intend to describe the results in detail since the summaries (Tables 1 to 5) speak for themselves. A mean score of 6 indicates that all students strongly agree with a particular statement about the website. Based on the scores for most questions, one can conclude that the structure and the content of the web based modules were satisfactory. Table 1 shows the results of the three questions dealing with the overall impression students had of the website.

In the additional tables (Tables 2, 3, 4, 5), a selection is given of the most interesting results of student evaluation of the website with regard to content, as a learning experience, as a tool for interaction and communication, and the functionality of navigation and control features. Even though student response was generally positive, several questions arose. For example, the website received a (slightly) better score from female students than from male students. Recent experience shows that some students demonstrate low interest in the use of websites for educational purposes.<sup>4</sup> Since, in many cases, male students are somewhat more familiar with the use of ICT than female students, the ICT experience may be a more renewing practice for women, and therefore seems more satisfactory.

Overall (N=169)	Mean	Score on 6 By nationality Euro(B) SA USA (N=154) (N=13) (N=2)	Score on 6 By nationality and sex Euro(B) M - F SA - F
Q1 an educational tool with considerable added value	4.53	4.5 5.4 (5.0)	4.6 4.3 5.3 5.5
Q2 allows for a greater involvement of students in the learning process	4.22	4.2 5.3 (5.0)	4.0 4.3 5.1 5.5
Q3 embedded in the course	4.05	3.8 5.4 (4.5)	3.6 4.0 5.3 5.4

Table 1. Overall impression (scores on 6).

The content	N	Questions with highest mean scores	Questions with lowest mean scores
Q33 would recommend to someone who is interested in the South African society	166	5.07	
Q25 the information presented on the website is up-to-date	166	4.99	
Q38 use of audio-visual material helps to interpret the actual landscape and society	166	4.83	
Q36 English is satisfactory	166		3.82
Q41 more useful than what is available elsewhere	166		3.57
Q22 the learning material is exciting	166		3.50

Table 2. Scores for content (on 6).



My learning	N	Questions with highest mean scores	Questions with lowest mean scores
Q17 enhance my understanding of the spatial transformations	166	5.08	
Q18 my understanding of the complex relationship has improved	166	4.88	
Q10 challenges me to think about relations within the learning material	166	4.55	
Q16 helps me in developping my own views	166	4.48	
Q15 encourages me to explore related material	166		3.63
Q19 I feel I could anticipate the future debate	166		3.31
Q21 provides a better learning experience	166		3.14

Table 3. Scores for the learning experience (on 6).

Interaction and communication	N	Questions with highest mean scores	Questions with lowest mean scores
Q45 initiates cross-cultural exchange and inspiration	166	4.10	
Q44 establishes a forum for debate amongst students	166		3.32

Table 4. Scores for interaction and communication (on 6).

Navigation and control	N	Questions with highest mean scores	Questions with lowest mean scores
Q53 first page looks good	166	4.47	
Q58 I feel in control of where I'm going	166		4.20

Table 5. Scores for navigation and control (on 6).

This hypothesis arises also from the fact that the scores amongst Belgian students (as a whole) were lower than from the South African students. The Belgian students generally had more ICT experience than the South African students, for many of whom it was the first time they had used the web. Does the challenge of getting through pages and the patience to click visuals and work more profoundly on information diminish as experience with the web grows? Foote states: "Students are prone to skim through hypertext at a pace too fast for reading and studying and may not make use of supporting resources or respond to what they find" (Foote 1998/2001). It may be possible that students experience a slowing effect if they are asked (obliged) to get through a website more intensively or more profoundly than just skimming, and with that the dissatisfaction grows.

Other results, especially about the learning experience, seem particularly important. Students seemed unsure whether, after all, this way of learning offered a better learning experience than a course in a classroom, which is still the most common way of teaching in both countries. The role of the website as a tool to initiate debate among students and the ability to anticipate future debates were characterized by weaker scores. The latter may be explained by the large number of first or second year students in the Belgian group, strongly influencing the results, who may be lacking in maturity for debate and strong personal opinions. Nevertheless, the lesson to be drawn is that the website is a powerful learning tool and a form of guided self study to be recommended, but that face-to-face discussions with lecturers and peers seem necessary to overcome the weak interaction and communication (Solem 2001). The lower scores for Belgian students (Table 1) may also illustrate that the internationalization of a certain content, linked to a remote location, cannot be taken for granted. Is internationalization of a local content (in this case the South African content presented to a Belgian audience) a utopia after all? We can be quite definite that this is not the case. During the discussions and in their papers, many Belgian students expressed themselves very clearly about the new insights and the broader scope they received by studying the website. Nevertheless, South African students may have been more interested than the Belgian students because they got information about their *own* country, and because they were invited to reflect on the possibilities and problems of their *own* society. It seems that, in a globalised society, 'cross-cultural exchange and inspiration' is still not self-evident. Internationalization continues to be a difficult process, even in a globalized world, and it may need to be stimulated by the instructor through such tactics as clarifying links with the home situation of the students. Another issue that is not frequently mentioned in the international literature, and too often taken for granted by the English-speaking community, is the language issue. The English language used in the website may be too simple for the one group of English speakers and too difficult for another group. All Flemish<sup>5</sup> students are expected

