Chapter 7
Higher Education and University Governance

7.1 Introduction

The last 30 years of lecturing, contributing to educational development Higher Education and University Governance has taught me that teaching and learning are constantly evolving and that an innovative approach is most effective. Throughout my career, I was instrumental in planning, developing, coordinating and implementing several degrees and courses at both undergraduate and postgraduate levels. I also developed a number of short courses as well as incorporating many new ideas on teaching and assessment methods. My involvement started at the University of Baghdad, Iraq, then Coventry University, UK, followed by the University of the West Indies, then Southern Cross University in Australia and the University of Kurdistan Hawler, Iraq. During my career, I have tried to make learning easy, simple, relevant, reflective and fun.

My teaching in general prescribes to the *deep learning approach* where students are encouraged to make sense of what is to be learned. This involves thinking and seeking integration between components and tasks. I have had success through practicing several aspects of teaching and learning in higher education. These include promoting active learning, building communication skills, debating objectively and presenting ideas clearly. Through my teaching, I have also adopted and encouraged student centred learning, hands-on practical sessions, and techniques helping in the development of transferable and group work skills. The supervision of undergraduate and postgraduate theses has become another important facet of my teaching development. All of these lead to a number of *educational developments* which include Computer Aided Learning; evaluating GIS for teaching purposes; designing and implementing specific projects to remedy problems associated with teaching environmental GIS technology at undergraduate level and developing strategies for teaching and learning Geoinformatics in higher education.

In terms of *teaching practice*, a strong two-way relationship exists between my teaching and research activities. The material in my courses is continually

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modified and updated to take account of recent trends identified from academic research as well as formal and informal student evaluation.

In order to satisfy my curiosity in terms of the learning processes. I attended a programme in Teaching and Learning in Higher Education and, having completed all the requirements was awarded *a Postgraduate Certificate in Teaching and Learning* in 1995 from Coventry University, UK.

In terms of managing and governing critical issues in Higher Education, I have developed my approaches and leadership skills and knowledge whilst being in post as the Chairman/Dean responsible for research and research training at the University of the West Indies, Head of School of Environmental Sciences and Management at Southern Cross University in Australia and the Vice Chancellor of Kurdistan Hawler, In Kurdistan Region, Iraq as well as having several other leadership affiliations and associations at national and international levels. I developed interests in mentoring staff, developing strategic, academic and financial plans, linking functions to form in terms of structures and work force functions. Besides developing workshops to energise staff research and provide guidance for obtaining research grants. In addition to sustainable learning and development, women leadership as well as innovative developments in Higher Education management and Governance.

7.2 Higher Education and University Governance in the UK

My first full time post in Higher Education was at Coventry University (Fig. 7.1), UK. This situation raised a number of issues and challenges. I had to find out what the department required of me in terms of teaching, research and administration. I was asked to teach Remote sensing and GIS, two new topics, so I had to work hard to design and prepare the necessary practical and tutorial sessions and also prepared the documentation taking into consideration classroom hours, size and number of groups taught and marking regimes. Then, I set out to acquire the necessary skills to teach which included;

1. Public Speaking, naturally, much of a lecturer's work involves public speaking in front of audiences of hundreds of people in large lecture theatres, an added difficulty in my case was teaching two new technology based topics in English to English native speakers.
   My personal experience through the university system as a student had subjected me to several lecturers who were extremely intelligent but simply could not convey ideas and information to students because of poor public speaking skills; hence, I was determined to acquire this skill. In the process, I learned the importance of controlling the nerves as well as the levels, pitch, tone and pace while speaking. My observations indicated that the majority of people

Fig. 7.1 My post, Research Unit and Tunisia Fieldwork with Coventry University Colleagues and Students, 1992–1998

speak too fast and too quietly with not enough eye contact with the audience, I concluded that nerves make most of us speak too quickly. This is backed by the fact that great orators such as Martin Luther King, tend to speak slowly and in reality it takes them a long time to say each sentence.

2. Time Management, having discussed my duties with some senior colleagues, it became apparent that time management is an essential skill to manage classroom time, preparation time, administration work and research. The advantage of the system was having the freedom to manage my time, however, the downside was having to be good at prioritising tasks and allocating them to spaces of time in my schedule. I was dealing with the requirements of several different mangers, including answering queries from numerous students, so I had to remain calm and focused under pressure. I had realised that planning and constantly assessing and reassessing progress are important, hence, I developed a system whereby I had an A4 page-per-day diary into which everything I had to do was written, to date, I still manage my responsibilities using this system.
3. Self-motivation, linked with point two is the skill of self-motivation. It is one of the joys of being in charge of your own working day that you can make it varied and tailor it to your own best working pattern, however, this relies on being able to motivate myself without the formality of having a line manager present. I learned that a secret to achieving self-motivation is a discipline, time management and to constantly define and assess the goals you are hoping to achieve.
4. Inter-personal communication, as a lecturer, it is important to be able to articulate your ideas on a one-to-one basis with students and your peers. This skill requires being able to maintain eye contact or reacting quickly to signals given off by your audience.

   I also found that the post required communicating with students on a personal basis as some students prefer to meet with the lecturers face to face to discuss problems with their work or their personal life. While not being a trained counselor, I understand the need to be able to put students at their ease and encourage them to discuss their issues, hence, mannerisms need to convey an 'open door' policy, heartening them to trust you as a mentor. This is very important if you are given the role of personal tutor.
5. Record keeping, I found that the post required good record keeping and being well-organised in both the physical office as well email/electronic filing systems. I had several hundred students in my care every year across several different courses so it was vital that to keep clear records as to their progress. These marks would be gathered gradually across the year. At the end of the academic year I had to submit these to a course leader or to a faculty administrator, so it is important to keep those records accurately and securely.

