CHAPTER 1:
PAVING A PATH FOR A 10 YEAR STUDY

This class is boring... can we learn about dragons?

1.1. INTRODUCTION

'...*I thought since I was tired I was going to sleep, being in class for that long, but to my surprise I enjoyed the class so much I got to understand regional planning in such a short period of time.*' - Eva (2010).

Eva[1] is a block week student who did her Honours in Spatial Planning at the University of the Free State, Department of Urban and Regional Planning. She was an adult learner, who had to attend back-to-back classes for 14 hours a day for a week, packing into it what full-time students spread over an entire term. In this context traditional methods of lecturing would just have put her to sleep, but the role-play based gaming simulation, run after ten hours of other classes, not only grabbed her attention, but woke her up, engaged her and taught her the principles of Export Processing Zones (EPZs), industrial spaces and globalisation.

This is the reason why I have used gaming simulation in my classes as part of my teaching and learning repertoire. Not only are the block learning students tired after days and hours of classes, but the part-time students also attend evening classes after a full, demanding day of work. The changing cultural composition of the students, where the majority of students come out of a strong oral tradition (Hall, 1996:32), also demands rethinking our teaching and learning practices.

Chess is the first well known gaming simulation (Taylor, 1971:22). Gaming simulation has been in use for thousands years, mainly in the form of 'wargaming' - that is to say, training for military warfare (Herman,

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[1]Pseudonym to protect the students' identity.

Frost & Kurz, 2009:3). From there gaming simulation has grown to be used in every field of study, research and vocation (Kirk, 2004:91).

Various disciplines, professions and educators use gaming simulation with wide application at various levels to transfer information, test scenarios, facilitate forecasting and enable learning; including the military, psychology exercises, business, entertainment, medical fields and education studies (Warland, 2011:187). Different types of games are used in gaming simulation and they, are for example: sand tables, miniatures, mathematical models, paper board games and computer games (Smith, 2010:6). It must be noted that entertainment games host extremely advanced technologies in the field of computer science and games like *SimCity* provide vast scenario testing and learning opportunities for urban and regional planners (Gaber, 2007:120).

Gaming simulation is increasingly used in education, including tertiary education and numerous case studies and theoretic analyses thereof have been researched and published (Miller, 2008). The use of gaming simulation and teaching is gaining increasing support as a method to engage students and turn learning into a process that appeals to them on their level (Botturi & Loh, 2008:5). Game Theory was developed based on the analysis of poker and chess where all moves and motives are supported by a level of self-interest and self-determination. It had some influence on the use of gaming simulation, especially in regard to forecasting (Goodwin, 2002:370).

In urban and regional planning itself, gaming simulation has been pioneered, developed and researched (Boissau & Castella, 2003; Cecchini & Rizzi, 2001; Devisch, 2008). Already in the field of urban and regional planning education, strides have been taken to include gaming and simulation as a tool to assist students and the public in the understanding and the application of planning related topics (Meligrana & Andrew, 2003; Taylor, 1971; Wärneryd, 1975). In South Africa, Martin Lewis previously from the University of Johannesburg (UJ) has done notable gaming simulation development (Betts, Lewis, Dressler & Svensson, 2009). However, the literature that is available dealing with the application of gaming simulation in urban and regional planning education is very limited.

South African urban and regional planning academia and practitioners find themselves in a fast changing world, where information is out-dated the minute it is produced, hi-tech media is replacing printed media and education is becoming edutainment. Academics in turn will be left behind if all education is based on printed media; reading and writing (Lautenbach, 2010:699). In South Africa the product of Outcomes Based Education (OBE) is filtering into the university system, with very specific

skills and demands that cannot be fulfilled by traditional education methods (Singh, 2008:1059).

Naturally, no research is value-free, nor is one's view of the world as a practitioner or lecturer. However, I practice constructivist teaching (Brüssow & Wilkinson, 2010:383) and thus enable students to find their own path and develop their own theories in regard to urban and regional planning. I also employ experiential learning and collaborative learning as an aspect in the gaming simulation teaching and learning activities. This further broadens the students' self-learning and exploration of the various themes related to town and regional planning as research field and profession.

The various gaming simulation exercises students engage in let them experience planning from the perspective of the people involved in the various activities which planners tend to plan for, or in some cases oppose. The gaming simulation exercises place the students in a position to choose their stance and as it is based in scenario planning, they experience in the simulation the outcomes of their decisions and other peoples' (students in their given roles) reaction thereto. This enables students to base their decisions and future planning on the pillars of economics, anthropology, sociology and the environment.

In the Tourism Planning Tribunal Gaming Simulation students are placed in groups to either promote or oppose a specific development in a debate. The Globalisation Summit Simulation allows students to choose a view in regard to globalisation and defend that view. The Development Cost-Benefit Analysis Board Game let them realise that people should help themselves, because aid comes at a very high price (Nafziner, 1990:74). In some cases students do decide that the cost is worth the development it brings, and that is their prerogative.

The Housing Estate Gaming Simulation provides students with roles, in order to experience the effect of certain aspects in the urbanisation-urban-sprawl mitigation process of the establishment of smart growth measures like an urban edge from the home buyer's perspective. The EPZ (Export Processing Zone) Gaming Simulation enables students to take the roles of all the parties involved in the establishment, and running of an EPZ and its manufacturing firms. This allows them to make decisions regarding the environment, affirmative action, buying local and so forth, which policies struggle to enforce. I let the students play pc and console games that investigate the use of resources in the development of infrastructure, economic activities and settlements. The online game *Third World Farmer* shows participants, when put in their character's shoes, how quickly circumstances drive subsistence farmers in the developing global South to grow poppy seeds for opium or send their children to the city as labourers.

This study will thus describe how I used gaming simulation in teaching and learning in urban and regional planning, in selected modules, at the University of the Free State from August 2002 until August 2012. The reflection will be an action enquiry, via the living theory model, by myself as the lecturer and moderator of the gaming simulations. Some reflections of the students will also be added to highlight their perceptions about the gaming simulations they took part in.

I am thus attempting in this study to take on a "movement mentality" (Palmer, 2007:171) in education in the hope that the outcomes, this thesis and its subsequent articles, will be read by urban and regional planners, students and academics and at least tested. The eventual result may be an enhanced teaching and learning experience for lecturers and students alike.

1.2. PROBLEM STATEMENT

Urban and regional planning lecturing, as experienced by myself as student and by observing my colleagues, is mostly based on teaching with the aid of a book, notes or slides, with the students as audience. Studio teaching is also an important part of an urban and planning student's life, which does address needs in regard to case studies and design work. However, reality, experiences and scenarios were sadly lacking and still are, when the lack of literature on the topic is taken into consideration. I have used gaming simulation to bridge that gap between the theory and literature students are exposed to, and the reality students could potentially experience, in the gaming simulation scenario.

The focus of this study is partially epistemological, as it aims to address some problems in perception and thinking about the role of gaming simulation in urban and regional planning, with the focus on teaching and learning. This is largely due to the fact that there is common criticism of gaming as being childish and irrelevant. I personally experienced this at the 2010 SAPI (South African Planning Institute) Conference where I presented a paper on this topic and some attending lecturers from other universities were extremely sarcastic and demeaning about the use of gaming simulation in teaching and learning in urban and regional planning. The study thus aims to change such perceptions.

Furthermore, according to Frank (2006:24) the culture and practice of research and subsequent publication in planning education is only now moving from the incipient stage where there are limited publications and focus, but it is becoming a growing interest. This could also be because planning educators is still a bit hesitant to try alternative teaching methods such as gaming simulation. In fact, the statement by Taylor and Carter in

1969 is as valid today in planning education as it was then (Taylor & Carter, 1969:35): "*There are many attitudes which inhibit the use and development of innovatory instructional systems in higher education. The role of the University teacher tends to be a rather limited one; promotion and status derive from scholarship, research, or practice rather than from teaching skill, the traditional emphasis is one 'reading for a degree'; the ritualistically enshrined timetable divisions and the reliance upon sessional examinations tend to obstruct change and experimentation; inter-university exchange and collaboration on a formalized basis is rare; and the time and resources available for the exploration of new teaching methods and the development of new curriculum units is not generally available.*"

Therefore, research in teaching and learning in urban and regional planning is severely lacking. My study is based on finding solutions for contemporary planning problems, aligned with education tools and theories. The following problem statement was identified which will be dealt with in the study:

> "***How gaming simulation based teaching and learning enable deep learning and instils the competencies required by the urban and regional planning profession.***"

1.3. RESEARCH QUESTIONS

The study will endeavour to answer the following specific research questions:

1. What are my experiences and reflections on the application of gaming simulation in teaching and learning in urban and regional planning in South Africa, specifically the University of the Free State?

2. How does the application of gaming simulation in teaching and learning in urban and regional planning in South Africa, specifically the University of the Free State, comply with what planners should know, based on the Bloemfontein Competencies[2]?

3. How does the application of gaming simulation in teaching and learning in urban and regional planning in South Africa, specifically the University of the Free State, comply with contemporary pedagogical approaches?

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[2] As published in Harrison, Todes & Watson, 2008:255-257

4. What can be learned from this process to improve teaching and learning within urban and regional planning programmes in South Africa?

1.4. THE AIMS AND ACTIONS OF THE RESEARCH

The detailed aims and actions of the research are the following:

1. To establish my approach in regard to my chosen research design and my approach for the design of gaming simulation as a tool in teaching and learning in my urban and regional planning modules.

2. To conduct a literature review and analysis regarding the use of gaming simulation teaching and learning in urban and regional planning.

3. To reflect on the use of gaming simulation in teaching and learning in urban and regional planning, based on the experiences of the facilitator and students of the University of the Free State, in three case studies: Tourism Planning Tribunal Gaming Simulation, Globalisation Summit Gaming Simulation and the Development Cost-Benefit Analysis Board Game.

4. To make recommendations regarding the application of gaming simulation for teaching and learning in urban and regional planning in South Africa based on the reflections and experiences, to enable further debate, analysis and research.

1.5. RESEARCH DESIGN AND METHODOLOGY

The idea of the study was to avoid testing the success of the gaming simulation in relation to students' results, as this practice could have resulted in the unfair treatment of students. There were also too many changes in the student profiles and overall curriculum of every module, as well as the weight of the assignments and specifics of the assignments, to make a confident year by year evaluation of the success of the gaming simulation based on the students' results. The interest was neither to test student's knowledge and perception years after they completed the gaming simulations. The study aims to describe how gaming simulations was used, thus if it is applicable as a teaching and learning tool in urban and regional planning.

This study is based on qualitative research. This was chosen because it focuses on "real world" phenomena and involves the study of the complexities of those phenomena (Leedy & Ormrod, 2010:135). The

positivist approach of quantitative research is applicable to the study of physical events and natural sciences (Welman, Kruger & Mitchell, 2005:8), but I do not view it as appropriate for this case study of how I applied gaming simulation in teaching and learning in urban and regional planning.

Qualitative research is a more appropriate approach, than a specific design or technique (Welman, Kruger & Mitchell, 2005:188). It does not dilute or simplify that what is being observed, but everything in its multiplicity is appreciated and acknowledged. It is therefore based on the researcher, as instrument, having the capacity to interpret, describe and reflect on what is observed (Leedy & Ormrod, 2010:135).

Other applicable characteristics of qualitative research are; the fact that research leads to the creation of theory; it is based on an understanding of the social world via an interpretivist epistemology; and it supports the constructionist ontological position that acknowledges that social relationships between individuals informs the real world phenomena (Bryman & Bell, 207:402). Therefore, the methods in qualitative research intends to institute a socially centred paradigm of reality, by placing emphasis on the researcher (me) and what is studied (my teaching) and the link between these two aspects as a value-laden facet of inquest (Welman, Kruger & Mitchell, 2005:8). Reflection-based qualitative research does not accept any conventions for analysis or systemization of the analytical practice, as it is viewed to be "*more of an art than a science*" (Robson, 1996:371).

Within the research design of qualitative research, the sub-group Action Research and its linked methodology of 'Action Enquiry Living Theory Creation in Education' as informed by McNiff and Whitehead (2006:9), was determined to be most suited for reporting this specific case study in this thesis.

The research design primarily used for the study is based on Action Research. Action research is a qualitative research method (Riel, 2010:online). Therefore in pedagogic action research, you as a lecturer practitioner, investigate, observe, describe and explain your own practices; while at the same time continuously monitoring what you have learned yourself and the subsequent influence thereof on your actions (Whitehead & McNiff, 2006:8). The aim of the methodology is to ensure a critical enquiry into your own work and testing living educational theories, based on your own educational value system (Whitehead & McNiff, 2006:8). The principal idea is also to adapt and change one's way of teaching and learning, continuously testing and reflecting on it (Van Wyk, 2006:196). This approach is reflected in this study; making use of constant changes in the way the gaming simulation was run, based on the

debriefing of the students after the gaming simulation was completed and also on the student reflection in the reflective questionnaire.

According to Du Toit & Mouton (2012:1) the built environment has not developed their own research designs, but borrows from other fields, especially the social sciences. They state further that scholars from the built environment emphasise the importance of narrative studies and participatory action research, but in their research they have found only 3% of studies has that use this method as their research design Du Toit & Mouton (2012:6).

Action research also takes place within a case study, as is the instance with this thesis. Another action research case study at the University of the Free State was done by Van Wyk at the Department of English and Classical Languages in order to reflect on her path in the development of an English program for a bridging course for previously disadvantaged students who want to enter the first year of studies, but do not have the capacity to do so (2006:195). According to Van Wyk (2006:196) "*The case study lends itself to meeting the needs of the practising professional, in other words, to focus on a particular problem with a particular group and to apply theory to practice. Action research enables the professional to generate hypotheses or a hypothesis based on findings and to provide practical illustrations for generalised phenomena.*" However, unlike the conventional case study, it does not merely describe the case involved, but searches for a solution to the problem stated (Welman, Kruger & Mitchell, 2005:25).

This action research case study can be seen as an unconventional longitudinal study, as it followed the cycles of action research over 10 years. Conventional longitudinal studies are traditionally part of quantitative research design. It is also part of the research design group developmental design and linked to descriptive research (Leedy & Ormrod, 2010:186). Traditionally in longitudinal studies a specific group of people is followed over a time period spanning months or years (Welman, Kruger & Mitchell, 2005:95 & Whitley, 1996:48). The resultant data is assembled in relation to the characteristic(s) under investigation (Leedy & Ormrod, 2010:186). In case of living theory, in action research, I am the 'group' being examined and I represent the research population.

Methodological triangulation was done by:
- Selected informal interviews with students about their experiences in and after the gaming simulation;
- Detailed comments on my study guides to record my experiences and reflections, in order to introduce changes the following year;
- Documented classroom observation, with the aid of photographs and videos;

- Evaluation and assessment of the students' assignments based on the gaming simulations;
- Evaluation and assessment of the students' class presentations and contributions during the gaming simulation;
- Examination and test outcomes based on the students' knowledge and reflection gained by the gaming simulation;
- Invitation to other staff and the Departmental Chair and thesis promoter to some of the gaming simulation sessions;
- Reflective questionnaires given to the students after selected gaming simulations and analysis of their reflections;

My 'action enquiry' (Whitehead & McNiff, 2006:9) will thus be based on my teaching methodology where I encourage personal knowledge creation amongst all my students, with gaming simulation as one of a number of methodologies applied in my teaching and learning activities, with the aim of challenging the students' existing ontological and cosmological perspectives. Modifications and changes were regularly introduced into my teaching, based on new information on the themes that came into play through both the literature and experiences in the field. The method uses Living Theory Creation, as a part of the action enquiry. The research design and method will be discussed in Chapter 2.

As the action research method of research and reporting is intensely personal, it is written in first person and contains personal information to guide the reasoning behind decisions and the study. It will be used consistently throughout the study.

1.6. ETHICAL CONSIDERATIONS

Ethical research requirements could demand that the student's approval must be granted in writing, as informed consent (Leedy & Ormrod, 2010:101), in order to publish out of their reflective questionnaires, quoting their reflections. However, the reason reflective questionnaires were given to students was to test their insight, understanding and take note of what they thought about the module, including aspects of teaching, learning and assessment. It was also to enable reflective learning (Wingate, 2007:397). At the time the questionnaires were distributed, there was no intention of adding their comments to my own reflection in this study. Hence, the participants in this real world study did not know they were part of a study (Robson, 1996:28). However, they were not so much being studied, as the process was. As a researcher, one should ensure the right to privacy, confidentiality and anonymity of respondents in a study (Bak, 2004:28; Mouton, 2001:243). Therefore, a system of pseudonyms will be assigned to students, replacing their real names, as suggested by Erik Hofstee (2006:118) in his book "*Constructing a Good Dissertation*". The pseudonyms will then be used in the study and

noted as such. This will not expose the students to undue public scrutiny or infringe on their right to privacy (Leedy & Ormrod, 2010:101). In other cases I will merely identify them as Student A, Student B, and so forth.

