

DEVELOPMENTS IN GEOMATICS EDUCATION (5)

GIMA: The Blended Learning Experience

In September 2003 an innovative MSc programme in geo-information was introduced in the Netherlands entitled Geographical Information Management and Applications (MSc-GIMA). This “blended learning”™ programme particularly suits professionals and students who have recently gained a bachelor’s degree. The author sketches the main design philosophy and structure of the course, initial experience and challenges.

Four renowned Dutch higher education institutes joined forces for the MSc-GIMA venture: the International Institute for Geo-Information Science and Earth Observation (ITC) in Enschede, Delft University of Technology (TUD), Utrecht University (UU) and Wageningen University and Research Centre (WUR). This collaboration is considered inevitable given the rapid developments in the field of Geo-Information Science.

Design Philosophy

Recent years have seen a tremendous increase in demand for highly qualified managers, application specialists and spatial researchers in the field of geo-information. This trend seems set to continue thanks to the increased importance of geo-information in total information supply. MSc-GIMA strives to provide people - managers, specialists and researchers - capable of bridging the gap between technology and application within organisations, at management level and on geo-information application or research projects. Prospective students are professionals with considerable practical experience, and students with a BA or BSc degree. Professionals receive an academic opportunity to update, expand and strengthen their knowledge and skills in geo-information management and applications, while fresh postgraduates are offered the possibility of specialising in geo-information and improving their employment opportunities.

Marc Brosschot, ESRI Netherlands, says, “Despite the many years that I have been working in the GIS world, I find participating in the GIMA programme very instructive. The programme has provided me with a better theoretical basis for my work and has jolted me awake. A new course provides new energy and new insight. The fact that GIMA is organised by four institutions appeals very much to me, since each institute provides specific expertise. This makes the programme both complete and varied. The contact days at the outset and conclusion of each module are an opportunity to get to know your fellow students. This is especially important since most of the assignments and presentations are carried out as a collaborative effort. I have a very positive regard for the GIMA programme. However, you should look before you leap in advance of enrolling for this programme; the part-time course involves an average weekly workload of twenty hours. Nevertheless, I am confident that with sufficient motivation it can be done next to a full-time job.”

Programme Structure

MSc-GIMA has a modular character (see Figure 1) and each of the six modules, each worth ten European Credit Points (ECTS), are arranged such that a theoretical module will always be followed up by one in which this theoretical knowledge is applied on an application project. In addition to elementary and advanced modules in methods and techniques, and modules in application of geo-information on concrete projects, there are two management modules, one dealing with management of geo-information projects (project management) and the other with management in organisations (line management) within which geo-information plays a central role. Professionals from the geo-information field provide guest lectures on the management modules and co-operate in project supervision. Professionals are also invited to express their opinion on the content and findings of the programme during annual general assessments. In addition to the six modules, the programme is completed with an internship and a thesis, each worth thirty ECTS.

Blended Learning

A main characteristic of the programme is the “blended learning”™ teaching approach, which combines contact hours with distance learning. Attendance is required only on the first three and last two days of each module, while the rest of the education is provided from a distance. Yet MSc-GIMA is not simply a written course; students and lecturers interact continually via ICT tools such as a “digital learning environment”™ and video-conferencing. Students may also choose between a four-year part-time programme and a two-year full-time one. The duration of instruction can be shortened considerably by exemptions such as for

internship (one year part-time); these apply mainly to professional students who have already worked in the field of geo-information for a number of years.

Lyande Elderink, ITC, says, *“I started MSc-GIMA in 2003 on a part-time basis and successfully completed the programme in 2006. The 'blended learning' of the GIMA programme gave me the opportunity to study for the MSc alongside my job. The twenty hours per week that are officially required for part-time students are absolutely necessary to finish the programme in good time. As a project officer at ITC I deal with many international and national projects in the field of GIS and Remote Sensing. MSc-GIMA combines the strongest 'geo' points of the four participating institutes in one MSc course. Therefore, on the basis of various universities’ different points of view and perspectives, I learned more about geo-information management and how to apply GIS, remote sensing and related tools. This is knowledge that I can now use in my daily activities at ITC.”*

Student Experience

The programme having now run for four years, initial experience is certainly encouraging. Although students do feel the need to put a lot of effort into the course, though no more than is officially required, all agree that they are acquiring valuable knowledge and insight. Professional students remark that much of what they learn can be applied directly in their work, while the postgraduates note that they are able in particular to learn a lot from the professional students. All students report as very inspiring and informative the diversity of their colleagues’ backgrounds. Not surprisingly, students communicate frequently with each other by telephone, email, online chat, video-conferencing and so on. The digital learning environment (discussion board) plays a central role in their mutual communications. To provide some insight into the MSc-GIMA from a student perspective, the personal impressions of two of our students are given in the text-boxes.

Challenges

There are also some challenges. A substantial increase in student numbers, now stabilised at about twenty per year, is required to make the programme profitable, so that promotional activities are continually undertaken. Another challenge is the dropout rate; temporary or definitive dropouts (25-35%) exceed mainstream contact education (10-20%), although this is still much lower than the 50%-plus dropout rate for 100% distance-learning programmes. The blended character of the programme may be mainly thanked for this. Exit conversations show reasons for dropping out mostly relate to changes in personal circumstances, including divorce, illness or death of a relative, and birth of a child, or to the working environment, such as change of job and promotion. Course-related reasons are an exception and usually have to do with underestimation of the workload. Further, distance education seems to take a good deal of getting used to. This applies to both students and lecturers (the latter for feedback), and requires quite some extra effort, adjustment in expectations and new didactical concepts. For instance, most foreign students from non-EU countries are used to continuous teacher-student interaction and their expectations match their experience.

Concluding Remarks

Despite the challenges outlined above, the overall picture emerging from the many student evaluations is that, although they must work hard, they are also very satisfied with what they learn and greatly appreciate the high quality of the course. In short, as a “blended learning” programme, the MSc-GIMA programme offers students and professionals an exciting opportunity to increase their knowledge, develop new skills, and hone and enhance existing skills in geo-information from an academic perspective.

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