I noticed the need for developing student's communication skills and confidence; hence I developed some exercises to build these skills and to facilitate their active participation in tutorials and group work. This effort was published as part of a collection dealing with learning and innovation in Higher Education (Baban 1993).

Whilst at this post, I lead the development of one of the first B.Sc. degrees in Geographical Information Systems (GIS) in the UK Higher Education system during the early 1990s.

GIS is a multidimensional topic and it has developed from a number of data processing techniques including; Computer Cartography, Remote Sensing, Computer Aided Design and Data Base Management Systems. Thus GIS is based on a number of concepts and ideas across many disciplines including; Geography, Cartography, Spatial data analysis and Information technology. I discovered that these components and concepts, and the manner in which they interact with each other, were not familiar to the majority of students within the modular B.Sc. Honours degree run at Coventry University. Teaching GIS within a modular scheme is extremely difficult, as the level of student background knowledge in GIS is highly variable. An added difficulty is that a large number of variables need to be accounted for including; computing skills, apprehension, motivation and previous learning environment.

After some 5 years of teaching and during a reviewing process, I realised that the coverage of a wide range of concepts in the GIS course, in some cases, may appear to be fragmented in nature. This was then fully realised through student tutorial feedback sessions when some students found it difficult to view the GIS as a single entity with many components, and a clear distinctive philosophy. Therefore, I decided to develop and provide an integrated and holistic view of GIS combining all of the components and basic concepts. I also decided that this objective can best achieved by embedding it in an assessed project. The project format needed to facilitate and promote all the key elements of the 'deep learning approach' including; *motivational context, learner activity, interaction with others,* and a *well structured knowledge base* (Biggs 1989). In terms of selecting a 'topic', the basic idea was that the topic should act as a vehicle to carry the issues and concepts, which needed exploring. One of the most important characteristics of the topic is that it should be a familiar problem or idea; i.e. something that the students have an understanding of, so that they can use this knowledge to evaluate the outcome from the GIS process critically. The selected topic was the "Social and Environmental Quality of life in Coventry". It was chosen for two reasons; first, all of the students have been exposed to, participated in and developed an understanding of this problem by devising a sampling programme, collecting the data and creating maps to represent the spatial distribution of the measured qualities within Coventry. The issues for this particular topic were dealt with at level one within a Practical Geography Module. This means that the students would have an understanding of the process and have followed the stages; Real world, Observation, Sampling, Measurement and the Cartographic process. As this level one module is a prerequisite for the GIS module, it is safe to assume that all students would have had the experience. Secondly, by the time the project started, students would have lived for a minimum of 2 years in Coventry. They would have therefore formed ideas about the social and economic qualities within various parts of the city. This knowledge will be useful in critically evaluating the outcome from the GIS Project.

The project was implemented using a group work format. Project evaluation through student questionnaire feedback revealed that the design, implementation, learning format and environment were effective. It also showed that the central objective of establishing a holistic overview of GIS as one entity was fulfilled. Furthermore, the project was found to; enhance and add to student knowledge and understanding of GIS, provide a mechanism to reflect on the whole process (starting from sampling the real world and ending by implementing the findings to the real world) and build confidence regarding GIS usage. This research was published in the *Journal of Geography* (Baban 1998).

I also developed and taught a second year introductory course in Remote *Sensing and Image Processing Techniques* during 1994. A key feature of the course was an attempt to adopt a progressive and an integrated approach based on understanding and active learning. During the revision process, I thought that some of these objectives could be best achieved by adopting the deep learning approach. In this approach, the students are encouraged to make sense of the ideas and concepts to be learnt. This involves thinking and seeking integration between components and between tasks. Key elements of the approach are motivational context, learner activity, interaction with others and a well-structured knowledge base (Entwistle and Ramsden 1983; Biggs 1989). The latter is mainly focused on building new concepts based on old ones and relating knowledge to other knowledge rather than learned in isolation.

An attempt was made to enhance student learning and understanding of remote sensing by running a series of tutorials designed to accommodate all the requirements for the 'deep learning approach'. The tutorials were implemented using a group work format and the Star Trek series. Relevant concepts and issues were explained and discussed in each tutorial before hand. The students were then asked to complete a specific task individually and to scientifically justify their approach within a small group based on the theoretical and practical knowledge gained in the Remote Sensing module and what is possible using Star Trek technology. The tasks included requests to design or reconfigure existing sensors to detect particular features based on provided spectral information or attempting to determine the existence of civilisation on a nearby planet based on sensor readings. Tutorial evaluation through a student questionnaire indicated that the implementation approach and the learning format were effective. Furthermore, the objectives in terms of motivational context, learner activity, interaction with others and a structured knowledge base were fulfilled. Moreover, the tutorials seem to enhance and add to student knowledge and understanding of Remote sensing, provide a mechanism to locate the scientific knowledge gained during the module in a wider context and to build confidence regarding potential Remote sensing usage. This work was developed under the heading *Using Star Trek and The Deep Learning Approach To Take Remote Sensing Where It Has Not Gone Before* and it was published as a paper in the *proceedings of the Remote Sensing 2000 conference* (Baban 2000). In addition I promoted the use of Remote sensing and GIS as two complementary tools whilst focusing on the activities of the my research group (GRRU) both nationally and internationally (Baban 1995). Within this effort, I managed, in

collaboration with and Dr. A. Barazanji from University of Wales, Cardiff, UK, to obtain funds from the British Council in Jordan to develop and implement a Short Course in GIS and Remote Sensing for Jordanian Scientists working in the areas of geology and water resources management at Jordanian Universities.