Ethical consideration should also be given in regard when there could be possible harm to participants (Whitley, 1996:171). This is the major reason why I didn't break students into two groups, with one group doing the simulation and the other group getting a formal lecture. Students in the study could have been unfairly disadvantaged by being placed in the 'wrong' group given their learning style. This could have impacted on their final results. It could also have led to deprivation (Whitley, 1996:174) in the learning experience by one of the groups.

1.7. CHAPTERS IN THIS THESIS

The remainder of the chapters in this thesis are the following:

1.7.1. Chapter 2: My Action Enquiry Approach

I will explain the action research design approach I was following in this thesis from 2002 to 2012. Thereafter I will clarify the teaching and learning theories of constructivism, collaborative learning, experiential learning and so forth, which is the basis of my teaching approach.

Subsequently I will also discuss the Bloemfontein Competencies that were drafted to guide lecturers in urban and regional planning in South Africa as to what planning students should know by the time they graduate.

1.7.2. Chapter 3: Using gaming simulation in urban and regional planning education

There is a notable lack of literature dealing with the issue of the use of gaming simulation in urban and regional planning. The existing literature will be analysed and their conclusions and proposals will be aligned with my research, practice and the outcome of this thesis.

1.7.3. Chapter 4: Tourism Planning Tribunal Gaming Simulation

I will explain the basis for the role playing gaming simulation I designed, especially the literature it was based on. Then I will give a year by year analysis of the process I followed in my teaching and learning and then reflect thereon. Finally I will include the student's reflections about the game and align that with my approach, my actions and what I can learn from it.

1.7.4. Chapter 5: Globalisation Summit Gaming Simulation

First I will highlight the basis of the establishment of the gaming simulation, and how my experiences led me to the establishment thereof. Then that will be followed by a year by year analysis of my action enquiry. The students' reflections will round off the chapter.

1.7.5. Chapter 6: Development Cost-Benefit Analysis Board Game

The board game was designed with cost and benefit cards that reflect the literature of development in the global South. Its design, implementation, my action enquiry reflection and the students' reflection will be discussed.

1.7.6. Chapter 7: How applicable I found gaming simulation in teaching and learning in urban and regional planning

I will draw conclusions from the description of my action enquiry and the reflections by myself and the students. Thereafter I will align the various gaming simulations based on the Bloemfontein Competencies for town and regional planners and the pedagogic approach I followed.

1.7.7. Chapter 8: Roll the dice to decide the future path

In Chapter 8 I will propose how gaming simulation can be applied to the Bloemfontein Competencies and my chosen pedagogic approach in general, if other lecturers want to try it and design their own gaming simulations. Thereafter I will also discuss further research that has become evident through my study.

1.8. CONCLUSION

This study and the practice it is based on can be seen as ground-breaking work in urban and regional planning education and I hope to add to the body of knowledge and widen its practice. The literature review in Chapter 3 will illustrate the limited amount of literature that exists in regard to the use of gaming simulation in teaching and learning in urban and regional planning. Furthermore, there are no longitudinal action research case studies that are available in literature where the planning academics reflect on their teaching, so again I emphasize this study is pioneering this aspect.

CHAPTER 2:
MY ACTION ENQUIRY APPROACH
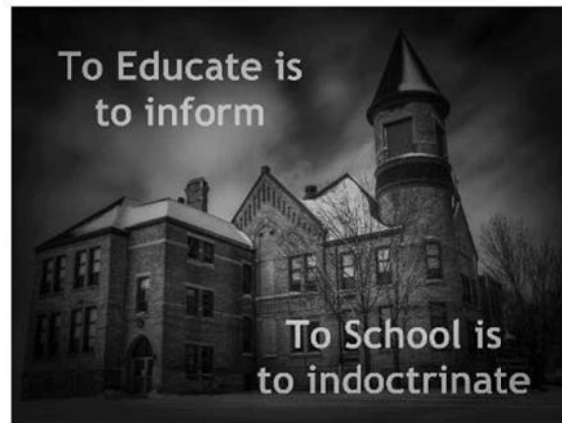
2.1. INTRODUCTION

Traditionally the methodology chapter is after the literature review, but due to the fact that it is an Action Research based thesis, a chapter that provides a bridge between the introduction to the thesis and the literature review on the application of gaming simulation in urban and regional planning is required. This chapter describes the approach I followed in my research, which is based on the approach I followed as lecturer in my teaching practice. This approach led me to the development and continued use of gaming simulation in teaching and learning in urban and regional planning.

In this chapter I will explain the action research approach I used in this thesis from 2002 to 2012. Then I will illuminate the teaching and learning theories of constructivism, collaborative learning, experiential learning and scenario planning I based my teaching philosophy on.

Afterwards I will discuss the Bloemfontein Competencies that were drafted to guide teachers (lecturers) in urban and regional planning in South Africa as to what planning students should know by the time they graduate. This is what I use to determine my curriculum and teaching and learning activities with.

2.2. ACTION RESEARCH

My Masters' Degree dissertation was a five year participatory action research project where I investigated the role of the town and regional planner in the tourism development of BaPhalaborwa Municipality. I developed a matrix for measuring the impact of tourism on the economic, social, cultural and environmental aspects of a destination. I have also been study leader to four students that did action research-based mini-dissertations. I find that it is a method that adds more depth than the mere number crunching of quantitative research. It focuses on the process, the dimensions and reasoning behind decisions made. Town and regional planning has for too long been viewed as a science alone, it is time to take into account the people that are in the profession; as well as the people that are being impacted by the profession. The humanities, social sciences and education provide us with qualitative research and especially action research as a method to explore this human side to planning. According to Riel (2012:online): "*Action research is a way of learning from and through one's practice by working through a series of reflective stages that facilitate the development of a form of "adaptive" expertise. Over time, action researchers develop a deep understanding of the ways in which a variety of social and environmental forces interact to create complex patterns. Since these forces are dynamic, action research is a process of living one's own theory into practice.*"

The term and method of Action Research was developed by Kurt Lewin in 1946 to enable the understanding of social systems or learning within an organisation (Riel, 2010:online; Robson, 1996:438). According to Leedy & Ormrod (2010:108); Welman, Kruger & Mitchell (2005:25) and Whitley (1996:34) action research has a **focus on finding a solution to a localised practical problem** in a specific localised applied setting. In its relationship to theory, action research does not use theory as the basis for a hypothesis to be tested, but offers a solution to a specific problem (Welman, Kruger & Mitchell, 2005:25). However, it does involve the methodical amalgamation of theory, application, and subsequent evaluation (Whitley, 1996:34). In fact, its aim is to eventually inform theory (Riel, 2010:online). Whitehead (1989:6) states that educational theory is a living theory as the explanation of the educational theory contains evidence that is based on an evaluation of a past practice, yet directed by the intention to produce something and thus being realised into action. This process allows for the application of a possible solution to the problem, and research evaluates its effectiveness and supplies data regarding the rationality the applied intervention and its underlying theories (Whitley, 1996:35). The **universality of findings** and **external validity are not emphasised**, but rather the relevance of the findings in the unique situation of application (Riel, 2010:online & Welman, Kruger & Mitchell, 2005:205-206).

Whitley (1996:35) notes that action research can be considered to be the "*most complete form of science, encompassing all its aspects*". Action research is a flexible design, which evolves in reaction to evidence and results obtained within the research process (Welman, Kruger & Mitchell, 2005:205). It is a scientific method that observes the effects and impact of an action via a systematic and cyclical process of evaluation of the evidence, with the aim of improvement of a process or practice (Riel, 2010:online; Robson, 1996:438 & Van Wyk, 2006:196). This cyclical process goes through set phases with the first being preliminary planning, then action via the implementation of established plan, thereafter observation, followed by reflection and then the evaluation of the initial results – which then informs the next cycle (Robson, 1996:438; Van Wyk, 2006:196 & Welman, Kruger & Mitchell, 2005:205). Thus the research is given life by the process of implementation and each cycle paves the way to enhanced actions (Riel, 2010:online & Van Wyk, 2006:195). It is important within action research to involve all participants in each of the phases (Welman, Kruger & Mitchell, 2005:205). The process is launched by a well-framed question by the action researcher (Riel, 2010:online).

According to Riel (2010:online) the goals of action research are:
- To improve professional practice via a process of continual learning and problem solving;
- To create a deep understanding of said practice and lay the path for a theory of action;
- To improve the wider community that is linked to the said practice.

There has been growing interest in the use of action research by various organisations and professions, despite criticism against it in terms of objectivity and rigourousness (Riel, 2010:online; Van der Westhuizen, 2008:1292). This is because of the holistic view that action research provides and the fact that much of the professional work takes place within massive complex organisations (De Vos, Strydom, Fouché & Delport, 2005:23). From a socio-political perspective action research is seen as a valuable agent in social change (Robson, 1996:438 & Welman, Kruger & Mitchell, 2005:206). As practitioner-researcher, action research allows in-depth inquiry into one's own practices, with the aim of progression into an ideal and value-aligned future (Riel, 2010:online; Scherman & Du Toit, 2008:428).

From a professional educator's and a researcher's perspective "*Action research can be a powerful and liberating form of professional enquiry because it means that practitioners themselves investigate their own practice as they find ways of living more fully in the direction of their education values*" (McNiff and Whitehead, 2006:8). Action research is regarded as a valuable tool to enable teachers to develop their own

theories and subsequently effect change in the classroom (Biggs & Tang, 2007:43; Van der Westhuizen, 2008:1292). Brüssow & Wilkinson (2010:378) indicated that there is a need for research, such as action research, "*to improve teaching that will result in effective learning in academically underprepared students.*"

Reflection takes centre stage in action research. The term reflective practitioner was coined by Donald Schon in 1983, as he determined that in a professional, like architects, needs reflection as a method of dealing with unknown problems (Biggs & Tang, 2007:41). The same can be said about university lecturers (Biggs & Tang, 2007:43). In South Africa, the Council on Higher Education (CHE); has geared their accreditation process in such a direction that academics are forced to be self-reflective (Singh, 2008:1065). Lecturers need involvement with others in the community, and exposure to tools that the community relates, as that allows them to change and learn (Lautenbach, 2010:705). According to Riel (2010:online) the action researcher should see it as their responsibility to share their findings with people in their field and the wider research community. This is the aim of this thesis.

I used the Action-Reflection Cycle (Figure 1) by McNiff & Whitehead (2006:9) in evaluating the success of the gaming simulation, based on observations during the simulation exercise. Then I would reflect thereon, act by integrating more information and possibilities and evaluate its possible use given a changing demography and focus; and then modify the gaming simulation accordingly and then use it the next year. This process has been going on from August 2002 and it is still a working cycle. For the purpose of this thesis, the process stopped in August 2012.

Figure 2.1: Action-Reflection Cycle
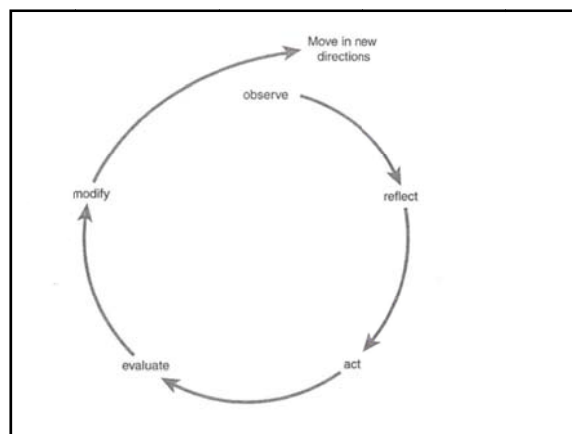
Source: McNiff & Whitehead (2006:9)

The content chapters include the analysis and discussion of the gaming simulations based on the above data. In the cycle of the action research every semester or year a module is presented as a cycle. Every module's curriculum goes through the process of detailed planning and design, of not only the gaming simulation, but also to align the teaching methods to the intended learning outcomes and assessments in that module by using Constructive Alignment (Biggs & Tang, 2007:50). The resultant teaching plan was then implemented, and observation was done and relevant data gathered, during the implementation. Then detailed reflection was done by myself, usually discussed with the departmental chair in the form of my motivation as to why I changed the module curriculum as a result, and also later reflection by students to add to the knowledge base of the action research process. The revised plan would then be implemented in the next cycle as the next action. This would be evaluated and modified and the process would move into a new cycle. The chapters 4 to 8 of this thesis where the action research process in the various gaming simulations are discussed, will be presented in terms of these cycles, usually year by year.

2.3. PEDAGOGICAL APPROACHES

According to Singh (2008:1060) the education policy of the South African National Government requires a change in how the university classroom is structured. The National Qualifications Framework, drafted by the South African Qualifications Authority (SAQA) demands a shift to learning, outcomes-based education, the recognition of students' prior learning and the 'Africanisation' of a module's and course's curriculum (Fourie, 1999:283).

It has been found that learning over time; given a variety of contexts taught by different teaching methods has the best results (Wingate, 2007:397). A learning society must be developed to serve a new social order, via the stimulation, direction and mobilization of the students' unique creative and intellectual properties (Singh, 2008:1060). Furthermore, education does not stand alone; it is lined to workforce development, democratic beliefs, economic success, and global citizenship (Betts, Lewis, Dressler & Svensson, 2009:102).

Another challenge that we face in post-apartheid South Africa is transformation that took place in universities. That involved changes in the organisational cultures at established universities, as well as alteration in the composition of both staff and students, and also the course curriculum (Fourie, 1999:277). An effect of apartheid education is underprepared adult students and the effects of post-apartheid outcomes-based education are not much different. Underprepared students are

seen as academically, emotionally or culturally unprepared or underprepared students, which are unable to or struggle to, deal with the demands of higher education (Brüssow & Wilkinson, 2010:374). Massive changes in the employment market also forces higher education to re-develop curricula, in order to accommodate both traditional and non-traditional students, with non-traditional students being the majority (Betts, Lewis, Dressler & Svensson, 2009:99).

In essence I want to enable learning through my teaching that supports the student's learning experience (regardless of their diversity or level of preparedness) and I view my role as a facilitator in the class. Thus, I view my teaching as student-centred, where I provide a well structured environment to enable their process of learning (Brüssow & Wilkinson, 2010:382). This in itself appears unique, as literature has indicated that most lecturers are not willing to support students' learning as a component in their teaching (Wingate, 2007:395 - 396). Time as delimited by academic schedules does not allow lecturers to support students that are underprepared, especially academically underprepared (Brüssow & Wilkinson, 2010:378).

As action research focuses on my practice and the reflection of my practice in teaching as university lecturer, I will also provide a brief analysis of the pedagogical approaches I apply and theoretic framework for my teaching. Key concepts are constructivism, reflective teaching and learning, experiential learning, deep learning, collaborative learning, blended learning, constructive alignment based on Bloom's Revised Taxonomy (Krathwohl, 2002:216) and integration of African Indigenous Knowledge Systems (AIKS).

2.3.1. Constructivism

Constructivism originated in cognitive psychology and was initiated by Piaget in 1950. Students are responsible for the construction of knowledge through their own activities (Brüssow & Wilkinson, 2010:383), using their existing knowledge as foundation (Biggs & Tang, 2007:21). Teaching is seen as the process of engaging students through the facilitation of learning by "*setting up authentic environments and activities within real-world situated learning*" and not the mere transmission of knowledge through instruction (De Villiers & Cronje, 2005:42).

The university classroom is the place where teaching and learning takes place at the tertiary level and lecturers and students meet. Heavy demands are placed on the classroom to become a place where students engage in their own knowledge construction (Singh, 2008:1059). The constructivist customisation engages the human factors that underlie learning. Learning becomes tailored, as it supports self-actualisation, as

well as self-regulation, through the personal engagement of the student (De Villiers & Cronje, 2005:48). Constructivist learning is also seen as a method to enable problem-based learning and deep learning (Brüssow & Wilkinson, 2010:383). Therefore, I practice constructivism as education theory, and it determines how I structure my classes and align the activities.

2.3.2. Reflective teaching and learning

Biggs & Tang (2007:43) states: "*Learning new techniques for teaching is like the fish that provides a meal today; reflective practice is the net that provides meals for the rest of your life.*" University teaching has been enabled by action researchers to reflect on their own teaching, however, it is also important to enable students to reflect on their learning and their experience of the teaching (Barnes, Christensen & Hansen, 1994:27; Brüssow & Wilkinson, 2010:380), so that the lecturer may be exposed to information that can lead to an improvement or clarification (Biggs & Tang, 2007:41). As a lecturer reflects on the newly consolidated practises, it becomes internalised (Lautenbach, 2010:709). Thus, the reflection should also be transformative and lead to a better future (Biggs & Tang, 2007:43).

The reflection will be both my own, as lecturer who ran the gaming simulation using Action Research in the research design, as well as those of the students involved in the gaming simulation. Reflective tools are also seen as a method that supports students' learning (Wingate, 2007:397). From 2008, in line with the new focus on student reflection in teaching and learning, "Reflective Questionnaires", as a compulsory assignment, have been completed by all students at the end of a module. The aim of the reflective questionnaires is to determine the teaching and learning experiences of the student in the module and encourage them to reflect on what they felt, thought and experienced in the learning environment. Questions on the gaming simulations run, together with the responses of the students, will be used to illustrate their perceptions and experiences. This enabled me to practice reflective teaching, as I was to determine the students perceptions, needs, as well as their negative and positive learning experience; enabling me to constantly improve my teaching (Brüssow & Wilkinson, 2010:381).