to have a passive as well as an active knowledge of the English language (and of French and German, besides their native language – Dutch). Nevertheless, quite a number of difficult terms, although clarified via the glossary, are used. Non-geography students may not be familiar with some (common) geographical terms, but even geography students may have difficulty with such terms in a non-native language. Therefore, Belgian students may have rated the website lower on the evaluation due to the time-consuming aspect of working through rather technical terms in a non-native language.

### **SOME CONSIDERATIONS**

A website such as the one presented in this paper needs continuous evaluation and feedback from the users (educators and students) about the development of the learning process. It has become clear that informal invitations and promises to do so are not adequate to collect the data necessary to make informed decisions and changes. We can give the example of the website, presentation at the Annual Meeting of the Association of American Geographers in Pittsburgh<sup>6</sup> (April 2000). Many of the participants showed a great interest in the website and seemed to appreciate the work done. But unfortunately, none of them gave any feedback afterwards, nor by email, nor by the evaluation form linked at the website. Therefore, more formal structures (e.g. within the IGU) and long-term projects should be involved with international evaluation and exchange of experience on the same, internationalized content. Projects and materials on global issues are very useful, but the collaboration and exchange aspect is lacking in many cases. Nevertheless, geographic educators around the world have become increasingly interested in cross-cultural research (Gerber 1999) and there is interest in promoting research on exchange of the contextual knowledge of American and European students on particular geographical subjects.<sup>7</sup> This seems very important since, with increasing globalisation, students must improve their communication skills as well as gaining an international perspective on issues of varying scales. The website discussed in this paper is a contribution to that perspective by using the power of geographical insights in conflict situations such as in South Africa and confronting the students with the need to adjust their ideas, attitudes and behaviours about other parts of the world. Therefore, the results of the development and the evaluation of the website <[www.kuleuven.ac.be/south\\_africa](http://www.kuleuven.ac.be/south_africa)> reveals an element that seems far more important than the technical quality of the website: it reveals that such an educational tool can stimulate international collaboration and exchange between people and that geographical insight, communicated to different remote groups via ICT, enhances intercultural communication and understanding.

## NOTES

- 1 By 'transfer' we understand the ability of a student to distinguish similarities and differences between the situation presented in the website and at other places (e.g. the home situation) and to apply, or at least to evaluate, the application possibilities of certain interventions (e.g. by spatial planning) mentioned in the modules.
- 2 This group consisted of a number of scientists, specialized in ICT-support for educational purposes, integrated into the K.U.Leuven Service of University Education (DUO) and the 'Impulse Centre for Innovations in Education,' at the disposal of the professors of K.U.Leuven and some other institutions for higher education in Flanders.
- 3 We would like to thank Dr. Ken Foote, responsible for the Virtual Geography Department, with its base presently at the University of Colorado at Boulder, for his active collaboration and very useful remarks and suggestions.
- 4 Refer Discussion Panel "The Effectiveness of the Internet for Improving Learning Outcomes in Large Lecture Courses," 97th Annual meeting of The Association of American Geographers, February 27-March 3, 2001, New York, N.Y.
- 5 The K.U.Leuven is situated in Flanders, the northern, Dutch speaking part of the country.
- 6 Illustrated paper session about "Learning and Teaching With Information and Computer Technology: Recent Innovations," Sponsored by Worldwide Web and Geography Education Speciality Groups, Annual Meeting of the Association of American Geographers, Pittsburgh, Pennsylvania USA, April 4-8, 2000.
- 7 Refer to the organisation of an International Research Seminar by J. Stoltman, Professor of Geography at Western Michigan University, (Oxford, June 30-July 2, 2001) to facilitate international projects and collaboration on geography and science education. (NSF-0118452)

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