By this stage, I was becoming interested in the history of teaching Geography using computers, which have inevitably been linked to developments in information technology (Maguire 1989), and the demand for graduates with such skills (Green and McEwen 1990). These facts have been widely recognised and, as a result, many academic geography departments in the UK have invested in computing facilitates during the 1980s (Taylor and Johnston 1995). I noted that this action had two major impacts on undergraduate geographical teaching. First, the creation of courses that make a technology, such as Remote sensing and GIS, an object of study in which the focus is acquiring new knowledge *about* Remote sensing and GIS technologies. Secondly, the technology has also been used as a tool for teaching and studying geography, in which the focus is conveying knowledge *with* remote sensing and GIS technologies. Whilst the majority of the Universities have taken this path, some were more successful than others. Hence, I was interested in assessing the departmental usage of Remote Sensing, GIS and the World Wide Web (WWW) in geographical education at Higher Education in the UK. In addition to attempting to appraise the potential trend for future usage and to understand why certain institutes seem to be more successful than others.

This interest led to several educational developments funded by the 'Higher Education Funding Council, UK' as an active member of the 'UK computer assisted learning consortium in Geography' to develop several teaching and learning programmes to promote the use of computers in teaching Geography within the UK Universities and Higher education institutions. Relevant to this activity, Maguire (1992) has identified the key elements in teaching geography using computers in general as; hardware, software, data and liveware. The perceived importance of each element has changed over time. The hardware element has been declining since the 1970s, the software element peaked in 1987. Data have been steadily increasing in perceived importance while liveware appears to have peaked during the early 1990s and has slightly declined since.

Potentially, new technologies can make a significant improvement to the quality of teaching and learning in geography and ultimately to geographical understanding. There is little tangible evidence that they are being used to their full potential (Shepherd 1985; Reeve 1985). My own experience was indicating to me that GIS is a valuable resource alongside remotely sensed information, fieldwork, and textbooks. It can be easily used for improving student learning of concepts, principles and facts. It can also help to bring the real world to life, giving graphical representation (Thompson 1987). The WWW also has a vast potential for education at all levels, it can provide educators and students with fresh and virtually instantaneously information. It also allows the transmission of video, sound, text, animation and graphics (Ingram 1994; BBC 1995; Kitchin 1995).

My feedback sessions with the students indicated that the students expected to be offered the opportunity to acquire not only substantive knowledge in geography

but also a range of transferable skills that can be applied when they enter the workplace. Future geographers are expected to have the necessary skills to manipulate and analyse available data sets (Green and McEwen 1990), via the WWW, often using Remote Sensing and GIS. Therefore, an understanding of how to handle and analyse digital spatial data is considered to be an important part of a geographer's education and training.

My study aimed to examine the usage of Geographical Information Systems (GIS), Remote Sensing (RS), and the World Wide Web (WWW) for teaching and learning within Geography in higher education, in addition to examining the potential future usage of all three technologies. A questionnaire was used to gather the information targeting all geography departments in the UK of whom 41 were returned giving a response rate of 51.2 %. All institutions were ranked based on their usage of each technology, and an overall usage ranking was calculated. Institutions achieving a higher than the average usage scores were identified for Remote sensing, GIS and WWW respectively. It was obvious that a large proportion of institutions surveyed were not fully aware of the variety, depth and potential usage of information accessible via the WWW. From the analysis, it was apparent that there is a correlation between the individual usage of these technologies within each institution and an overall expectation for increasing usage of all technologies in the future. Overall, traditional Universities had the highest ranking for each technology as well as the overall usage of all three technologies. This research was published in the *Journal of Surveying and Land Information Science* (Baban 2002a).

I noticed that the increase in student numbers has been associated with a substantial decrease in staff/student contact. This could have a direct effect on the learning process and could lead to lower standards. One way to minimise this possibility was by encouraging active learning through working in groups hence assisting students with sharing information and also increasing their communication skills and making them more visible in class. I developed an exercise to deliver these objectives and this work was published in a refereed chapter in a book (Baban 1993).

7.3 Higher Education and University Governance in the Caribbean

During September 2000, I was offered and accepted a post as a Professor of Surveying and Land Information in the University of the West Indies (Fig. 7.2). The Caribbean region, which consists of many small islands that span a large geographical area, faces numerous challenges in ensuring that it has sufficient numbers of qualified personnel to meet its developmental needs. As the only professor in my discipline at the University of the West Indies I was interested and obligated to find out if Geoinformatics Education provided by the University was