2.3.3. Experiential learning

Experiential Learning focuses on the whole-brain approach to teaching and learning in tertiary education (Singh, 2008:1061). Students learn through the transformation of experience via a learning cycle. It is a method that brings students in touch with real world realities (Brüssow &

Wilkinson, 2010:380, 385). Gaming simulation is an excellent method of experiential learning (Kolb & Kolb, 2009:298).

Part of the experiential learning experience of the students, I include problem-based learning, which forces students to find solutions for real-world problems (Brüssow & Wilkinson, 2010:382). Within the problem-based learning aspect of experiential learning I focus on scenario planning. The importance of scenario planning as explained by Robinson (2009:85) is to enable planners to identify possible undesirable futures and then to take action to ensure that the adverse scenario is not realised. The core of scenario planning is where a variety of outcomes are explored, a variety of possible answers are established and awareness and preparedness are created (Chermack, 2011:1). Betts, Lewis, Dressler & Svensson (2009:104) also state that simulation which has been included in the curricula engages students in real-life scenarios, where they can develop and reinforce knowledge.

I enable students to experience various scenarios in their learning process and they go through the learning cycle of experiential learning where their existing knowledge is challenged or re-enforced. Gaming simulation is scenario-based and provides students with the experience of being in the shoes of planners or other stakeholders in the planning process. Their decisions are then discussed in the debriefing after the gaming simulation when I would highlight possible effects and further repercussions of the choices.

2.3.4. Deep learning

Marton & Säljö pioneered the research in surface and deep approaches to learning in 1976. Surface learning is where a student merely memorises the content and deep learning is where students aim to understand the content (Biggs & Tang, 2007:20).

In surface learning, studying to pass the module is the end goal of the student. Memorisation alone is applied by the student and it can create the perception that true understanding is achieved (Biggs & Tang, 2007:22). A lot of the time traditional teaching methods, as well as assessment procedures, can foster surface learning (Biggs & Tang, 2007:23). Lecturers enable surface learning by using bullet points on slides as main method of transferring information, assessing facts and not application and understanding thereof, transferring anxiety and lacklustre approach to the subject to the students (Biggs & Tang, 2007:24).

Students who follow the deep approach to learning want to engage in the meaning of the subject and its content. They focus on the main themes, ideas, principles and applications of the content. The use their prior

knowledge as foundation and build on that what they read and learn on the subject. Deep teaching bring out the structure of the subject, engages the students by requiring them to respond, building on the prior knowledge of students, addressing misconceptions, assessing structure and application, emphasising the depth of learning and aligning the subjects outcomes with the assessment tasks. (Biggs & Tang, 2007:25).

Only as small group of students naturally want to get to the core of the subject, the others feel harassed by the fact that they have to pass in order to get a job or promotion. They have families, bosses, hobbies and religious activities that also demand their time. Most students have become used to surface learning, as that is all they have been exposed to. Activities, like the gaming simulation, have to be used in the class in order to pull the students out of their comfort zones and into a scenario where they have to apply their knowledge, challenge their knowledge and defend their knowledge. In the reflection by the students, as will be discussed in the appropriate chapters, many students have indicated that they now understand the topic better and will remember it very long afterwards; as it came alive to them.

It has become my observation that some students in fact indicated in their reflections, that they prefer to be given text books, formal lectures and then formal tests and examinations. I do admit that it is the easy option and the surface learners do not enjoy my teaching at all. The gaming simulation and assignments linked thereto they tend to find a waste of time and really do not pour themselves fully into the process at all. Fortunately, this has been the minority of students that persist in their demand for surface teaching and learning.

2.3.5. Collaborative learning

Collaborative learning also supports constructivism, as it requires the student to work in groups and be involved in project-based activities, mostly supported by technology (Singh, 2008:1060). Students share responsibility in the group, become involved in social negotiation, peer evaluate one another, and focus on enablement of complementary and collaborative skills in the learning process (De Villiers & Cronje, 2005:46; Scherman & Du Toit, 2008:427).

Many of the gaming simulations support collaborative learning, as students work together in groups and also peer evaluate each other. They are responsible for their mutual learning experience. I also put a strong emphasis on collaborative learning, based on constructivism, as many of students are already working in town and regional planning related fields. They can build on their existing knowledge, or question their existing knowledge and share that knowledge with one another and

especially with the students who are not involved in town and regional planning already.

2.3.6. Bloom's Revised Taxonomy

Learning within the context of a higher cognitive order is required in the higher education environment, as it should also involve critical thinking and the application of the gained knowledge within different scenarios (Wingate, 2007:395). The University of the Free State places great emphasis in the application of Blooms' Taxonomy, as I have experienced in various training activities hosted by the Faculty of Natural and Agricultural Sciences and the Teaching and Learning Division of the University of the Free State. Benjamin S. Bloom was the Associate Director of the Board of Examinations at the University of Chicago and he initiated the idea of a unified taxonomy in order to ease the process of preparation for the annual examinations (Krathwohl, 2002:212). It became known as the 'Blooms' Taxonomy' and is a system of classification of what is expected of students to learn. Revision was required to enhance the depth of the cognitive process and align it with the knowledge dimension. Constructive Alignment is linked to the constructivist view, where lecturers are facilitators that enable learning through the alignment of outcomes, learning and teaching activities and assessment (Singh, 2008:1060). A taxonomy table was devised to analyse where various themes and objectives lie (Krathwohl, 2002:216).

Table 2.1. The Taxonomy Table

The knowledge dimension	Remember	Understand	Apply	Analyse	Evaluate	Create
Factual knowledge						
Conceptual knowledge						
Procedural knowledge						
Metacognitive knowledge						

Source: Krathwohl, 2002:216

This table can thus be applied to determine whether deep learning takes place. I have used this revised Blooms' taxonomy to draft my intended learning outcomes and to align them with the class and assessment activities. The gaming simulation exercises I designed are also intended to ensure that students APPLY their UNDERSTANDING of the themes and issues and ANALYSE and EVALUATE the effect of their decisions and actions and the plans that they have CREATED. I am not in favour of

testing 'remembering' in isolation, but it has been necessary from time to time to ensure that students have familiarised themselves with the fundamental aspects of certain subjects. Factual and conceptual knowledge to me is dependent on the student's world view and there I am a constructivist who allows students freedom to build their own knowledge. In regard to the procedural knowledge facet, planning is usually built on government legislation or general practice, which the students are exposed to. Metacognitive knowledge, to me, is extremely important as students must be able to have self-knowledge in their learning activities and gain respect for themselves, other people, other cultures and the environment.

2.3.7. African Indigenous Knowledge Systems (AIKS)

The inclusion of African Indigenous Knowledge Systems (AIKS) as a base for knowledge construction and a method to inform teaching and learning is also being considered in South Africa (Singh, 2008:1067) and Africa as a whole (Brock-Utne, 1996:342). Traditional African education was based in the socialisation process and learning by doing, as well as apprenticeship, oral tradition, learning through play, skills teaching and rites (Brock-Utne, 1996:343). It is in fact the mingling of social, economic, political, cultural and educational aspects; thus placing greater emphasis on life itself and educations' link to social and communal life and collective learning (Higgs & Van Wyk, 2006:185).

Key aspects of African education are the focus on communal life and Ubuntu (Higgs & Van Wyk, 2006:184). The 'spirit of Ubuntu' emphasises human needs, dignity, generosity, kindness, compassion, courtesy, benevolence and respect (Higgs & Van Wyk, 2006:184). The communal and community focus, has placed the emphasis of community projects where the students learn from communities and plough back what they have learned to the local communities via a process of community service learning (Singh, 2008:1065). The global South should also train its own scientists and researchers (Walker & McLean, 2010:852), to focus on sustainable development and the needs of its communities (Nchinda, 2002:1699). The community service link also fosters relationships between the people and academia that will result in more applicable research projects and knowledge creation (Brock-Utne, 1996:342). South Africa now also reflects the universal change in higher education that is more responsive and focussed on the needs of community, and a simultaneous move out of the proverbial ivory tower (Fourie, 1999:284).

I focus on the community as the key player in planning in many of the gaming simulations. Furthermore I also enable students to use oral traditions in various assignments. As later statistics will indicate in this thesis, the classes have been filled with multi-literacies, as students are

from different cultures, language groups and age groups and thus boundaries and cultural differences must be respected, with enabling students to understand one another and each other's viewpoints (Pillay, 2010:776). Role-playing enables the students to see issues from another individual's perspective, which aids to the rebuilding of the spirit of Ubuntu in Southern Africa.

2.3.8. Blended Learning

Combining traditional teaching with e-learning and other technological resources has become a very important theme in education (Singh, 2008:1067). Blended learning also represent hybrid teaching and learning, as a multitude of methods, instruments and technologies are combined in the learning experience of students (Milliron & Plinske, 2009:3). However, students that come from background where they were not exposed to technology experience stress and find web-based instructions alienating (Brüssow & Wilkinson, 2010:383; De Villiers & Cronje, 2005:41). This is especially the case with our adult learners. However, it has been found that it is not only students that are reluctant to use technologies, but a study by Lautenbach (2010:699) indicated that university lecturers themselves do not find engagement with educational technologies very comfortable.

Blackboard and *Facebook*, as interactive communications media, are utilised as a medium of communication, debate and information. This is integral part of my application of technology and social networking as part of blended learning (Milliron & Plinske, 2009:6). According to Lautenbach (2010:712) lecturers tend to focus too much on adapting to the technology itself, and forget the engagement role it is supposed to be playing in teaching and learning. As a gamer, I am extremely comfortable with new technology and it is the educational technology itself that does not seem to keep up with my needs as a lecturer.

The students must upload their assignments to *Blackboard* and I then allow students to view one another's assignments in the spirit of collaborative learning. The accreditation of our courses by the South African Council of Town and Regional Planners is dependent on us ensuring that even the block week students have equal access to lecturers, and the same quality of studio teaching and classes as the full time and part time students. We can consequently not make the course an e-learning only course. I also let the students play various computer games that are commercially available or for free on the Internet. In the beginning students were not very interested in the technological approach in my modules, especially due to the fact that many of them were from extremely remote areas that do not have Internet or even mobile phone access. With time and technological expansion in Southern Africa,

students have become more comfortable with *Blackboard* at least, but they are still not too happy with learning to play computer games.

2.4. WHAT TOWN AND REGIONAL PLANNING STUDENTS SHOULD KNOW

My approach to teaching is not only based on the information of planning procedures and theories, but also soft information like group work and decision making skills. In the modules I lecture, I thus also align with the knowledge of the Bloemfontein Competencies. The Bloemfontein Competencies were drafted in 2000 when the planning schools of South Africa came together in Bloemfontein to draft a set of core competencies that should be taught to students (Harrison, Todes & Watson, 2008:199). Effort has been made to re-evaluate these competencies and adapt them to new conditions. The South African Council of Town and Regional Planners (SACPLAN) is busy with the process, but there is much debate on the matter. In consequence the Bloemfontein Competencies have not yet been replaced. Therefore, it formed the basis for the drafting of many of the gaming simulations. The Bloemfontein competencies are indicated in Table 2.2.

Table 2.2. The Bloemfontein Competencies

Core competencies	Sub-outcomes
Knowledge and understanding of moral and ethical dimensions of planning's role in the public domain, and the application thereof in practice.	• Orientation to social justice and equal opportunity. • An appreciation of the diversity of cultures and views. • A people-centred approach. • Promotion of efficiency in resource use. • An orientation towards sustainable development. • Respect for professional ethics.
Demonstration of a sound theoretical and contextual knowledge, and ability to apply this in action.	• The nature, purpose and methods of planning. • The histories, philosophies and theories of planning and of development. • The theories relating to the natural, social, economic, developmental and political environment. • The theories and principles relating to the design of urban environments. • The theories relating to urban, metropolitan, rural and regional development, and to these contexts and processes. • The South African context and its particular challenges. • An application of these theories to the design, management and implementation of planning interventions to bring about positive change and societal benefits within human settlements.
Linking knowledge to spatial plans and policies.	• Collect, analyse and organize information to determine planning processes. • Use technologies to assist these processes. • Apply appropriate knowledge pertaining to political,

	policy and institutional contexts, and of planning legislation and procedures. • Prepare plans and formulate policies with spatial orientation at different scales. • Undertake planning with due appreciation of aesthetic dimensions, and with sensitivity to the links between human settlement and the natural environment. • Interpret and apply plans to ongoing decision-making and problem-solving. • Apply knowledge to the implementation of plans and to land management and development processes.
Linking and synthesizing programmes and projects from various sectors and institutions within a framework of integrative development.	• An integrative understanding of development issues and processes. • An understanding of the management requirements of integrative development processes. • An ability to think creatively and synoptically. • An understanding of the legal, policy and institutional frameworks with which such planning and development occurs. • An understanding of key issues in relation to development in South Africa including local economic development, land reform, and urban restructuring and the development of integrated settlements.
Conducting academic research in order to develop critical thinking and problem-solving abilities.	• An understanding of appropriate methodologies for different research requirements. • An ability to collect, analyse and evaluate information. • An ability to apply generated knowledge to planning problems, in a creative way.
Application of the managerial and communicative skills necessary for managing planning and development processes in the public and private sectors.	• An understanding of social dynamics and power relations. • An understanding of political processes and governance. • Strategic thinking and management. • Financial management. • Organizational management. • Project management. • Decision-making skills. • Organizational skills. • An ability to relate to and work with people. • An ability to work in teams as well as individually. • An understanding of approaches, processes and techniques associated with participatory and collaborative forms of planning. • Negotiation, facilitation and mediation skills. • An ability to communicate effectively verbally, graphically and by electronic means.

Source: Harrison, Todes & Watson (2008:255-257)

The Bloemfontein Competencies provide the backdrop of the matrix to analyse the application of gaming simulation in urban and regional planning education in the final chapter of this thesis. It is a very

comprehensive list and numerous gaming simulations can be designed, or are in existence, that can provide these skills and knowledge required in the Bloemfontein Competencies for planning students.

2.5. MY EXPERIENCE IN NON-PEDAGOGIC GAMING

I did not merely stumble upon gaming simulation through literature or trial and error. I am and have been and always will be a gamer.

I have been an avid board game player all my life, starting with the great Afrikaans farm game called *Boereplaas* and *Monopoly* in my pre-teens, moving to for example *Trivial Pursuit*, *Pictionary* and *Mad* in my teenage years and these days I play games like *Puerto Rico* and *Settlers of Catan*, which are civilisation establishment games and rather advanced.

When I started lecturing in 2002 I had fourteen years of experience playing in PC gaming from the XP PC days of playing *Sopwith* and *Sleuth* in 1988 right through to *Laura Croft* in the 1990s. During the period of study, from 2002 to 2012, I assembled a great collection of games, playing 'who-dunnit' and puzzle games for fun and *Civilization*, *SimCity*, *Sims* and *Cities XL* for work related experience. In 2012 I played *Mass Effect*, *L.A. Noir* and even *Diablo III* via a multi-player platform with a month old baby in my arms!

From 2006 to 2010 I was the highest ranking female "Warhammer Fantasy" tabletop war game player in South Africa, a game which involves strategic decision-making. I met my husband via table top gaming and we regularly enjoy playing various PC games together. He also assisted me in designing the EPZ Gaming Simulation and Housing Estate Gaming Simulation.

In addition, for the past seven years I also embarked on role-playing games (RPGs) where one has to simulate orally certain actions, allocated a character and background, basically a group of people making up their own story, aided by various dice to add the chance element. Currently I am part of a female *Dungeons and Dragons* RPG group, with one woman that has a doctorate and two of us doing doctorates. I also play *Cthulu* and *Cyberpunk* RPG games.

I had brief enjoyment in playing the Wii consul by Nintendo, until it was stolen. My husband recently bought a *Sony Playstation III* for our son's fourth birthday and that will soon be added to my gaming repertoire.

2.6. MY PATH TO GAMING SIMULATING AS PEDAGOGIC TOOL

According to Singh (2008:1065) lecturers in South Africa must creative and enthusiastic and 'think out of the box'. They must apply a blend of teaching methods, which are innovative and enable the student's self-learning process.

From May 2002 I was appointed as lecturer in the Department of Urban and Regional Planning, in the Faculty of Natural and Agricultural Sciences at the University of the Free State, South Africa. It offered a taught Masters' degree, which split in 2005 into a taught Honours Degree, followed by a taught Masters' degree. There were three groups of students; block week, full time and part time students. Block week students visit the campus for four block weeks for classes and they are usually employed adult learners, from the town and regional planning and related fields. Part time students are from Mangaung region, which includes Bloemfontein; they are generally employed and attend classes in the evenings. Full time students are continuing their studies from the undergraduate degree and are usually much younger with no work experience. They either have day classes or attend evening classes with the part time students. From 2002 to 2012 select classes were also presented in Afrikaans, if there were five or more students who could take the classes at the same time.