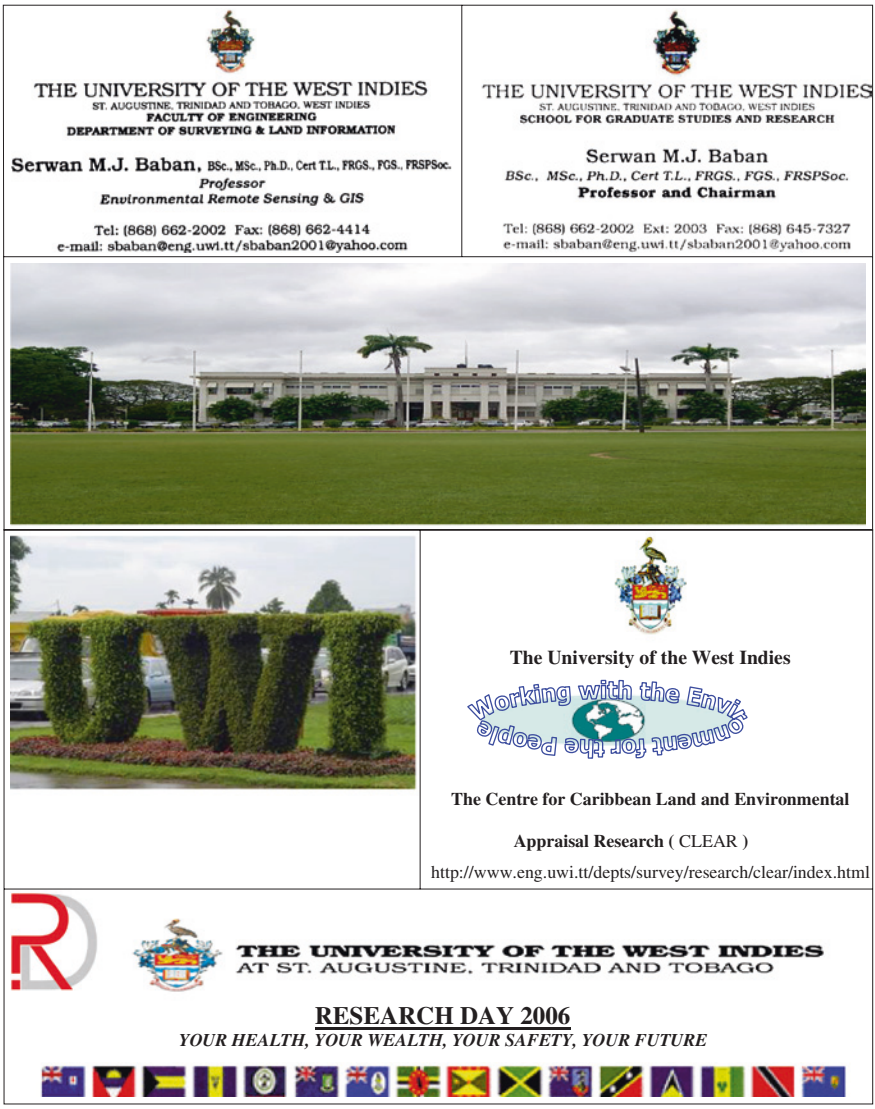

Fig. 7.2 My posts, Research Centre and Research Day 2006 at the University of West Indies

meeting the needs of students in the Caribbean Region. Hence, I reviewed a range of services and activities offered including; Geoinformatics education, research, development as well as extension activities. This research was published in the *International J. of Geoinformatics* (Baban et al. 2005). I also examined the indicators for determining the success of GIS technology within local government departments in both developed and developing countries. This was an analysis for

the uses and implementation strategies for GIS in both the UK and the Caribbean region; it was published in the journal *of Surveying and Land Information Science* (Baban and Ramlal 2006). I also developed and presented a paper in Regional Workshop on using Geoinformatics to manage Land Degradation in the Caribbean, during 2004 held in Trinidad (Ramlal et al. 2004a).

In terms of c*urriculum development*, at the University of the West Indies, I developed and coordinated an M.Sc. degree in Geoinformatics which was designed to address the specific needs of the region for Geoinformatics specialists. This program allows flexibility in areas of concentration, research and professional options, and a completion time of 18 months. The philosophy and major objectives of this program were examined. The program's entry requirements and structure were then presented. Plans for further development were discussed and conclusions presented. This research was published in the Asian Journal of Geoinformatics (Ramlal et al. 2004b).

I also contributed to a 'travelling' certificate in GIS. Besides developing and managing new M.Phil. and Ph.D. programs with particular emphasis on understanding and attempting to manage environmental and development challenges in the Caribbean region, I was also involved in developing an M.Sc. programme in Forestry and an M.Sc. Programme in Coastal/Marine Science and Technology. I also developed several undergraduate courses and postgraduate courses as well as a number of short courses including courses in Environmental GIS and Remote Sensing, Geoinformatics for Environmental Engineers and Geoinformatics for Forestry.

I developed several handbooks and information documents to providing basic Information on Postgraduate Research Opportunities and Staff Research Expertise and Activities (Baban 2001a), M.Sc. Geoinformatics Student Handbook 2002–2004 (Baban 2002b) and M.Sc. Geoinformatics Student Handbook 2005 (Baban 2005a).

During this period, I became involved with promoting environmental education and participatory decision making in the Caribbean Region using Geoinformatics through working with a number of NGO's such as the Cropper Foundation and Buccoo Reef Trust as well as Community Leaders in Trinidad and Tobago.

I continued promoting the use of Remote sensing and GIS into various applications and developed a Research Agenda to Minimise Environmental Degradation in the Badia Region, Using these technologies and presented it in an international workshop dealing with water management during 1999 in AL al-Bayt University, Mafraq, Jordan (Baban 2001b) and published it in an extended form as a chapter in a book (Baban 2002a).

When I became the Dean/Chairman, School of Graduate Studies and Research at the University of the West Indies, I noted that some colleagues and research students were very reluctant to write and publish in Peer-Reviewed Journals. I was taught early in my career that writing is the best way to communicate new ideas and concepts to interested parties and that the objectives of a research project are only completely met when the findings are published as a scientific paper. Furthermore, publication of articles in peer-reviewed papers can benefit the authors in many ways. Such publications are likely to satisfy the criterion for

promotion and career advancement world wide, increase the circle of professional acquaintances, and encourage ideas and responses from interested parties. Therefore, it was something of a paradox that many researchers, both experienced and inexperienced were reluctant to write. This is understandable of the new or novice researcher, who may have little idea of what might be expected particularly when effective mentoring is not provided. Among more experienced researchers, a dislike for the writing experience in journals, I thought, may partly be due to a continuing lack of confidence in their abilities.

Recently, there has been a significant increase in the number of papers submitted for publication to quality journals worldwide. Some could argue that this is caused by institutional requirements for research ranking or the requirements for personal promotion in Higher Education Institutions worldwide. As a result, it became even more difficult for inexperienced researchers to publish in quality journals. Hence, a large number of papers are either rejected or returned with a request for major revisions. I learned from my refereeing activities that this is on many occasions due to reasons other than the quality of the work. Therefore, I, in collaboration with Professor Sankat, set out to assist young or more established but reluctant researchers with writing papers that can convey the information in an easy to understand way and stimulate the interest of the reviewers and the editor. I attempted to provide guidance on the process of writing and publishing in a peer-reviewed journal. In addition to the requirements for organization, structure, argument development, the composition of various sections in a paper as well as how to target the most appropriate journal and readership. This research was published in the *West Indian Journal of Engineering* (Baban and Sankat 2003).

I moreover became concerned with the lack of successful completions of M.Phil./Ph.D. thesis within regulation time. Once, I examined available practices and procedures, I formed a view that this task requires the existence of a structured and transparent framework to set out the stream of events, benchmarks, achievements and deliverables against a time scale. This will allow both the supervisor and the student to develop reliable working habits and to have some measure as to how the research is progressing. As the research student is expected to work relatively independently on an original research project. This process requires developing a range of skills as well as trekking through the full range of research planning, actioning, extracting conclusions and communicating the methodology and the outcomes (Whisker 2005). They are also meant to work with a research supervisor who will share their research interests and area of expertise (Blaxter et al. 2001). A successful completion of M.Phil./Ph.D. thesis within regulation time requires a supervisory relationship that respects autonomy, facilitates scholarly independence and fosters academic values such as exchange of information, social responsibility, critical thinking, self reflectance and personal growth (Phillips and Pugh 1996; Mackinnon 2004). In addition, the student and the supervisor need to thoroughly fulfill their responsibilities and to work mindfully according to a planned timeframe.

I noted that in the case of M.Phil. and Ph.D. students, in the majority of the cases, delays and lack of completions is a long standing problem where students

tend to seek extensions, leaves and take much longer time to complete. This phenomenon can be due to the lack of a planned and disciplined approach to research or good supervision coupled with the temptations to undertake other activities or employment during the on going M.Phil./Ph.D. degree. In other cases the students tend to have difficulty in managing their time or simply lack some essential technical, statistical, analytical or Information technology skills (Phillips and Pugh 1996). In some other cases the students lack the ability to write and to complete tasks on time, this combination of deficiency is damaging as a substantial portion of the successful completion of a M.Phil./Ph.D. degree lies in having the ability to write an in-depth and coherent thesis. Besides, almost all scientific activities carried out by the majority of professional people in their subsequent careers have to comply with and adhere to predefined time scales. Consequently not having these skills will significantly delay completion and could hamper success in professional life. It is evident to me that the existence of a framework, accepted within the department/faculty, defining the stages which a student should be expected to have completed at various points in the 3 years period of study, would help to reduce these delays (SERC 1992; Booth et al. 1995). Students need to be introduced to planning and time management at a very early stage. Students will be helped by knowing that they are expected to reach certain stages at certain times and will come to accept that part of their training is, in fact, learning how to manage their time and organise their affairs.

This study aimed to assist with securing satisfactory M.Phil./Ph.D. research progress by outlining the main reasons for non-completion of thesis on time. It also offers advice and proposes a framework containing specific benchmarks, from beginning till the completion of research, which can ensure good, steady and satisfactory progress. It is hoped that this approach will assist the supervisor and student to detect progress and perhaps more importantly when to introduce intervention mechanisms when the research is not progressing according to plan. This work was published as chapter in a book dealing with conducting research (Baban 2009b).

I wanted in a broad sense to stimulate thinking and indicate topics for discussion and clarification between the students and their supervisor's. More specifically I aimed to assist M.Phil./Ph.D. students with writing their thesis by providing guidance on the processes involved, advice on the writing up, structure and organisation. In the case of M.Phil./Ph.D. degree, it is assumed that the research is captured in the thesis, therefore the thesis is the pinnacle of a student's research programme, and it is on the thesis that he or she will be assessed, probably in association with an oral examination or viva (Phillips and Pugh 1996). In fact all M.Phil/Ph.D. students need to communicate their findings; the M.Phil/Ph.D. thesis is a seen by many as the formal document that provides training for communication with other scientists. Some will even argue that writing leads to identifying gaps and aids the discovery process as it makes people think about their work in a logical and critical mode (Phillips and Pugh 1996). Thus, writing a thesis requires a student to think analytically about the structure, content, organization, grammar, style as well as developing strong technical arguments to persuade other scientists, and to present these within the convention for formal presentations. Each statement in a