During the second semester of 2002, which runs from August to December, I lectured the modules 'Spatial Planning for Tourism' and 'Housing'. I used live action role play gaming simulations in both the modules to engage students who were tired after a day's work and to attempt to add some realism to the literature. It was a great success and led to my use and interest in gaming simulation as teaching and learning tool in urban and regional planning.

The diversity of our students, ranging in ages from 19 to 56 and spanning more than 14 language groups from 6 African countries, as well as many religious, cultural and experiential backgrounds, demands a diversified teaching repertoire. Furthermore, as there are no perfect regions, resorts, economies, communities and cities anywhere, there is no Universal Theory of Planning to force upon students. So, I realised I could not be prescriptive and that has led me to embrace constructivism and allow students to draft their own learning paths and develop and embrace their own theories.

At present I use various forms of gaming simulation in the majority of the modules I lecture with the aim of facilitating better understanding of abstract matters and also to simulate practical situations like community meetings. The only module where I do not use gaming simulation is

Transportation, as I would rather have the students do real projects, like the sustainable campus transportation project in 2011 and the design of the mini-town for the Tiny Professors Pre-School on campus in 2012. In the module Futurology, which I will lecture from 2013, I will also not use gaming simulation, but focus on instead dystopian movie analysis and utopian book analysis. However, a big part of the Futurology module is based on research done by the authors of the role-playing game and universe called *Cyberpunk*. In 2015 the computer game *Cyberpunk 2077* is released and students will then play that game to experience a possible view of the future.

2.7. OTHER GAMING SIMULATIONS I USED

In this section I will discuss other gaming simulations I used, but did not use as case studies for my action enquiry through various cycles. The reason that these gaming simulations are not part of my action enquiry is because I did not design them on my own or at all or only used them once. Therefore I was not at liberty to merely alter their design to be studied in a following cycle in the process of action research. These gaming simulations went through all the similar processes then the case studies. They were part of a larger teaching and learning activity, there were a written assignment component as part of the learning activity and there were a debriefing session after the role-playing games and a discussion session for the computer and on-line games. Reflective questionnaires were also given to students to enable reflective learning.

I will however use them as part of my findings, as the lessons for the use of gaming simulation in teaching and learning in urban and regional planning is of extreme importance. The can be seen as a single cycle action enquiry where I have applied them in teaching and reflected thereon. I might not be able to alter the gaming simulation in the next cycle, but I can change how I instruct students to take part in it and how I do debriefing after the exercise has been completed. In this single cycle reflection I have also learned valuable lessons about its applicability in teaching and learning in urban and regional planning; especially in regard to its applicability in alignment with the Bloemfontein Competencies and contemporary educational approaches and theories.

2.7.1. Housing Estate Gaming Simulation & EPZ (Export Processing Zone) Gaming Simulation

These are role playing gaming simulations that were primarily designed by my husband Andrew Barclay, based on literature and needs description of what I want students to learn and experience in these role-playing games. He is also currently completing a PhD in Higher Education with gaming simulation as focus in the Faculty of Education at the University of the

Free State. He has been involved in game design, especially role-playing games, on-line turn-based-games and table top games for almost 25 years.

The focus for the House Estate Gaming Simulation was to place students in the context of homebuyers trying to purchase a house give then budget for themselves and their families, in the South African context. There were four housing estates to choose from, two outside the urban edge and two inside the urban edge. Themes that were integrated in the game were urban-rural linkages, urbanisation, urban sprawl, Smart Growth, New Regionalism, New Urbanism and Urban Edge. This was done from a regional planning perspective. There were 'wild cards' which were media items about an issue in the vicinity of a housing estate, such as a growing informal settlement or taxi rank. The gaming simulation was based on a complex system of finances and victory points that determined which housing estate won. This gaming simulation was used in the years 2010, 2011 and 2012, and every year the housing estate that was exclusive and outside the urban edge won. This reflects what is happing in South Africa where exclusive housing estates are developed, regardless of planning policy.

The panacea of the establishment of an Export Procession Zone (EPZ) as means to bring about industrial development was put into a role playing gaming simulation where students had to take on the roles of those involved. This was called the EPZ Gaming Simulation and was based on the establishment of car manufacturing companies. Students represented politicians from competing EPZs, fixed component manufacturers required by the car manufacturers, component manufacturers required by the car manufacturers, the car manufacturers and potential car buyers. Everybody was given a financial cost sheet and they had to negotiate with various suppliers and purchase what they can afford, from an ethical and financial perspective. There was emphasis on local components versus imported components, German quality but pricy components versus Chinese but cheap components, clean energy and black economic empowerment. Regardless of the victory points students earned for black economic empowerment, clean energy and local goods; they rather focused on the cheapest and easiest path. This has been the case in each time this gaming simulation was run in 2010, 2011 and 2012. This gaming simulation was part of the regional planning theory module and students had to experience issues concerning agglomeration, industrial spaces, Export Processing Zones and globalisation.

Addendum A contains an article that has been presented to the journal *Simulation & Gaming* for publication and written by us about how these games were designed, their game-play experience and reflections by us and the students.

2.7.2. Third World Farmer on-line Gaming Simulation

I instructed my students in the elective modules Rural Development (2008) and Development Economics (2009 - 2011) to play the on-line free game *Third World Farmer* (http://www.3rdworldfarmer.com/). It is a turn based game where a player controls a subsistence farming family. Every turn you must decide if the wife must become pregnant, what to plant, and what agricultural implements or farm animals to purchase. After your turn the computer calculates your income, if there were no disasters, such as a drought or political coup. You are then given an income for the next turn. You must decide what medicine to buy, if your kids should go to school or work on the farm. If you go bankrupt, you lose. If you have enough money you can mechanise, build a school, road, communication and elect an official representative, which enables you to win the game.

Students had to play the game several times and explain what happened during the game and what they have learned about subsistence farming in developing countries. Then they had to present proposals for solving the problems associated with subsistence living, thereafter they had to place Southern Africa within this context.

Students start off with very preconceived ideas about subsistence farming and that it is a problem in need of formalisation and commercialisation. However, after they allowed the wife to get pregnant a sixth time, allowed chemical dumping, perform for tourists and plant opium poppies, they grow more empathetic towards the plight of subsistence farmers in traditional tribal areas. In the reflective analysis by the students they indicated that they enjoyed the game, it was addictive, easy to play, very educational and a true life scenario (OEB Reflective Analysis 2009, OEB Reflective Analysis 2010 & OEB Reflective Analysis 2011).

I am very fond of this game, it allows planning students to view planning in rural areas from the perspective of a subsistence farmer and the issues they need to deal with. From a planning outlook that provides information on the rural economy, urbanisation, over-population, the use of social grants, land degradation and regional spatial design elements. From 2012 this gaming simulation is part of the compulsory module on Honours level, Economics for Planners.

2.7.3. Computer Games

I have on various occasions instructed students to play resource based, turn-based games in order for students to become acquainted with the role of resources in settlement development, infrastructure development and trade. In 2007 and 2008 they were assignments in the module Land Administration. In 2004 they were an optional assignment topic in the Theory of Regional Planning module. In 2009 and 2012 it was compulsory in the Theory of Regional Planning module. It is important in regional planning for students to understand how important various resources are to enable development, be that financial, human or environmental resources. How roads link settlements, how the hierarchy of settlements develop, what should be placed in a settlement to ensure that the population is happy, and so forth are all elements of these types of computer games. The best example is *Sid Meier's Civilization*, which was also predominantly used by the students, especially the fourth edition. Other games played by the students were *Settlers: The Rise of Empire*, *Settlers of Catan*, *Age of Empires*, *Age of Empires: Rise of Rome*, *Age of Empires 2: Age of Kings*, *Age of Mythology*, *Grand Theft Auto*, *SimCity*, *Zeus – Master of Olympus*, *Zeus and Europa*, *Poseidon*, *Monopoly*, *ANNO 1503*, *ANNO 1701*, *Rise of Nations*, and *Ceasar III*. Students that had no access to technology and are from extremely remote rural places were allowed to choose alternative games and in both cases they chose indigenous African games, which are board games after a fashion.

An interesting observation that requires further research is that on both occasions that computer gaming simulation was an optional assignment, in 2004 and 2011 only three students choose this option. The three students were all black female students, over 25 and from Namibia.

Students had to play these games several times and the reflect on the lessons they have learned from the game about a region and its settlements, concerning population, water, land, agriculture, resources, economy, settlement and design, dangers, time and religion. They also had to reflect on the importance of infrastructure, as well as trade, in the regional context. Thereafter they had to do an evaluation of the relevance of the game in regional planning. The students reflected that the game was useful in their understanding of the importance of resources, technology, innovation, trade routes, and so forth (ATS Reflective Analysis 2009, ATS Reflective Analysis 2012).

The problems for the use of computer-based gaming simulation however is that the students were extremely negative in regard to the time it took to learn how to play the games, as they are not gamers themselves and thus they struggle to understand how to play the game at first (ATS Reflective Analysis 2009, ATS Reflective Analysis 2012). Therefore, it is

difficult for them to play out creative scenarios.

Regardless of the criticism from the students, I will continue to use resource based, turn based, computer gaming simulations as an opening assignment for the theory of regional planning, because when they have played these games, they can visualise the stages of regional development and all the important components inherent thereto.

2.8. CONCLUSION

This chapter serves as a bridge between the introductory chapter (that analysed the concern for my action enquiry and why this study is ground-breaking research in urban and regional planning) and the literature review (on the use of gaming simulation in urban and regional planning education). I have first explained my approach in my research design and methodology of Action Research. Thereafter I clarified my pedagogical approach embedded in constructivism and inclusion of African Indigenous Knowledge Systems. Then I established the foundation for that what my gaming simulation should teach the urban and regional planning students, based on the Bloemfontein Competencies.

Finally I explained my history as a gamer and how I came to use gaming simulation in urban and regional planning education, this leads to the following chapter, where I will analyse other case studies where gaming simulation was applied in teaching and learning in urban and regional planning. By now my approach and reflection should be clear and substantiated.

CHAPTER 3:
USING GAMING SIMULATION IN URBAN AND REGIONAL PLANNING EDUCATION

3.1. INTRODUCTION

This chapter reviews the literature on what has already been done in the application of gaming simulation in teaching and learning in urban and regional planning. This is unfortunately rather limited; this could be because planning academics do not publish their experiences in applying of gaming simulation in planning education in accredited journals and books. Furthermore, according to Frank (2006:24) the culture and practice of research and subsequent publication in planning education is now only moving from the incipient stage where there is limited publications and focus. Alternatively, this could be because planning lecturers are hesitant to try alternative education methods such as gaming simulation.

In order to ground and contextualise the study, the use of gaming simulation in general and thereafter the use of gaming simulation in education will be perused. Then the spotlight will be placed on the baseline of the study: the application of Gaming and Simulation in Teaching and Learning in Urban and Regional Planning.

3.2. TERMINOLOGY

"What is in a name? that which we call a rose
By any other name would smell as sweet;"
Juliet to Romeo in Romeo and Juliet by Shakespeare

First I will state why I call my exercises **gaming simulations**:

- It is a <u>game</u>, either computerised or role-playing or board game, which students play; hence **GAMING**.

- It is a <u>simulation</u> of a realistic scenario in a condensed, controlled, and safe environment, hence **SIMULATION**.

From a literature perspective however it is not as simple. Therefore, I will glance through the other definitions, names and terms given to what I call gaming simulation.

3.2.1. Learning simulation

Betts (2009:20) as quoted in Betts, Lewis, Dressler & Svensson (2009:103) defines a learning simulation as: *"A set of education and training techniques and strategies that engage individuals in real-life scenarios through role-plays, sociodramas, psychodramas, gaming, and reflection to develop and reinforce knowledge and skills learned in the classroom and workplace relating to problem-solving, decision-making, leadership, collaboration, and communication."*

As a lecturer I do not believe that what I do will automatically transfer into learning. It might be a learning experience for a number of students, but not for all the students. Some come with prior knowledge, which should be respected. Some students are so harassed in social situations, such as the role-playing and board game exercises, that they just want to escape and would not necessarily learn from the experience. However, it does not change the fact that the exercise was a game, which was a simulation.

3.2.2. Gaming simulation

According to Klievink & Janssen (2010:156) the common element amongst all simulations and games are that there are human participants and they play a specific role in an artificial setting that represents an aspect of reality. There are rules and interventions that guide the roles of the players.

3.2.3. Gaming and game

The word game in gaming simulation indicates an action practised for enjoyment and entertainment (Smith, 2010:17). Akinsola & Animasahun (2007) viewed an academic game as a "... *simulation game in which participations are provided with a simulated environment in which to play*". Furthermore, they view a game as an enjoyable form of sport or play, directed by rules, aimed at the achievement of goals that combines skill and chance.

Dépigny & Michelin (2007:265) classify games in terms of the skill required to play them and they have identified it as: competition, luck, simulation, and '*vertigo*'.

The gaming part is viewed by Cecchini & Rizzi (2001:508) as the mechanical part of a gaming simulation model, which defines the space where the actors must make decisions. Different types of games are used in the gaming part of gaming and simulation and they are for example sand tables, miniatures, mathematical models, paper board games and computer games (Smith, 2010:6).

3.2.4. Simulation

Simulations encompass selected aspects of reality and real-life situations (Akinsola & Animasahun, 2007), and attempt to replicate the real world setting, in order to provide learning in a safe and controlled environment (Grüne-Yanoff & Weirich, 2010:22; Warland, 2011:186). It also represents a system and is used to experiment, understand or forecast behaviour of the system (Grüne-Yanoff & Weirich, 2010:25; Klievink & Janssen, 2010:156). Simulations itself rest on theories and models, but simulations themselves cannot be seen as models (Grüne-Yanoff & Weirich, 2010:23).

3.2.5. Simulation Model

Simulation models are seen as an artificial world that exhibits similar self-organizing features then the real world (Devisch, 2008:210). The following are some examples of simulation models.

3.2.5.1. Cellular automaton

A cellular automaton is represented by a grid of cells, where each cell is representative of an individual unit (Devisch, 2008:210). He further states: "*Whether a cell changes state is defined by transition rules, the definitions of which are typically dependent on the state of adjacent or*

near-by cells". Patterns are generated when random "noise" is added to the rules; these patterns can resemble those of real cities. Cellular automata are perceived as useful communication tools, because the mere change of the grid lay-out or tweaking of the transition rules, creates an entire new range of scenarios (Devisch, 2008:211).

3.2.5.2. Agent-based system

An agent-based system is an artificially created society, "*inhabited by agents who represent individuals, make autonomous decisions guided by perceptions, preferences and habits, and who are constrained by a spatial setting, financial and temporal resources and limited knowledge*" (Devisch, 2008:211). Real-life phenomena emerge as a result of the interaction of these agents. Agent-based systems illustrate behavioural concepts such as learning, pro-activeness, negotiation, joint decision making and imitative behaviour within a complex system (Grüne-Yanoff & Weirich, 2010:44).

3.2.6. Role-play

According to Betts, Lewis, Dressler & Svensson (2009:106) "*Role-play is used to created simulated scenarios where individuals are assigned specific roles to act out defined situations with a systems of rules and guidelines*". This enables a student to gain exposure to various sides of issues. Furthermore, students are more engaged in the process of learning.

Akinsola & Animasahun (2007) viewed role-playing as a mock situation in which people adopt certain roles. According to Goon (2011:252) lecturers use role-playing and assign certain roles to students and challenge them, within the context of a story or scenario that is connected with reality, to achieve certain goals, based on a set of rules. Some role-play, for example mock trails, are also referred to as sociodrama, which involves individuals to take part in a collective process or issue, which involves creativity and spontaneity (Betts, Lewis, Dressler & Svensson, 2009:107).

Camargo, Jacobi & Ducrut (2007:475) noted that role-playing games are used as a learning tool to train students in regard to issues such as negotiation capacity. Role-playing is seen as an efficient tool for teaching multidisciplinary issues and social sciences (Dépigny & Michelin, 2007:265). Ducrot, Bueno, Barban & Reydon (2010:555) states that role-playing games have demonstrated to be more precise in forecasting decisions during conflicts then has been the experience with game theory.

Interactive role-play involves students that take on a role and participate in hypothetical scenarios dealing with issues, such as debate, problem

solving, conflict resolution, crisis management and persuasion (Betts, Lewis, Dressler & Svensson, 2009:107). Role-playing elicited reactions from students and contributed to the development of class spirit (De Villiers & Cronje, 2005:52)

3.2.7. Debriefing

The debriefing process follows the end of game-play (Dépigny & Michelin (2007:273). Discussion between the students and lecturer takes place and the effectiveness of strategies are debated (Goon, 2011:264). Debriefing is especially important to clarify issues and create an opportunity to make parallel between the gaming simulation and reality (Dandekar & Feldt, 1984:299).

According to Wingate (2007:398) lecturers should model a critical attitude towards information, as well as the construction of knowledge. She further states that teaching should take the approach that encourage students to think critically and debate pertinent issues, as well as practise the construction of knowledge. This is where gaming simulation, and especially the debriefing session, is absolutely ideal. First the knowledge is enforced or challenged in the gaming simulation; thereafter the lecturer and students have the opportunity to dissect what has come to pass in the gaming simulation. They can debate issues that emerged and discuss the scenarios and alternative scenario outcomes.