thesis must be correct and justifiable in a logical and scientific sense. If the student has difficulties with the writing processes and in communicating ideas then, it is important to minimise misunderstandings and to find out as early as possible where he/she is not functioning properly. Strategies to manage these shortcomings include; giving departmental seminars and conference presentations as well as writing journal articles. Additionally, students should try to find someone new to their work that will listen to their explanations or is willing to read the draft thesis and tell them if they have difficulties following it. There is no uniform view across disciplines about what constitutes a satisfactory thesis, either for a degree entirely by research or for an award with a research component. Consequently, the thesis is expected to define the problem that motivated the research, explain why that problem is important, inform on the literature of the topic, describe the new contribution, document the experiments that validate the contribution, and draw conclusions. This work provided guidance on the process of writing an M.Phil./Ph.D. thesis. The requirements for organization, structure, argument development and the required composition of various chapters have been discussed with the view to help students to develop and write a successful thesis. This work was published as chapter in a book dealing with conducting research (Baban 2009c, d). I also researched background information and hands on exercises to define issues such as what is research?, characteristics of research, originality and thinking in research, the research processes, making good research arguments, sampling, data collection and analysis (Baban 2009d, e, f, g, h). Furthermore, I developed work to enable graduate students to successfully write a research report, write to publish in peer-reviewed journals and provided and introduction to the reviewing/refereeing process (Baban 2009c, d, e, i, j, k, l).

I also developed Papers to Energies Graduate Education and Research. These included Providing the Building Blocks for Research Excellence in the University of the West Indies (Baban 2003a), Developing an Environmental Research Network (Baban 2003b), A proposal for developing a Split Site Ph.D. Model at the University of the West Indies (Baban 2003b), a Proposal for Restructuring the Management of Taught and Research Based Degrees in the School for Graduate Studies and Research (Baban 2004), Developing an Effective Format for M.Phil. and Ph.D. Progress Reports (Baban 2005a), Developing Induction Packages for M.Sc. and M.Phil./Ph.D. students (Baban 2005b), developing an effective format for M.Phil./Ph.D. progress reports (Baban 2005c), Conducting Research, the First Steps (Baban 2006a), Accomplishing Research (Baban 2006b) and Writing up Research Baban 2006c). These efforts lead to the practical steps of developing and running interactive workshops for Research students and staff to strengthen research and research outputs through developing the Building Blocks for Research Excellence, These research activities were sponsored by the University of West Indies.

I have published a book dealing with research approaches and methodologies as well as implementing and writing research proposals to obtain funding and to publish findings in refereed journals (Baban 2009a). This project was supported by the Royal Bank of Trinidad and Tobago Education Fund as well as the University of the West Indies.

7.4 Higher Education and University Governance in Australia

I joined Southern Cross University (SCU) in Australia during 2007, as the *Professor of Environmental Geoinformatics and Head, School of Environmental Science and Management* (Fig. 7.3). After a period of observation and acclimatization the country and the work culture and ethics in the University. The need for leadership and for change was evident, the senior management agreed with my conclusions and supported my fledgling plans. I, through a collaborative process, developed and implemented a transparent, inclusive management model to handle the core areas of teaching, research and University service within the School. I also established a strategy group for the School to develop ideas for sustainability including a clear brand/identity, developing focused team based research areas, a practical mentoring system, rationalising course offerings and teaching load. I moreover implemented several policy papers to manage both routine and strategic issues within the School. I am happy to report that the School became financially secure; in fact it had a surplus for the following year, an event that had not occurred for several years and the student intake rose, against the national trend in Australia.

In order to continue with my research and develop new relevant areas to Australia, during 2007, I established the *Centre for Geoinformatics Research and Environmental Assessment Technology* (GREAT) (Fig. 7.3). This centre was aiming to:

- Develop and lead a multidisciplinary team, establish national/international collaboration and obtain funding for research.
- Identify the impact of a range of development and human activities on the environment and to propose a range of operational measures and solutions which may be used to achieve sustainable natural resource management.
- Lead and promote sustainable development and sensible environmental and natural resource management by means of evaluating the current state of the environment-related fields underpinned by Geo-sciences through collecting, analysing, managing and disseminating geo-based information on natural resources and the condition of the environment.

I was satisfied with my performance in this role as my team was established in short period of time and began to gain recognition in Australia and beyond as evidenced by the increase in postgraduate applications to work in Geoinformatics as well as obtaining several research, consultancy and professional training grants. These included developing an intensive course in GIS for Scientists and Engineers from Saudi Arabia, a project on managing coastal erosion issues in Darwin, North Australia; managing climate change issues in the wetlands of New South Wales; developing coral reef habitat based indicators for climate change in Australia and developing a Geoinformatics based early warning system for floods in Trinidad.

Fig. 7.3 My post, research centre, fieldwork with students and a visit by Prof. Chris Vincent, Dean of the School of Env, Sciences, University of East Anglia, UK

Achievements during this period also included; invited membership of the Scientific Committee, *Current Trends in Remote Sensing and GIS Applications* a Conference held at the Indian Institute of Technology, Kharagpur, February 15–17, 2007, West Bengal, India; invited participation and presentation in the

United Nations Regional UN-SPIDER Workshop: Building Upon Regional Space-based Solutions for Disaster Management and Emergency Response for the Pacific Region. This was held Suva, Fiji, 16–19 September 2008; invited membership of the Scientific Committee, *the 2nd International Conference of GIS/RS in Hydrology, Water Resources and Environment (ICGRHWE'06) and the 2nd International Symposium on Flood Forecasting and Management with GIS and Remote Sensing (FM2S'06)*, co-organized by Sun Yat-Sen University of China, Bristol University of UK and Kyoto University of Japan, this conference took place during September 17–23, 2007 at Guangzhou, China; invited membership of the International Scientific Committee, *the International Groundwater Conference, Groundwater India 88*, co-organized by University of Rajasthan, India, Planet Earth and UNESCO. It was held during March 19–22, 2008 at the University of Rajasthan, Jaipur, India. Furthermore, I was an invited member of the international advisory committee for *the Second International Conference on Geoinformatics Technology for Natural Disaster Management and Rehabilitation.* It was held during January 2009 at the Asian Institute of Technology (AIT), Bangkok, Thailand. I was also an invited member of the international advisory committee and invited Keynote Speaker for *ISA-RC-24- International Conference on Water, Environment, Energy and Society.* This conference was held during June 28–30, 2009 in Firozabad Agra, India.