3.3. THE APPLICATION OF GAMING SIMULATION

Gaming and simulation is widely used in various fields; including the military, urban and regional planning, education, entertainment, healthcare, public policy and architecture; to aid teaching and learning, training, community engagement, scenario testing, problem analysis and predictions (Cecchini & Rizzi, 2001:508; Smith, 2010:6, 17). They aid in people's understanding of issues via real-life scenarios (Betts, Lewis, Dressler & Svensson, 2009:108).

Not only is gaming simulation becoming important in its application, but gamers themselves are seen as preferred workers, bosses and entrepreneurs based on the skills they have acquired through gaming (Beck & Wade, 2004:155). Video games outsell movies in the USA and grossed more than $9.5 billion in 2007 and Massive Multiplayer Online Games (MMOGs) have subscriptions worth more than $1 billion (Milliron & Plinske, 2009:5). MMOGs are always running, with millions of players playing together at once (Milliron & Plinske, 2009:5). Furthermore, it has been determined that the average age of a gamer in the USA is 33 (Milliron & Plinske, 2009:5)

3.3.1. War and Peace Games

For centuries the military has been utilising games for training, mission preparation, tactics analysis, and systems analysis; however the eternal struggle with the public and personal image of gaming used to determine people's lives through the planning of military warfare remains pertinent (Smith, 2010:6). The perception of games and gaming as essentially for entertainment and fun is challenged when it is applied in military simulation and subsequent operations where life, global security, peace and liberty are at stake. While the games are not played for entertainment or fun they use the entertainment roots as platform for competition and strategies (Smith, 2010:17). It must be noted that entertainment games host extremely advanced technologies in computer science. Hence, they provide the platform for the application thereof by many other industries, including military simulation (Smith, 2010:11).

Chess is the best-known example of a game that was purposefully designed to simulate war and exercise the mind to enable strategic thinking skills. Another war game is that of Wei-Chi of China that can be traced to 3000BC (Betts, Lewis, Dressler & Svensson, 2009:103). War Games have since been developed into a prerequisite for decision-making for the military, politicians and business. The link between war and business is also recognised in the proliferation of books adopting Tze Sui's *Art of War* to the business environment.

Not only are simulation games used in war games, put also as 'peace games', as the example of *Peacekeeping the Game* by Goon (2011:250), a role-play-board-game that simulates post-war peacekeeping efforts where students have to balance decisions about economic aid, security and reconstruction efforts.

3.3.2. Gaming simulation in urban and regional planning

According to Devisch (2008:211) simulation models have entered planning practice; however they have yet to become an indispensable planning tool. In the late 1960s and early 1970s (Taylor & Carter, 1969; Taylor, 1971; and Wärneryd, 1975) there was a strong emphasis on gaming simulation and its usefulness in urban and regional planning in general and in education specifically. Cecchini & Rizzi (2001:507) stated that there was a crisis in the 1970s and 1980s in the use of urban gaming simulation (UGS) as the "*algorithmic models of social systems backfired*", because the reformist ideals of social planning fell out of favour and as a result the paradigms that were used to build the UGS became obsolete. Available literature, and the enthusiasm, died down in the 1980s and 1990s, with interest only growing in the 2000s again. Cecchini & Rizzi (2001:507) state that "*Gaming simulation has a future, as long as we*

connect it to new paradigms (such as that of artificial life), new models (such as those based on cellular automata), new tools (such as telecommunication networks), and new goals (such as forecasting based on scenarios), or to new forms of planning (such as those that see participation and inter-active planning as essential elements)". My view of the gaming simulation that was developed and used in the 1960s and 1970s, and as proposed by Cecchini & Rizzi (2001:507) is that it aims to include too many variables in the gaming simulations.   In complex systems like urban systems, there are numerous unpredictable variables, including the social factor where people make irrational decisions (Cecchini & Rizzi; 2001:510).

Some notable studies that illustrate the use of gaming simulation in urban and regional planning are:
- The dynamics of urban sprawl have been studied via a simulation model by Fang, Gertner, Sun & Anderson (2005).
- Reckien & Eisenack (2010) investigated the use of a computerised role-playing game to portray the complexities of urban sprawl as a social construct.
- Mayer, Van Bueren, Bots, Van Der Voort and Seijdel (2005) investigated the design of a simulation game in order to support decisions in regard to sustainable urban renewal projects.
- The game *CONTAINERS ADRIFT* were researched by Mayer, Bockstael-Blok & Valentin (2004) to determine its success as a tool to aid in decision-making in the design and development of infrastructure.
- Bimonte (2008) used game theory to evaluate the abuse of tourism resources.
- Pak & Briva (2010) looked into the success of the development of a role-playing game, which incorporated a board game, to be used by local citizens to understand land use changes in the Colombian Amazon.
- Dépigny & Michelin (2007) investigated the usefulness of the board game, called *SHRUB BATTLE*, to enable European rural decision-makers to understand the relationship between agricultural practices and landscape dynamics.
- Quercia & Galster (2000) investigated a number of studies where simulation of various kinds were used to measure and determine the changes within a neighbourhood.
- Le Bars & Le Grusse (2008) considered a computer simulation that assisted students in determining the processes of negotiation and collective decision-making in water management.
- Camargo, Jacobi & Ducrot (2007) investigated the success of five role-playing games supporting decision-making in water and land management in Brazil.

- Boissau & Castella (2003) researched the success in the use of the gaming simulation to model decision-making in land use management in Northern Vietnam.
- Ducrot, Bueno, Barban & Reydon (2010) studied the success of a computerised role-playing game to simulate decisions regarding land tenure, infrastructure and water catchment management around São Paulo.
- Kopainsky, Pedircini, Davidsen, & Alessi (2009:641) studied the application of the Bergen Learning Environment for National Development (BLEND), which is a game that is based on a simplified version of Millennium Institute's Threshold 21 (T21). This game is aimed at enabling sustainable development in sub-Saharan countries. BLEND is a role-playing game used in workshops in seminars and international conferences, where at first contestants (representing ministers) play against each other in the management of a virtual nation, but in later rounds realize the benefit of cooperation (Kopainsky *et al*, 2009:645). They also rotate roles for better effect in understanding the complexities of decision-making.
- Wärneryd (1975) studied the computerised role-playing game that is based on the co-operation in three communes in the Swedish county of Värmland, where the players have to make decisions in regard to funding and allocation of land uses between the three communes.
- Torres & Macedo (2000) looked into the game LEARNING SUSTAINABLE DEVELOPMENT (LSD) that was developed to educate students and train professionals in a broadly defined concept of sustainable development.
- Kee, Graham, Dunae, Lutz, Large, Blondeau & Clark (2009) investigated gaming's place in history teaching and also analysed the use of the game *Civilization*, which is a game I instruct my students to play. Like me, they do have some issues with the validity of *Civilization* from a historic perspective.

Based on my experiences, I believe that the large-scale Urban Gaming Simulations of the 1960s and 1970s were too complex, one should either focus on a single variable on a large scale, (such as an industrial area losing business in a metropolitan area) or many variables on a small scale (such as the development of a tourist lodge in a rural community, for example my Tourism Planning Tribunal Gaming Simulation). One can keep using different variables in the same simulation and eventually in a discussion and linked written assignment; students can put the pieces together and discuss possible outcomes and mitigation measures. Alternatively a very complex computer model can be designed, but more on that in Chapter 8.

3.4. THE APPLICATION OF GAMING SIMULATION IN TEACHING AND LEARNING

Recently the concept of 'play' is gaining momentum in research and its application in business. In his book "*Play: How it shapes the brain, opens the imagination, and invigorates the soul*", Brown (2009:101) states: "*Play isn't the enemy of learning, it's learning's partner.*"

Gaming simulation has a long history in education (Akinsola & Animasahun, 2007). Dépigny & Michelin (2007:265) state that the educational use of gaming goes as far back as the Renaissance.

The use of gaming in education, defined by Milliron & Plinske (2009:5) as: "*immersive, play-based learning*" is gaining global attention.   It is with gaming that blended learning "*comes to life for learning*". The use of gaming in higher education is growing (Milliron & Plinske, 2009:6). The benefit of simulation is that students can explore and experiment real world phenomenon, without be exposed to the dangers and potential damages that reality holds (Betts, Lewis, Dressler & Svensson, 2009:104).

Research indicates that different students require different teaching and learning methods (Goon, 2011:252). This aspect has inspired many lecturers to offer gaming simulation in the classroom. Students have different learning styles and the four main categories are visual, auditory, reading/writing, and kinaesthetic learning preferences (Chan, 2012:22). Visual learners want to see diagrams, pictures, symbols, colour and lay-out. Auditory students want to hear the explanations in the form of debate, lecture or discussions while kinaesthetic learners need to incorporate movement into their learning.

Anderson & Lawton (2008:194-195) studied forty years of literature on the proclaimed virtues of gaming simulations, especially for business education, and drafted a detailed list, which is illustrated in Table 3.1.

Table 3.1. Advantages of gaming simulations

Learning	Teaches students principles, concepts and terminology.
	Teaches students interrelationships between various functions.
	Illustrates the complexities involved in concepts that appear relatively simple.
	Enables longer retention of knowledge.
	Enables students to link learning in the real world.
Attitudinal	Students' attitude towards their discipline improves.
	Class discussion has a focused and common experience.
	Engages students in their own learning process.
Behavioural	Teaches students how to apply the concepts and principles in strategic decisions.
	Teaches students how to implement concepts taught in the module.

	Enhances students' ability for peer-interaction.
	Provides students with decision-making opportunities.
	Improves students' skills in decision-making.

Source: Anderson & Lawton (2008:194-195)

Based on an accounting board game Fouché & Visser (2008:597) found that students experienced the board game as enjoyable from a social perspective, and they valued the fact that the board game demanded insight and application of knowledge from them. Role-playing games tend to enhance students critical thinking skills and they are more able to respond quickly and efficiently to issues like risk, opportunities and information (Goon, 2011:252). Nursing is one field where much training takes place in the form of gaming simulations; see Nickless (2011) and Warland (2011).

3.4.1. Constructivism

Lecturers must constantly strive to find better ways to engage students and make them active participants in learning (Chan, 2012:24). Gaming simulation enables the understanding of complex theories by engaging students in a hands-on exercise (Goon, 2011:252).

Jackson & Back (2011:777) emphasise that the adult learning theory states that students have rich self-knowledge and background experience, which they bring to the teaching and learning encounter, therefore the role of the lecturer should be a guide and facilitator to enable students to deepen their knowledge and establish connections between skills and content. Warland (2011:190) also believes that gaming simulation aligns with the principles of adult learning. Role-play involves physical learning on the side of students (Chan, 2012:22), but it also involves all the senses of students, hence it satisfies visual, auditory, reading/writing and kinaesthetic learners.

3.4.2. Reflective teaching and learning

Students also learn by reflecting on the gaming simulation (Betts, Lewis, Dressler & Svensson, 2009:106; Chan, 2012:23). A written assignment based on the gaming simulation is very effective when students are given the opportunity to reflect on the their experience, as sometimes they tend to develop more advanced and detailed conclusions and solutions (Goon, 2011:264).

Lecturers become more skilled in their craft as educator as they try new approaches to teaching, such as gaming simulation, and also through self-reflection and student reflection (Betts, Lewis, Dressler & Svensson, 2009:106; Jackson & Back, 2011:780).

3.4.3. Experiential learning

According to Goon (2011:251) experiential learning was also practiced and recommended by Aristotle and Socrates. Torres & Macedo (2000:120) state that gaming simulation is a preferred form of experiential learning, due to its alignment with the principles of real-world simulation.

Business gaming simulations are rooted in problem-based learning where students are presented with a problem and then they discover the knowledge related to the problem and cause for themselves, as they endeavour to solve the problem (Anderson & Lawton, 2008:197). The further found that evidence suggests that problem-based learning results in both better learning retention and a richer learning experience for the students. Furthermore, students rated gaming simulations as stimulating, engaging and enjoyable, as well as a good reflection of reality. Role-plays are problem-based learning activities and have been found to increase students' motivation and participation in learning, also supporting experiential learning (Chan, 2012:24, 26). Students reflected that the accounting board game of Fouché & Visser (2008:599) simulated reality and they could understand the link between theory and practice well.

3.4.4. Deep learning

Akinsola & Animasahun (2007) indicated that one of the important advantages of gaming simulation is that it makes what is learned permanent and retention over time is positively connected to games.

Fouché & Visser (2008:599) found that their accounting board game was an effective teaching tool as they experienced learning retention in the students, because it was also an unstructured learning environment that incorporated practical experience.

3.4.5. Collaborative learning

By involvement in group activities, such as role-playing, students construct knowledge collaboratively (Chan, 2012:24). They learn by observing each other in the collaborative learning environment.

The accounting board game of Fouché & Visser (2008:599) also enabled students to report that they enjoyed the social side of collaborative learning. Role-playing is an excellent way for students to discover improved communications skills (Jackson & Back, 2011:775). Role-play also allows collaborative learning as students gain feedback about their 'performance' from other students, if peer-review takes place (Betts, Lewis, Dressler & Svensson, 2009:106).

3.4.6. Bloom's Revised Taxonomy

Gaming simulation provides the means of testing students understanding, as they have to apply their knowledge in a simulated scenario they will encounter in reality (Goon, 2011:252).

Anderson & Lawton (2008:196) found that business gaming simulations also use Bloom's Taxonomy as a guide to measure their success as an educational tool. Role-plays have been found to encourage creativity amongst students, hence meeting the 'creating' criterion (Chan, 2012:25), the highest level of knowledge based on Bloom's taxonomy.

3.4.7. African Indigenous Knowledge Systems (AIKS)

According to Roux (2006:150) Indigenous Zulu games can be used as a diverse educational instrument that can transfer cultural and indigenous knowledge, as well as enabling psychomotor, cognitive, affective and social outcomes.

3.4.8. Blended Learning

Many universities are using *Second Life* as an environment to enable online learning. *Second Life* is a virtual, digital, environment where users represent themselves with avatars and interact with other users in this world (Milliron & Plinske, 2009:6).

3.4.9. Limitations and criticism

Students, who are shy and not interested in the role-playing simulation are found to have been less successful in attaining knowledge through gaming simulation (Chan, 2012:26; Goon, 2011:252; Warland, 2011:189).

Time that could have been spent on formal lectures, is used during the gaming simulation, which could have a negative effect on some students. Furthermore, the lecturer does not have full control over the lecture period itself (Goon, 2011:252). Another time-related criticism is that there is usually no time to replay scenarios so students can test out new solutions (Warland, 2011:190).

It has been found that gaming simulations are not that effective in teaching terminology, basic concepts and principles, and factual knowledge in business education (Anderson & Lawton, 2008:195). They also found that there is no support in the literature that measures the relation between performance and gaming simulation, in relation to the enthusiasm for the simulation (Anderson & Lawton, 2008:197). In fact

many studies emphasise the perceptions of learning through business related gaming simulation as measure of its success, which lacks rigour (Anderson & Lawton, 2008:201, 209). However, the study in regard to the teaching of mathematics via the use of gaming simulation has indeed proved that students' results are positively impacted by their participation in the exercise (Akinsola & Animasahun, 2007). I do understand criticism on studies based on perception. I have tried as well to make a connection between students' results and the gaming simulations in this study; however dividing students into two groups is unethical, as there is no time in block week for mitigation measures. Moreover, there were just too many other variables involved; such that it is, in my opinion, impossible to make a logical and scientific connection. However, my question is: Is perception not enough? If a student perceives a gaming simulation as an effective teaching and learning tool, will they not effectively be more enthusiastic and thus more susceptible to the value of the gaming simulation exercise? This has been my observation and experience; however this is rather a research field for psychologists and not urban and regional planners.

3.5. THE APPLICATION OF GAMING SIMULATION IN TEACHING AND LEARNING IN URBAN AND REGIONAL PLANNING

It can be said that the father of gaming simulation in urban and regional planning is John L Taylor of Sheffield University in the United Kingdom. He studied gaming-simulation extensively and published a book called Instructional Planning Systems: a gaming-simulation approach to urban problems in 1971. His focus was also on the educational value of gaming simulation, especially for scenario-based teaching and he emphasised the value of role-playing for that purpose (Taylor, 1971:97).

Recent noteworthy changes in professional urban and regional planning practice, as well as the shifting climate of higher education, has demanded a reconsideration of planning education (Frank, 2010:16; Stiftel, Forsyth, Dalton & Steiner, 2009:324). Planning schools must adapt to both changes in the market for their students (Faling & Todes, 2004:31; Todes, Harrison & Watson, 2003:21), as well as the changes in the world of planning, changes in technology and changes in educational practices (Stiftel *et al*, 2009:333). Planning lecturers should experiment with various teaching and learning methods, such as role-playing gaming simulation, which has proved to be of great success in linking practice and theory in planning (Melingrana & Andrew, 2003:106).

Gaming simulation is not only used in the education of urban and regional planning students, but it also has been used in continuing training for practicing professionals (Dandekar & Feldt, 1984:297).

Pioneers such as Duke, Feldt and Taylor have designed complex gaming simulations that are computerised, sometimes mixed with role-playing elements (Wärneryd, 1975:397). However, most of this work was done in the 1960s and 1970s, a little in the 1980s. As times and technology have changed drastically, I will analyse key articles that deal directly with the use of gaming simulation in education or training, or possibly suitable for education.

3.5.1. Gaming simulation and quinary career development in South Africa (2009)

Betts, Lewis, Dressler & Svensson (2009) developed a quinary career development model in order to assist students to be more prepared for the workplace and also find employment with greater ease. The model was developed to address employment demands given the weak post-2008 global economy and accommodate changes in the demographic composition of students (Betts *et al*, 2009:100). Not only are new students entering higher education, but people are returning to higher education to re-qualify themselves as their previous skillset becomes redundant or insufficient. Faculty and staff from the USA, Australia, South Africa, and Sweden collaborated on the design of the quinary career development model that is characterized by five career development stages: education, training, learning simulation, work-integrated learning and eventually career placement, and advancement, as well as transition (Betts *et al*, 2009, 101). Betts *et al* (2009:101) state that learning takes place via active and passive activities in the education and training stages. Thereafter, the learned knowledge and skills are applied within the learning simulation (gaming simulation) activities, such as role-playing, psycho-dramas, gaming, socio-dramas, and reflection. That knowledge will be re-enforced through work-integrated learning, such as internship. Thereafter career placement takes, with advancement and transition inherent thereto taking place as well.

As part of the study of Betts *et al* (2009:111) is the socio-drama of a mock planning hearing that was held at the University of Johannesburg within their planning course. Students were given a rezoning application scenario, which was objected to that resulted in a necessity of a tribunal. Students were divided into groups representing the consultant team of the applicant, the residents that objected to the proposed rezoning, business owners that objected to the proposed rezoning and the local authority. The groups had to prepare paperwork for the hearing, conduct site visits and prepare for the hearing given a framework and the legislation. The paperwork had to be submitted to a panel before the hearing. The panel consisted of lecturers and practitioners, which was tasked to evaluate the paperwork and arguments from the group within the hearing. This enabled students to be prepared for a real hearing, by gaining this

experiential learning opportunity. Thereafter students had to submit written assignments where they had to reflect on what they have learned by taking part in the mock tribunal (Betts *et al*, 2009:113). Furthermore, the students also had a class opportunity to reflect collaboratively about their experiences in the socio-drama.

I however do believe that a socio-drama is a great method, yet it is not sufficiently informal and impromptu, compared to traditional role-play. Having to pre-submit documents and being judged by a panel during their 'performance' might cause undue stress in students, distracting from what students should gain from the experience.

3.5.2. Should planners play computer games? (2008)

Devisch (2008:209) states that the cities now are characterised as self-organizing, open and complex systems. This has changed the role of planners from technocrats to spectators, which calls for a re-analysis of the tools of the planner (Devisch, 2008:210). Thus simulation models enable the planner to instantly observe any reaction to the impact of a project in a virtual setting.

Cellular automata and agent-based systems, or a combination thereof, are the two contemporary relevant simulation model techniques (Devisch, 2008:210). Cellular automata in planning practice have been adapted to model phenomena, such as the spreading of fire, urban growth, gentrification, and sprawl (Devisch, 2008:211). Agent-based systems are also entering planning practice and addresses phenomena such as pedestrian flows, shopping behaviour, traffic congestion, and location choice. The benefit of agent-based systems is that they could potentially assist planner in the understanding of the chaotic and self-organizing city.

Relevant computer games are *Sims*, which simulates the daily activities of virtual people (called *Sims*) and it is the best-selling PC game thus far (Devisch, 2008:211). It is however argued that *Sims* is not an agent-based system that is geared towards planners as there is no explicit spatial component. However, *SimCity* and *Second Life* are popular games that do have an overt spatial component (Devisch, 2008:211).

SimCity is viewed as a strategy game where is game is won based on skill (Devisch, 2008:211). There are numerous possible ways to win the game; however the player must learn the rules in order to do so (Devisch, 2008:212). The player acts as the mayor and builds new cities, decide on land uses and infrastructure and how to handle disasters. *Sims* in the game are the people and their actions in this agent-based game, indicate how successful the design of the city is.

Second Life is a virtual world with socialization as the end goal of the game. It functions as a large-scale on-line community, with the aim of developing a society (Devisch, 2008:212). Everything you find in reality is also represented in the virtual world, every land use, every activity and even business ventures. It is extremely popular and has a population of over 3 million residents, which are avatars that represent the players. *Second Life* is unique in the sense that it is completely dependent on player-generated content. The avatars are able to construct objects. There are also no rules in *Second Life*: avatars meet up, form their own communities and draft "community contracts". It can be seen as an artificial society.

Both games have been identified to be of educational value, albeit weighted to edutainment, rather than actual education (Devisch, 2008:213).

SimCity can teach students about twentieth-century local government. On school level they have brought out teachers guides to *Sim*, *Sim* school licences and *Sim* kids' products. It has however been reported that the game developers decided on fun as a determinant for its design. A problem with *SimCity* is that when the game's rules become known to the player, there is no improvement for the player, the game becomes predictable and there is no longer a reason to play it (Devisch, 2008:215). The *Sims'* behaviour needs to become more realistic in terms of joint decision making, pro-activeness, imitating and bargaining; in order for it to be a more accurate gaming simulation for planning (Devisch, 2008:216). As the conceptual framework behind the design of *SimCity* is that of a capitalistic land-valued based environment it is not readily transferrable to cities that developed outside of that paradigm. Furthermore, it favours a grid design, with an industrial development zone and segregated homogenous class based neighbourhoods (Devisch, 2008:217). On the basis of this critique he also calls for a possible open-source *SimCity* where planners can make logical inputs to turn the game into a more realistic gaming simulation.

Second Life also provides free trial for teachers and lecturers for one semester where they get a virtual plot of land where students can build something (Devisch, 2008:213). It is indicated that 85 educational institutes have reconstructed a part of their campus in *Second Life*. It is said that everything is possible in *Second Life*; you are only limited by your imagination and your credit card (Devisch, 2008:218). *Second Life* is further seen as "*an abstraction of reality rather than a simplification of it*" (Devisch, 2008:219). There are no complete cities or realistic transportation routes and the ultimate focus of the game is communication between avatars. Attempts have been made to use

Second Life in planning education, but the students found their avatars harassed or their work been broken down by other avatars.

3.5.3. SimCity as educational tool (2007)

Gaber (2007:113) states that: "*One way to share the delicate balancing act and complexity of planning decisions is to let students try their hand with the computer simulation game SimCity as part of a class assignment.*" *SimCity* is a commercially available game, that was first available in 1989 (now known as *SimCity Classic*), *SimCity 2000* (1993), *SimCity 3000* (1999), *SimCity 4000* (2003) and *SimCity Societies* (2007) (Gaber, 2007:114). *SimCity* is short for simulated city and it provides an abridged, speedy view of urban planning.

The benefits of playing *SimCity* are that it creates appreciation of the role of planners and policy makers. Students are confronted in the game with fast information analysis, critical thinking and subsequent planning. The urban environment in its full context of population issues, traffic, housing, infrastructure, open spaces and public facilities are simulated (Gaber, 2007:114). Within the context players must balance public and private spending, while keeping the population happy, through planning based decisions. Gaber (2007:115) states that: ...*students learn the interconnectedness of planning decisions as meaning that plans have both an immediate impact on the situation at hand, as well as consequential impacts on unrelated situations*". Therefore, he sees *SimCity* as a beneficial educational tool as it assists students to view planning from a holistic perspective. Students are also taught adaptive critical thinking and procedural knowledge.

Two problems with using *SimCity* as educational tool pointed out by Gaber (2007:116) is that *SimCity* does not portray reality realistically and it "*exchanges people for aesthetics*". The game developer's view of reality does not correlate with that of planners or architects. Furthermore, cities are not (normally) built from scratch, but inherit a structure that you, as planner, must build on. Nor is planning necessarily aimed at economic development planning, and planners seldom have that much power in deciding what happens in cities. Planning also involves complex social and cultural processes and relationships that are not reflected in *SimCity*. However, Gaber (2007:117) insists that *SimCity* is still a useful way for students to test theories, such as Garden City design, or establish their own theory. The lecturer should merely provide proper guidance, feedback and reality.

Computer based gaming simulation has been viewed to have an influence on higher order learning, be in line with experiential learning and problem based learning (Gaber, 2007:115) and that has also be corroborated by

the experiences of his students over three years where he simulated urban utopias in one simulation and Jane Jacobs (1961) view of *Death and Life of Great American Cities* in the next simulation (Gaber, 2007:120).

I did not lecture urban planning theory or methodology, thus I never used *SimCity* for teaching and learning. However, I agree that *SimCity* has numerous shortcomings and it is absolutely frustrating to play from a planner's perspective. The same goes for *Cities XL*. I do agree with Gaber (2007) that it is a useful tool to test certain hypothesis, such as utopian cities and how to experiment with new concepts and theories, such as New Urbanism. From 2014 I might possibly also take over the module Urban Theory and then students will definitely play *SimCity* as an introductory assignment. It does at least provide the basis for further discussion, rectification and alignment with reality throughout the rest of the module. In much the same way I am using resource-based games, for example *Civilization*, in regional planning theory at the moment.

3.5.4. The usefulness of urban gaming simulation (2001)

Cecchini & Rizzi (2001) evaluated the usefulness of urban gaming simulation for training and forecasting and also evaluated some of the available games and their usefulness. Urban Gaming Simulation (UGS) represents an urban model, more specifically a land-use model, which harmonises role, simulation and game within an abstract space (Cecchini & Rizzi, 2001:508). They further state that gaming simulation has proved to be an excellent training tool, as instruments of analysis, resultant prediction, and subsequent policy making.

The future of gaming simulation has been ensured by technological advancement that addresses the issues of complexity Cecchini & Rizzi, 2001:513). As the role of an urban and regional planner is no longer control focused, but the planner is now the agent that enables adaption within a complex urban system (Cecchini & Rizzi; 2001:514.) They further state that plans are no longer a reductionist and centralized management system, but it is a social construct to support sustainable development in on the urban and regional scales. Cecchini & Rizzi (2001:515) states that: *The real paradigm shift in UGS lies in substituting the earlier objective of bureaucratic control with participatory impact assessment; in balancing strong and weak ideas; and in envisioning change, guidance, and direction"*.

Cecchini & Rizzi (2001:517-518) evaluated the games that existed and they analysed UGSs like *FUTURE-X, FUTURE-GORIZIA* and *MIMESI*, which are predictive software; *SIMSCHI* and *THE WORLDS OF THE NEW MILLENIUM* that are custom designed role-playing games; *CAT* and *AUGH!* that are resource allocation games; and *REPLEX* (sustainable regional

planning software) and *PANGAEA* (virtual island planning software), all of which are dependent on cellular automata, neural networks, as well as multi-agent models and are software based gaming simulations. According to Cecchini & Rizzi (2001:519) "*They explore different possible paths and allow an understanding of the realms of complexity, the interconnections between the different parts, and the characteristics of the emerging social system*". They conclude that these gaming simulations will develop greater appreciation from decision-makers, as they are valuable learning tools.

While Cecchini & Rizzi (2001) do not discuss classroom teaching and learning exercises they provide a valuable assessment of urban gaming simulations that are available and can be used in tertiary education. However, they are somewhat complex, designed for Europa and Japan, and I can only imagine very expensive to purchase by South African universities.

3.5.5. An artificial intelligence approach for the design of project planning systems for urban planning gaming (1999)

Atsumi & Kumata (1999:1) determined that in order to experiment with decision-making in urban planning, there should be computer assisted systems for the gaming simulation. The experiments should furthermore be based on prediction of socio-economic change and the coordination of multi-agent interests. The computer assisted systems will aid to satisfaction in training, especially when it supports the decision-making process of the players, it supports the simulation of changes in response to the players' decisions and it supports the gaming manager's progress.

They investigated the use of the *ASTRON* system that represents assumption-based temporal decision-making, then they developed the *PASTERE* project planning system on the knowledge system *WORLDS* (Atsumi & Kumata, 1999:18). The roles in the game include landowners, leaseholders, local government, developers and public development corporation. They have found the game to be successful, yet suggested that it should be played by students and practitioners and studied further.

As this is a software game designed for use in Japan, the applicability cannot be tested by this university, due to cost and availability. Furthermore, the variables are custom-designed for a dense urban environment and processes in Japan, it might not be as valuable for South African students, in relation to the time and cost spent on the game.
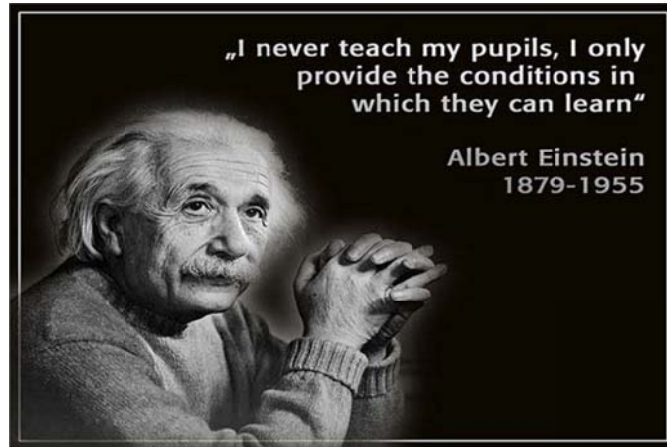
3.6. CONCLUSION

Gaming simulation has wide appeal and can be used in scenario planning, education, training and forecasting. In education it is especially the medical field that applies gaming simulation in teaching and learning to great effect and with success. The major benefit of gaming simulation is the limitation of cost involved in testing the various scenarios. The cost saved, is not only in the financial sense, but also in terms of lives and time. Many War Games have altered the manner in which war is being fought and how it is managed. In educational applications gaming simulation saves the cost and time of setting up each possible real live situation that is simulated.

The predominant criticism is that cities and regions cannot be reduced to the level that is required for gaming simulation and that the complexities involved in decision-making tend to get lost. In many games the issue of randomness or fate, depending on your point of view, is accommodated by using a die or multiple dice. This, however, does not satisfy the critics adamant that nothing is random and that each and every possible contingency and event must be catered for. Computerised simulation is attempting to accommodate the full spectrum of aspects involved in the events they are trying to simulate. With the advent of neural networks, the simulations are highly accurate and effective. The problem is however, that it is expensive and needs specialist knowledge and thus is not accessible to laymen.

In urban and regional planning gaming simulation is applied in practice, in order to test scenarios and do forecasting for possible planning paths to be taken. From the literature it appears that gaming simulation is not readily applied in the global South and specifically South Africa.

According to my review of the literature, there is a tremendous need for urban and regional planning lecturers, who use gaming simulation in teaching and learning, to actually publish their experiences, reflections, designs and methods. Furthermore, there is an immense shortage of academic literature dealing specifically with this theme.

CHAPTER 4:
TOURISM PLANNING TRIBUNAL GAMING SIMULATION

„I never teach my pupils, I only provide the conditions in which they can learn"

Albert Einstein
1879-1955

4.1. INTRODUCTION

"It learned me to think like a planner and ask the questions a planner must ask in order to establish if a development should take place or not. I learned that although one might come to the conclusion that any tourism related development is good, it may not always be that case as it can have a negative influence on the local communities." – Bob[3] (2011)

Tourism is the one module that I presented from 2002 to 2012 with not many changes and with a role-play gaming simulation from start to finish. I have identified that tourism from a town planning and development perspective has many possible outlooks; from ranging from totally no-waste, to green, to 'green-washed', to pro-poor, to exclusionary and so forth. I did not want to force students into a specific opinion, projected by me or literature, but I wanted them to think for themselves and debate a certain stance from that perspective.

From my experience working as BaPhalaborwa municipality's planner, situated in one of the most visited tourist destinations in the country, as well as a consultant specializing in tourism, and having focused my Masters degree on a five year participatory action research project on tourism, I realized that the typical focus on the negative effects of tourism is sometimes unnecessarily harsh and the positive effects of tourism are sometimes overly optimistic. Hence, I wanted to enable students to find themselves in a situation, as many planners do, of a tribunal, either

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[3] Pseudonym

governmental or tribal, to defend their development or oppose it. Thus, I created a gaming simulation, supported by photos from the area where I was working as town and regional planner. I then separated the students randomly into two groups, one group was tasked to defend the development and present the project as their idea and the other group was tasked to oppose the development. Each group had time to state their argument and then defend that argument again against the other group's statement in a debate. Thereafter there would be a debriefing of the presentations and arguments made, where we would discuss and debate the stated arguments and I would criticize and complement from my experience and the literature.

From 2013 the module will no longer be presented as the concept of elective modules is cumbersome on the academic staff and only key mandatory modules will thus be presented. Tourism being more of an add-on to town and regional planning knowledge and not fundamental thereto, has thus be cancelled. It may possibly emerge again as a short course in 2015.