7.5 Higher Education and University Governance in Kurdistan Region, Iraq

Whilst abroad, I maintained my links with the Universities in Kurdistan through research collaboration and frequent visits to familiarize colleagues in the University of Salahaldeen, Erbil, the University of Sulaimani, Sulamaniya with research methodologies, new innovations and technologies through lecture series and workshops. These activities were partially funded by Ministry *of Higher Education in the Kurdish Regional Government, Iraq* during 2009.

In Australia, I became homesick for Kurdistan, I kept thinking about my extended family, friends and the delicious Kurdish food. Once, I turned 50 years old, I almost became infatuated with going 'home'. The possibility of having Australia as my permanent home and when dying, the mixing of my body with anything other than Kurdish soil was at that time very disturbing to me. I started to seek opportunities at Kurdistan, one day, whilst examining the Times Higher Education Jobs on line, I noticed, an advertisement for a global search for a Vice-Chancellor for the University of Kurdistan Hawler in Erbil. I sent in my completed application form and waited patiently and hopefully. I was shortlisted and invited for an interview. The international appointing committee and interview panel consisted of senior academics from Lancaster University, UK; University of Pennsylvania, USA, the Kurdish Institute of Paris and local

universities as well as a member of the Governing Board and the committee was chaired by the Chairman of the UKH Governing Board. During August 2009, I was appointed as a *Professor of Geoinformatics and the Vice Chancellor* (Fig. 7.4) for the University of Kurdistan-Hawler (UKH), Federal Region of Kurdistan, Iraq.

I soon realized the need for continues learning and professional development for University staff in a partnership with international universities. I have managed in collaboration with Professor Gina Wisker of the University of Brighton, UK to obtain funds from the British Council under the DelPHE-Iraq, preliminary round One programme during 2010 under a project entitled' Connections for sustainable change: University of Brighton and UKH partnership in learning and professional development'.

My collaboration with Professor Gina Wisker of the University of Brighton, UK also lead to obtaining funds from the British Council under the International Partnership Scheme 2010–2011 to develop mechanisms and sustainable arrangements for female academics in Kurdistan region through workshops as well as establish a female academic network in the region. The funded project was entitled 'Women's Leadership Development'

In order to continue with my research and develop new relevant areas to Kurdistan and the wider region, during 2009, I founded and directed *the Geoinformatics Institute for Future Threats to Sustainability* (GIFTS) (Fig. 7.4). GIFTS was founded at the University of Kurdistan Hewler to provide advice on, investigating, mapping, monitoring and managing processes and issues impacting Sustainable Development in Kurdistan and the wider region. GIFTS is committed to informed decision making, contributing to the next phase of economic and social development and in influencing future development choices for the future of Kurdistan and the wider region. More specifically it aims to;

- Advance multidisciplinary research and development in Geoinformatics and geo-based sciences in general and in new relevant technologies such as remote sensing and GIS in particular.
- Provide the infrastructure to foster interdisciplinary research in Geoinformatics, Sustainable Development and Environmental Geo-based solutions.
- Assist with expanding and strengthening Geoinformatics, Environmental and Geo-spatial research, consultancy and outreach at all levels.
- Foster capacity building and encourage the dissemination of research findings
- Actively involve the organization of local, national and international conferences
- Strengthen environmental and geo-spatial education
- Ensure scientific and technological solutions are brought to bear on problems

In addition, I introduced External Examiners to ensure the quality and standards of the examinations, developed a process for validating new programs to ensure that the academic portfolio meet the highest international standards and at the same time address the needs of Kurdistan, focused on matching graduates to market needs, as Graduate employability is a priority, hence this year we

Fig. 7.4 My post and some activities at UKH 2009–2012

also organized Self awareness, CV Preparation and Interview Skills workshops followed by a career fair for our graduates. Furthermore, I managed to develop and implement two new Masters Programmes in Business Management and International Studies, Staff members obtained higher Academic qualifications;

Two completed their Ph.D.'s from international universities, 5 obtained their PGCET in Teaching and learning from the University of Brighton, UK, Two staff members attended Training in the UK on Supervising Ph.D. students and projects.

I have developed an interest in examining the role of government Higher Education Institutions in the Process of Nation building, published this research was presented in the First World Kurdish Congress (WKC2011), October 2011, Rotterdam, Netherlands (182) and was later in a more comprehensive form as chapter in a book (Heshmati et al. 2013). As the reform in Higher Education in the region was initiated, the issues of University independence and reforming the curriculum to build a relevant 'graduate profile' were being examined heavily, I contributed by proposing the Governance, management and academic organization and quality assurance mechanisms of the University of Kurdistan Hewler, a Possible Model for Establishing Independent International Universities within the Region and Developing Countries. This work was presented in the Second Scientific World Kurdish Congress (WKC2012), October 2012, in Erbil, Iraq (Baban 2011), later it was revised and published as chapter in a book (Baban 2013).

I was offered further opportunities for Higher Education leadership and University Governance at the national and international levels. These included leading the Kurdistan team which participated in the in the Knowledge Economy Study Tour to South Korea and Malaysia orgaised by the World Bank as well as working on the National Education Strategy for Iraq (Baban and Amin 2011). Furthermore, I participated in the visit and the discussions with Bank specialist in Washington D.C, USA which focused on the Education and Higher Education Strategy for Iraq (Baban 2011).

The University has managed to developed significant international collaborations with British Universities including the University of Leicester (Fig. 7.5) and University of London (Fig. 7.6) and Brighton Universities.

In addition managed to consolidate a successful Student Exchange Programme in Politics and International Relations with the University of Amsterdam.

Two significant events took place during my Vice Chancellorship at UKH, the First was the inauguration of H.E. Nachirvan Barzani as the first Chancellor for the University of Kurdistan-Hawler (UKH) during March 15, 2010. A ceremony was held at the University, The Vice Chancellor and Dr. Shafiq Qazzaz, the Chairman of the Governing Board of the University of Kurdistan-Hawler gave speeches and introduced his Excellency to the university community (Fig. 7.7). Then a presentation of documents verifying the appointment and a university Chancellor gown followed. The Chancellor told the audience, "It is a great honor for me to be appointed Chancellor. I hope I am worthy of your trust in honoring me with this post". Furthermore, Chancellor Barzani addressed the audience and said, "Universities are centers for learning, production, and research, helping us progress towards a better future for our people. Before 2003 and the liberation of Iraq, Kurdistan was cut off from the outside world. With all of the difficulties in front of us, there was nothing to support the progression of education in Kurdistan".

Fig. 7.5 University of Leicester celebrations

The second event was the University granting an Honorary Doctorate in Politics and International Relations to Sir John Major (British Prime Minister 1991–1997) during his visit to Kurdistan in May 2011. UKH Governing Board decided to grant this Honorary Doctorate based on the outstanding achievements

Fig. 7.6 University of London celebrations

Fig. 7.7 H. E. Nechervan Barzani receiving his Chancellorship of UKH on March 15th, 2010

of Sir John Major in the field of International Relations and Politics, and the significant role he played in shaping international policy towards recognizing Kurds rights and establishing the federal government of Kurdistan. The degree was presented to Sir John Major's by Professor Baban, Vice Chancellor of UKH during Prime Minister Visit to UKH campus (Fig. 7.8). This event was attended by Vice Chancellor of UKH Professor Serwan Baban, the British Ambassador to Iraq, British Consul to Kurdistan, Mrs. Bayan Sami Abdulrahman KRG's Higher Representative to the United Kingdom, members of the Governing Board, senior KRG ministers, and a number of university presidents and government officials and over 300 students and faculty members from UKH and Salahudin university.

Overall, I am proud of my performance in this role as the University of Kurdistan-Hawler was consistently ranked within the top 5 Universities in Iraq during my Vice Chancellorship. Furthermore, the University was established as it has managed to successfully graduate two cohorts, developed significant international collaborations with British Universities (Fig. 7.9).

7.6 Higher Education and University Governance: A Conclusion

The longing for more information regarding the environment and natural resources has been increasing steadily among Geo-based Environmental Scientists over a number of years. Paradoxically, greater knowledge of the earth and the environment has led to a wider recognition of the existing gaps in this information. One of the ways to bridge this information gap was through the use of Remote Sensing (RS) (Curran 1985). Naturally, as the demands for Remote sensing education grew universities responded by developing relevant courses. However, this process posed a new problem as spectral Remote Sensing produces excessively large volumes of raw spatial data requiring further processing and analysis. Computer specifications at that time, set severe limits to the size of data sets which could be analysed and the type of spatial analysis being performed. Geographical Information Systems (GIS) was developed while attempting to break those boundaries with increased data storage, manipulation and analysis capacity using later generation computers (Maguire 1992; Taylor and Johnston 1995). Since then, GIS has undergone a rapid rate of theoretical, technological and organisational development, evolving as a means of collecting and analysing spatial data. Consequently, GIS experienced a sharp increase in demand; i.e., new journals, sales of software, and consultant reports. The academic system responded again by developing courses and degrees in GIS and more recently combined both Remote sensing and GIS under the term Geoinformatics.

My contribution to. Higher Education and University Governance in general and Geoinformatics Education in particular has been through developing Geosciences, Remote sensing, GIS and Geoinformatics courses and degrees at both

Fig. 7.8 Sir John Major visit to UKH during May 2011

Fig. 7.9 Meeting Key Players; *top* two successive Ministers of Higher Education in the Kurdistan Region; *Next row* World Bank senior officers; *Following row* British Minister of Science and the Ambassador; *bottom* HRH Prince Hassan of Jordan and the Turkish Minister of Education

undergraduate and postgraduate levels. This work began at Coventry University in the early 1990s and continued at the University of the West Indies, Southern Cross University in Australia and Kurdistan University Hawler, Iraq. I became very involved with graduate education in the West Indies through managing the School of Graduate Studies and Research on Campus, then I learned that we are true captives of our first degrees in how we view the world, develop solutions and most importantly communicate and teach.

Through my journey of three decades, I also contributed and shared my experience with colleagues from Jordan, Tunisia, Malta, Iraq and Malaysia. I have also attempted to make teaching and learning less taxing and relevant to student's life experiences, attempting to respond to student needs through modifying and reviewing my teaching material and continuously upgrading my teaching/delivery methods. Having worked in different parts of the world while embracing different cultures, I have learned that listening to and keeping student's learning central to University teaching and research are essential skills for lecturers.

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