In this chapter I will explain how I developed the Tourism Planning Tribunal Gaming Simulation and how I experimented with minor tweaks and changes of this gaming simulation in the years it was presented.

4.2. WORKING AS MUNICIPAL PLANNER FROM 1997 – 2002

BaPhalaborwa Municipality, in Limpopo Province, South Africa, has two faces: one being a tourism mecca as it is within the Lowveld known for many game farms and the Kruger National Park; the other being mining. Eco-tourism wants pristine bush and mining wants to remove the bush to get to the minerals, and these were, in essence, the focus of debates and proposals that characterized my time as Municipal Planner from 1997 to 2002 at that municipality.

There were however many crossovers between the two, as many of the tourism establishments catered to delegates, consultants and contractors that visited the mine for various projects and assignments. The restaurants and famous Hans Merensky Golf Estate (which was initially the Palaborwa Mining's recreational club for their white workers) also cater to both locals and tourists. Many of the people visiting the mines bring their families along for a visit to the Kruger National Park or one of the game lodges. Phalaborwa is also used by people as a base to visit places such as the Lowveld Plato with Pelgrims' Rest, Burke's Luck potholes and God's Window and so forth, which are on average a day trip from Phalaborwa. Thus, the town that was initially established by mining has increasingly become a tourist destination. The town in itself is not much of a reason to visit, apart from its fortunate location.

There were also numerous rural areas and that received a lot of attention from ethnic and tribal tourism, which was a rather questionable practice, due to its handling of people as objects. How would the same tourists in Europe or the USA feel if a bus of Africans stop and start taking photos of them mowing their lawn? A sadder fact was tourists that got rather annoyed when they saw electricity and cars and clothes in those tribal areas, as they expected to see people living in primitive and 'native' conditions[4] There was also conflict between subsistence farming and game farm development as tribal leaders would sell off portions of their land, leaving many people that depended on that land destitute and having to move to formal towns and cities. The game lodge owners wanted pristine bush, while keeping the tribal areas primitive. I have spent numerous hours in tribal offices and meetings under Marula trees with tribal communities trying to convince them to be careful and exercise their land rights. This scenario ended up being the one used in the Tourism Planning Tribunal Gaming Simulation.

4.3. THEMES AND CHANGES IN THE TOURISM MODULE

Due to the fact that I had done my master's degree thesis on tourism, and had written an article and presented a conference paper on tourism as well, before my appointment as lecturer; I was given the module Tourism Planning to lecture in 2002, the year I joined the Department of Urban and Regional Planning at the University of the Free State, South Africa. An elective module that students could take to end off their studies, it was an overview of tourism as industry and then highlighted planning on different scales, as well as study of tourism policy. It merged general tourism knowledge with town and regional planning. It also investigated the impact of tourism, and then the instruments and methods to enhance the positive impacts and mitigate the negate impacts.

South Africa viewed tourism as a panacea for economic ills and most development plans for towns and regions contain some aspect of tourism development and promotion. Often town and regional planners can hamper a flow of income to a region with administrative red tape concerning the development of tourism on farms and rezoning of property to allow tourism related uses. The aim of this module was to educate planners about the positive aspects of tourism, but also how to plan to mitigate the negative aspects of tourism. Throughout the study period I facilitated this module. The module was named Spatial Planning for Tourism, as the departmental chair at that stage had an architecture background and firmly believed that anything to do with planning must be spatial in nature. However, from my experience at the municipality, as

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[4]This was said to me in a restaurant at a Safari Lodge, after I asked some European tourists how they enjoyed their rural village and township tour in 1998.

well as my consultancy, I experienced that tourism planning starts with policy, then public meetings and only then spatial planning and then promotion. Thus, I put my motivation through and the name changed to Planning for Tourism in 2006. Then from 2009 the program director decided to change it to back Spatial Planning for Tourism.

The structuring of the various themes in the module through the various years is indicated in Table 4.1. The module was not presented in 2004 or 2007 and thus those years are not included in the table.

Table 4.1: Themes presented in the Tourism module

Themes	2002	2003	2005	2006	2008	2009	2010	2011	2012
Credits	16		8						
Definitions, components and impact of tourism	X	X							
General introduction to/ overview of tourism			X	X	X	X	X	X	X
The tourist in tourism								X	X
In the tourist backpack								X	X
Impact of tourism / Tourist footprint				X	X	X	X	X	X
New tourism / New trends in tourism	X	X	X						
General tourism development	X	X	X	X	X	X	X		
General tourism planning principles and instruments	X	X			x	X	X		
Trends in the tourism industry	X	X							
Tourism policy	X	X	X	X	X	X	X		
National tourism planning	X	X	X	X	X	X	X	X	X
Regional tourism planning	X	X	X	X	X	X	X	X	X
Destination / Local tourism planning	X	X	X	X	X	X	X	X	X
Site level tourism planning	X	X	X	X	X	X	X	X	X
Case studies			X						
Rural tourism development						X	X		

Source: RBT Study guides, 2009 – 2011

In order to understand the context of the simulation, a discussion of the themes covered in the module is essential. For my Master's degree thesis I created a matrix for measuring the availability of aspects of the tourism industry and impacts of tourism for the BaPhalaborwa community, which

can be adapted and used by town and regional planners for the areas they work in (De Ridder, 2002:46). This guides the extent of mitigation measures and the basis of planning. I had to do an extensive literature review, which I then summarized for students for the theme 'Definitions, components and impact of tourism'. I later reviewed this document on several occasions and broke it into several smaller portions. In the 'General introduction to tourism' from 2005 to 2010 I discussed the various components and definitions related to tourism, then the unique nature of tourism as an industry and thereafter the components of the tourism industry which are the market, the destination, marketing and transportation. In 2011 and 2012 I broke this section into three themes with the market as 'The tourist in tourism' and the destination, marketing and transportation as 'The tourist backpack'. From 2006 to 2010 the impact of tourism was treated as a separate aspect, investigating the negative and positive impact of tourism on economics, socio-cultural aspects and the physical environment. In 2011 and 2012 it was renamed 'The tourist footprint'.

'New trends' / 'New trends in tourism' / 'Trends in the tourism industry' were analyzed from an academic perspective in 2002 and 2003, and I used special editions to Newsweek 2002[5] on tourism trends as reading material. In 2005 I only used the Newsweek special editions of 2002 (as above), 2003[6] and 2004[7] as reading material on trends. From 2006 the new tourism trends and different types of tourism were integrated into the material dealing with the introduction to the module.

'General tourism development', 'General tourism planning principles and instruments' and 'Tourism policy' were themes from 2002 until 2010. Chapters from various academic books by Pearce (1994), Burton (1998), Gunn (1994), Hall & Page (1999), Lickorish *et al* (1991), Ryan (1991), Medlik (1995), Keyser (2002) and the South African White Paper on Tourism (1996) have been used in several years. Eventually I integrated them into class notes as part of the 'Introduction to Tourism' to save notional hours, which I then used in 2011 and 2012.

In 2009 and 2010 a theme called 'Rural Development' was added, as the Department decided to establish itself as a specialist on rural development and regional planning. The analysis of student reflection forms however revealed that the majority of the students were from either capital cities of provinces or capital cities of their countries and in 2011 and 2012 students were given the freedom to focus on rural as an option in an assignment, as was done in 2002 to 2008.

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[5]Various writers. 2002. Travel & Tourism. *Newsweek*. P. 30-59. July 22/July 29.
[6]Various writers. 2003. Travelers of tomorrow. *Newsweek*. P. 34-69. May 26/June 2.
[7]Various writers. 2004. Travel: Special Report. *Newsweek*. P. 33-55. April 19/April 26.

Case studies was included in 2005, but taken out again to save notional hours. Every year student assignments had to use case studies in their assignments. The Tourism Planning Tribunal Gaming Simulation is a case study in itself.

The important themes then linked tourism and planning and discussed it on the various scales, being national, regional, local (community or destination) and site levels. The material used variably from 2002 to 2012, were selected chapters from Inskeep (1991), Pearce (1994), Gunn (1988), Gunn (1994), Gunn & Var (2002) and Sharpley & Telfer (2002). This is an excellent and hands-on selection of literature to assist planners in merging tourism with planning principles to benefit the community and its environment through tourism planning.

Re-curriculation was done and from 2005 the module was reduced from a 16 credit module to an 8 credit module. Some of the material was condensed and included in the class notes, but it was mostly the amount and scale of assessment opportunities that got scaled down.

After the reading, studying and application of the information from the above themes and material in assignments, it culminated in the Tourism Planning Tribunal Gaming Simulation. How this simulation was developed in 2002 and then adapted throughout until 2012, will be the focus of the remainder of this chapter. During the various years, alternative gaming simulations were tried, and will also be briefly discussed.

4.4. RUNNING THE TOURISM PLANNING TRIBUNAL SIMULATION FROM 2002 - 2012

In this section I will explain how the Tourism Planning Tribunal Gaming Simulation was run for the first time, how it evolved and what successes and failures there have been regarding the simulation. The discussions will be categorized per year, representing the action research cycles, using the living theory model of reflecting on my teaching, adapting it, and reflecting again, as an ongoing process. First I will look at the literature that established the foundation for the simulation in regard to the impact of tourism and then the presentation that was given to the students as the scenario in the simulation.

4.4.1. Impact of tourism

The idea of the simulation was to enable students to use the impact of tourism and apply that to the scenario given and then through their presentation and subsequent debate to propose mitigating strategies to minimize the negative impacts while maximizing the positive impacts. The impact is indicated in Table 4.2. An extended format of these impacts is

part of the student's notes for this simulation and was drafted in 2002. For the purpose of the study the notes were kept the same and no additions made. Furthermore, no new impacts were identified from 2002, as most either fit into the existing impacts or quote one of the authors who initially identified a specific impact as source of information. Hence, there are no new additional sources that have been added since 2002.

Table 4.2: Impact of Tourism

Economic advantages of tourism[8]	**Provision of income** to entrepreneurs, a community and government.
	Creation of job opportunities, especially in the local income sector.
	The generation of a **multiplier-effect** as tourism money circulates within a community, region or country.
	Tourism is an **export**, even if people must go to a destination from another area to use the product, they bring money with them.
	Tourism is a method of earning **foreign currency**.
	It moves the **balance of payments** of a country into a positive number.
	It increases the **economic base** of a community, region or country.
	It promotes **entrepreneurship** on various scales and within a broad spectrum of start-up money.
	Generates **tax income**.
	It is **income elastic** and people will spend extra money on tourism activities.
The cost of tourism[9]	**Direct costs** for establishing tourism accommodation, facilities, infrastructure and marketing. Hidden tourism costs are, increase in public services, like policing and garbage removal.
	Inflation causes especially land prices to rise in areas that develop as tourist destinations. In the tourist season, even a loaf of bread can inflate and the local residents must also pay that higher price.
	Economic over-dependency on tourism can be very detrimental to a community, region and country when tourism is impacted by natural disasters, war or a global recession.
	Seasonality is a characteristic in most tourist destinations where tourists visit a destination during the ski season or the beach in the summer school holiday. However, the rest of the year the people are without jobs and income.
	Opportunity cost of tourism is very high, as other industries like mining or logging could yield higher repayment rates.
	Inter-sectorial competition takes place in remote areas where

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[8] Compiled from information in Briguglio, 1992:69; Butler, 1975:88; Butler, 1989:578-579; Carter, 1990:59; Coltman, 1989:223; Copeland, 1991:515; Coppock & Duffield, 1975:26-27; Crouch & Shaw, 1992:175, 190; Curry, 1992:207; Deegan & Dineen, 1992:137; Dieke, 1993:278, 280; Heath, 1988:27; Hudson & Townsend, 1992:52; Hugo, 1993:69, 70; Jefferson & Lickorish, 1991:3; Johnson *et al.*, 1989:140-141; Johnson & Thomas, 1992:7; Krippendorf, 1987:47-48; Knudson, 1980:82; Lea, 1988:39, 48; Mansfeld, 1992:377; Mansfeld & Ginosar, 1994:938; Mathieson & Wall, 1982:35, 85; Matley, 1976:18; Mill & Morrison, 1985:223; Popovic, 1972:65; Saayman, 1996:40, 42; Scottish Tourism Board, 1975:6,7; Sinclair & Tsegaye, 1990:457, 488, 496; Smith, 1983:170, 172; Trigg, 1995:36; Vrey, 1974:14; Wanhill, 1992:92; Wilson, 1993:18 and Yale, 1995:164-165, 264.

[9] Compiled from information in Bennett, 1995:328; Bull, 1993:44, 148; Butler, 1989:579; Carter, 1990:59-60; Crouch & Shaw, 1992:196; Curry, 1992:194; Hudson & Townsend, 1992:55; Hugo, 1993:67; IUOTO, 1966:43; Johnson & Thomas, 1992:7; Knudson, 1980:86-87; Krippendorf, 1987:50, 81; Lea, 1988:39-40, 49, 50; Lundberg, 1990:241; Mathieson & Wall, 1982:37-38, 86-88; Matley, 1976:18; Niedermeier en Smith, 1995:52; Nieuwoudt, 1993:55, 57; Odendal&Schoeman, 1990:198-199; Oliver-Smith *et al.*, 1989:345; Rogers & Slinn, 1993:160; Saayman, 1996:97-99; Saayman & Scanlen, 1996:65, 76-78; Sinclair & Tsegaye, 1990:487; Smart, 1989:19-20; Smith, 1983:172; Strydom & Lourens, 1995:53; Wanhill, 1992:92 and Yale, 1995:164-165.

	people would prefer to work in tourism than in agriculture or on their subsistence lifestyle responsibilities in rural areas.
	The **labour costs** in tourism is extremely high, as it is a service industry, and highly dependent on labour. However, even if there are cleaners cleaning rooms and waiters standing around, they must be paid, even if not a single customer shows up.
	Price elasticity is extremely high, thus a rise in prices causes a dramatic decrease in demand.
Social impact of tourism[10]	Tourism leads to **social changes** as first the local community is almost euphoric about the potential of income and benefits from tourism, but as inflation hits and they are overcrowded from their own streets and shops and beaches, xenophobia sets in, that can sometimes even turn violent.
	The **demonstration effect** is where a host community that is unique in culture and social values start adopting a so-called western consumerist mentality and want to dress and be like the tourists, thus abandoning their subsistence and community responsibilities to earn money to pay for the sunglasses and cell phones seen on the tourists. The demonstration effect can be good however for marginalised groups like women, who are forced into marriages and subservient lifestyles, to change the values of their society[11].
	Neo-colonialism in the sense that a lot of the development in former colonies, is done by companies from former powers, through foreign direct investment. This takes land and resources from the community and move the profits overseas, as can be seen with many exclusive lodge developments by Germans in Namibia.
	Tourism has a detrimental effect on the **moral behaviour** of host communities, as especially with resort and beach tourism, tourists drink, eat and have relaxed morals. This is seen and emulated by especially the youth of the host community and the ripple effect is an increase in drugs, alcohol, begging and prostitution.
	The **health** of the host community can be benefitted as health care facilities for tourists can also serve them, however, tourism is also the vehicle that can spread a lot of diseases. Tourists tend to over-indulge or be sensitive to local food and water, which results in tourists using the local health care facilities, paid for by local taxes. Tourists' activities and facilities create pollution and can further facilitate the breakout of diseases.
	The **family structure** of host communities is disrupted, because the hospitality industry uses mostly women. She will start earning more than her father or husband, and being out during night time or all day, which is a disruption in certain traditional and religious societies.
	Migration within a region, country or even internationally is a manifestation of the demonstration effect. People flock to known tourist destinations in the region in search of jobs, abandoning their traditional roles or agricultural jobs. Also when they are exposed to tourism and a consumer lifestyle they tend to move to cities in search of jobs, in order to achieve that lifestyle.

[10]Compiled from information in Blank, 1989:65, 87; Bosselman, 1978:21, 37; Butler, 1975:87; Carter, 1990:59- 61, 81; Coltman, 1989:253-254; Dieke, 1989:280; Gorman *et al*., 1972:9; Heath, 1987:43-44; Hudson & Townsend, 1992:55; Hugo, 1993:70; Johnson & Thomas, 1992:6; Krippendorf, 1987:45, 46, 49, 51; Lea, 1988:46-48, 51, 66, 70, 72-73; Mansfeld, 1992:377; Mansfeld & Ginosar, 1994:958; Mathieson & Wall, 1982:75-76, 140, 142-147, 149, 157, 174; McIntosh & Goeldner, 1984:140-141; Nieuwoudt, 1993:54; Odendal & Schoeman, 1990:195; Oliver-Smith *et al*., 1989:345; Pearce, 1981:52, 58; Pollard & Rodriguez, 1995:37; Saayman & Scanlen, 1996:49-50, 58, 60; Smith, 1983:175, 177; Trigg, 1995:36; Wilson, 1993:20 and Yale, 1995:164-165, 266.

[11] This is also a contested view, as there is pressure from women's groups who insist that they do not want to be influenced by liberal feminist values.

Cultural impact of tourism[12]	**Intercultural communication** takes place between tourists and the host community, where they learn from one another and that promotes a better understanding between different cultures and enhances general tolerance in the world for 'The Other'.
	Cultural renaissance takes place on cultural products, as there is a market for traditional arts, crafts, literature, dance, rituals, food and customs; which might have died out on account of globalisation.
	On the flip side, it also leads to a **commercialisation of culture**, where certain elements of religious and ritualistic practices, like masks, are replicated and sold in mass to tourists. This cheapens the culture and leads to people questioning the value of the culture.
	Creation of a '**human zoo**' as cultural village tours, and South Africa's well know 'township tours' exhibit people and their unique lifestyle as oddities. Tourists stop and stare and take photographs as people go about their daily tasks. This cheapens and commodifies the daily lives of many communities, where washing dishes becomes a tourist event.
	Holy places and relics are not visited only by pilgrims, but also tourists, who end up angering the pilgrims and host community with disrespectful behaviour. Furthermore, depending on one's stance regarding missionary work, this is either positive or negative, as indigenous **religions** start making way for the mass religious of Christianity or Islam. It also leads to people questioning their beliefs in the light of being exposed to consumerist behaviour and lifestyles.
	The indigenous **language** of the host community gets replaced by, or infused with the language of the tourists, as the people learn that the tips are higher if you are fluent in the tourists' languages. On the other hand, some languages get preserved as it becomes a tourist product through song and theatre. Some tourists also get to learn new languages as they prepare to visit host destinations with a foreign language.
	Tourists can insist on their **food** being prepared and served in destinations where it is not the custom, which replaces the indigenous menus at many restaurants. However, food tourism and local cuisine can also be preserved as tourists adventurously try local food as a tourist product.
	The **clothes and behaviour** of tourists are mimicked by the host community, which is a problem when traditional and religious ways are questioned and disregarded. Also, tourists are sometimes disrespectful towards local customs like clothes, and dress offensively. On the other hand, local clothes and traditions are passed on to the tourists as a tourist product.
	Architecture and landscape design of the host population can be preserved or promoted through careful and sympathetic architecture. This can even echo back to the tourist's home community. Alternatively it can be seen as inferior by the locals as western high rise generic hotels and condo's start to dot the skyline.
Physical impact of	The **rehabilitation and restoration** of existing archaeological and historic locations, buildings, graves and monuments for tourist purposes.
	The **transformation and repurpose** of old buildings and locations into

[12] Compiled from information in Barley, 1994:9; Bosselman, 1978:24, 27; Carter, 1990:60, 61; Coltman, 1989:252-254, 257, 258; Goodall, 1993:93; Heath, 1988:46; Hudson & Townsend, 1992:50; Jefferson &Lickorish, 1993:3; Krippendorf, 1987:50, 51, 57, 61; Lea, 1988:51, 71-73; Mathieson & Wall, 1982:173-174; McIntosh & Goeldner, 1984:140-141; Odendal & Schoeman, 1990:199, 205; Smith, 1983:177; Trigg, 1995:36; Wilson, 1993:19 and Yale, 1995:266.

tourism[13]	completely new tourism facilities.
	Disused buildings, which alternatively would have stood vacant or would have been demolished, get new life through **restoration** and the **use** of the buildings for shopping malls, accommodation or theme parks.
	The **conservation of natural resources**, as it provides an income through tourism.
	The **establishment of administrative and planning control** with the aim to sustain the quality of the environment and quality of life for the host community, but at the same time satisfies the needs of tourists.
	Restructuring of the environment through tourist development and the negative effects associated with loss of ecosystem, flooding and so forth.
	The balance of the **ecosystem**, on either macro or micro level, is disturbed by tourist development.
	Tourist activities cause **pollution** in the form of littering, as well as air and water pollution.
	Flora, which is a tourist attraction, is damaged by chopping out of trees and shrubs, picking of flowers, trampling, and so forth.
	Fauna are disturbed by tourist activities, from breeding and feeding, threatening their survival.
	The **geology** of an area is disturbed through the removal of minerals, rocks and fossils; as well as breathing in caves, mountain climbing, construction, and graffiti.
	The **ground** is disturbed through moving of ground, compaction, erosion and eutrophication.
	The **water** quality of an area is disturbed through pollution, due to raw sewerage that is pumped into lakes, dams and the sea; as well as littering. This causes eutrophication and leads to the formation of algae. Furthermore, the introduction of invader plants also causes water pollution. Underground water sources are equally polluted or used up.
	Air is polluted through fires and other tourist facilities, including the increase of carbon emission and methane gas in tourist areas.
	Noise by tourists and tourist activities is a problem for the host population, as well as for breeding animals.
	Overcrowding of a destinations' infrastructure and superstructure, as well as attractions and facilities. This leads to congestion of people and vehicles.
	Artifacts, monuments and buildings are damaged by tourists through theft, graffiti, breaking off of souvenirs, touching, breathing, camera lights and trampling of the ground in and around it.
	Land use conflict between host community and tourists, as tourist development on scare and more expensive land pushes the local residents to the outskirts. There is also an increase demand for land uses such as parks, motorways, hospitals and food and beverage facilities.
	Increase in density as single houses are replaced by high rise hotels and condos.
	Urban sprawl and crawl takes place along the coast, valleys, mountains, rivers and other areas of interest.

[13] Compiled from information in Bosselman, 1978:39, 86; Butler, 1975:87; Carter, 1990:57; Coltman, 1989:242; Green & Hunter, 1992:30 & 34; Gunn, 1979:17 & 18; Johnson & Thomas, 1992:3-4; Krippendorf, 1987:51; Lea, 1988:54 - 56; Mathieson & Wall, 1982:91 - 124; Odendal & Schoeman, 1990:198; Page, 1994:146; Pearce, 1981:48; 1989:152; Pollard & Rodriguez, 1995:33; Rogers & Slinn, 1993:160; Ryan, 1991:92; Saayman, 1996:173, 179, 183, 185, 199-200; Scottish Tourism Board, 1975:8; Smith, 1983:178-180; Trigg, 1995:37; Viljoen & Hugo, 1986:2, 5 & 7; Wall & Wright, 1977:6, 7, 18, 29 & 37; Yale, 1995:266 and Zeiger, 1992:74 , 77.

	Spatial segregation between the tourists and host population, especially where there is marked differences in class and income. In many of these cases the tourist facilities cut the local community off from their livelihoods in the sea, bush or forest.

The above summary of impacts should thus inform the presentation given to the students as the scenario base for their simulation.

4.4.2. Presentation of the scenario

The following slides were in the presentation from 2002 until 2012. The photographs are all my own that I took in and around Phalaborwa and the Kruger National Park, with the lodge being Bed in the Bush, where an existing farm house was repurposed, the pottery is also being manufactured there. The last photo was taken by Safepani Lodge of their game viewing vehicle.

Figure 4.1.: Slide 1
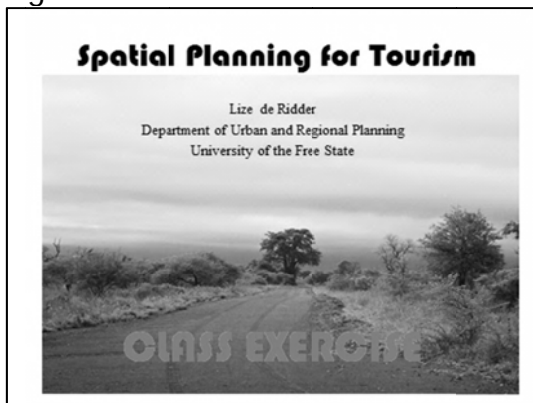
Source: Tourism Planning Tribunal Gaming Simulation *PowerPoint*

I got married in 2005 and changed my surname to Barclay from the 2006 first slide. I also added the module code and year later on.

Figure 4.2.: Slide 2

Source: Tourism Planning Tribunal Gaming Simulation *PowerPoint*

In slide 2 I explained what the exercise was about from 2003. In 2009 I added: "*The rest of the slides indicates the proposed development and the area it will be located in. When a slide has "Proposed" in it, it does not yet exist, but it is how the development would look like when developed*". It was because the students were confused between what exists and what is proposed as I used photographs and not architectural designs. I then added the word Proposed where relevant.

I designed a crude map in slide 3, where the black represented the proposed development, which includes a road that links the main buildings with the outside area and the main buildings with the tourist areas.

Figure 4.3.: Slide 3
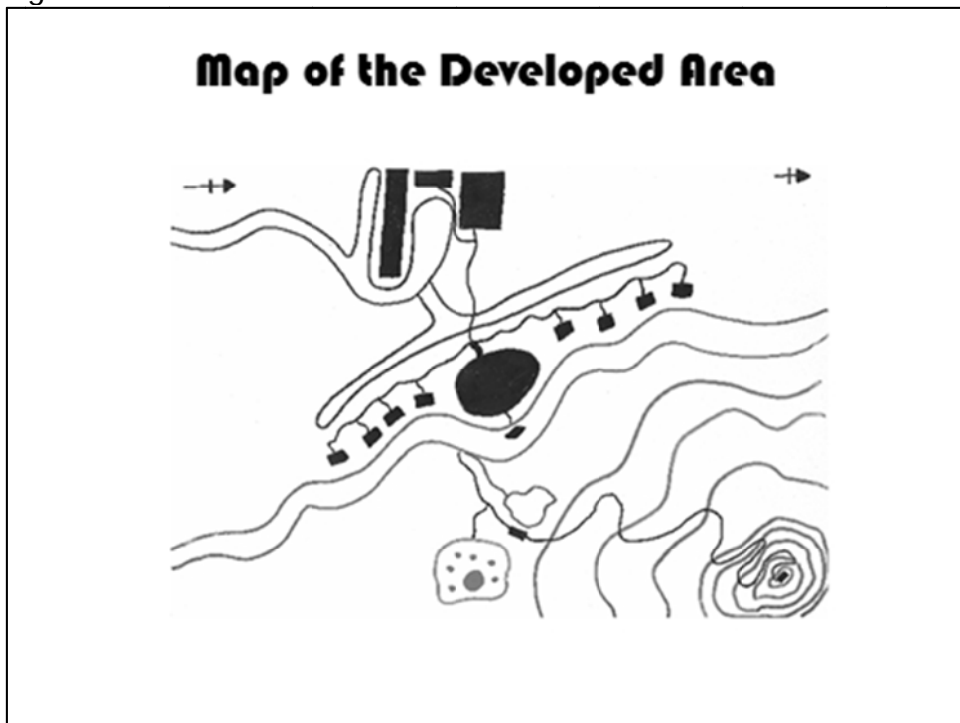
Source: Tourism Planning Tribunal Gaming Simulation *PowerPoint*

The main buildings are the blocks where the administrative offices, laundry and other functional buildings would be. The single line linking the blocks represents the pedestrian routes from the main building to the tourist areas and across the river to the local village and the hiking trail to the top of the 'koppie' (rocky outcrop). The tourist area consisted of a circular 'lapa' type restaurant and eight tented accommodation facilities. The oval in the river is a raft to cross the river with. The blocks in the hiking route across the river are the picnic area and lookout point. The two meandering lines represent the river and the gradients represents the outcrop. The semi-circle with the dots in is the existing homestead ('kraal') of the indigenous tribe who owns the land. I informed the pro-

development group that they could choose to argue the case as planners appointed by the tribe itself, which is increasingly happening, or of a developer that purchased or leased the land from the tribe, which happened a lot in the past.

In this section the students should note the general economic impact through the provision of income to the local tribe, creation of job opportunities to the local tribe and other suitably skilled people, the fact that multiplier-effect of tourist money will benefit the local community and surrounding towns and farms, tourism is an export product that will bring foreign currency into the country and region as international tourists will visit the unique area. This will have a positive effect on the balance of payments for the country. It will contribute to entrepreneurship in the local tribe and generation of tax income to the country and region. Issues that must be dealt with are the direct costs and effects this will have on the local community and region.

Figure 4.4.: Slide 4

Source: Tourism Planning Tribunal Gaming Simulation *PowerPoint*

Slide 4 is an aerial photo of the area just north of the town Phalaborwa, where the Selonque Conservancy is, where the lodge Bed in the Bush is located. That is an area characterized by predominantly Mopani trees and shrubs, with an abundance of wildlife.

From Slide 4 students should have been able to deduce that the destination has dense vegetation and environmental sensitivity should be ensured in the planning and development. Impacts such as the restructuring of the environment, disruption on the balance of the ecosystem, destruction of fauna and flora, disruption of the geology and the ground, pollution of the water, air and by noise should be taken into consideration and mitigated through planning. The dense vegetation provides the opportunity to attract tourists to the destination as it provides opportunities for tourists to relax and engage in eco-tourism. From an economic perspective there appears to be no economic activities, this it

will increase the economic base for the community from a subsistence and farming base. However, this could cause inter-sectorial competition as people leave their farming and subsistence lifestyles. The negative effect thereof is that could lead to economic over-dependency. This will be a notable problem due to the seasonal nature of tourism.

Figure 4.5.: Slide 5
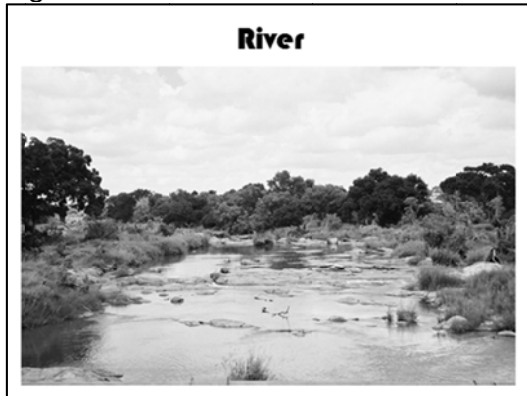
Source: Tourism Planning Tribunal Gaming Simulation *PowerPoint*

Figure 4.6.: Slide 6

Source: Tourism Planning Tribunal Gaming Simulation *PowerPoint*

Slides 5 and 6 is of the Selati river that runs south of Phalaborwa and can become a flooding torrent, as was experienced in the years 2000, 2010 and 2012.

The river in the scenario provides the opportunity for river-related tourism activities, which could increase the income to the local community, create jobs and encourages entrepreneurship. However, the river can provide a breeding and feeding ground for mosquitoes, crocodiles and hippos, which are extremely dangerous to the health and survival of tourists. The river can add to the diversity of the menu as the indigenous recipes can be provided to tourists, but that could threaten the survival of fish and other river based foods. The river provides another emphasis on the conservation of natural resources and that administrative and planning

control must be enforced. Furthermore, issues like linear development along the river, segregation of the local community from the river and the flood line must be enforced. Pollution must be curbed and disruption to the ecosystem, flora, fauna, geology and ground must be minimized.

Figure 4.7.: Slide 7

Source: Tourism Planning Tribunal Gaming Simulation *PowerPoint*

Slide 7 is of Kgopolwe 'koppie' in Phalaborwa, a historic monument, as the local tribes used it for sacred tribal activities. This scenario was also the case in the simulation.

The students had to then use their knowledge of the impact of tourism and how to plan for it to propose how to develop it, or preserve it, given their scenario. Issues that are pertinent are provision of income and the creation of jobs or entrepreneurship opportunities for local guides and rangers. However, it could lead to hostilities in the local population if their religions and cultural practices are disrupted and disrespected. It could however provide opportunities for inter-cultural communication and a broadening of understanding of other cultures and their practices. The outcrop is also environmentally sensitive and procedures must be put in place to protect the fauna, flora, ecosystem, ground, geology and protect it from pollution, trampling, erosion and vandalism.

Figure 4.8.: Slide 8
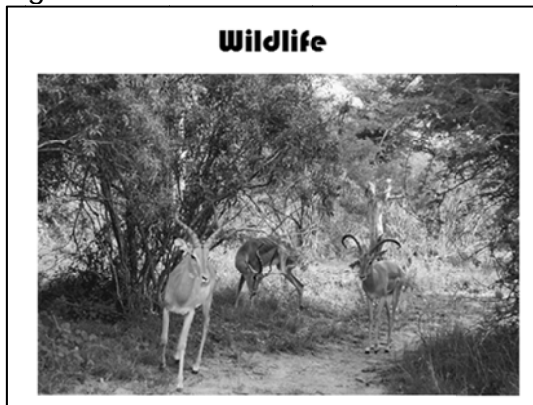
Source: Tourism Planning Tribunal Gaming Simulation *PowerPoint*

Slide 8 is of impala to represent the abundance of game. Job opportunities for game rangers and game guides, which will earn an income, will be linked to the abundance of wildlife. Furthermore, anti-poaching officers could also come from the local community, as they know the area best. It is however important to respect and protect the breeding and feeding of the game through proper planning and also conserve their food and habitat from restructuring, damage and pollution. Zoning plays a very big role in tourism conservation areas, as there can be no-go areas of pristine bush, soft development areas for hiking, medium development areas for off-road vehicles and tourist vehicles, hard development areas with tar and cement where tourists are the focus. Sometimes the various areas are increased to allow more categories and sometimes the various areas are colour-coded as well to indicate the level of tourist use, usually black for the highest usage area and green for the no-go conservation and wilderness areas used for breeding and keeping the area pristine.

Figure 4.9.: Slide 9
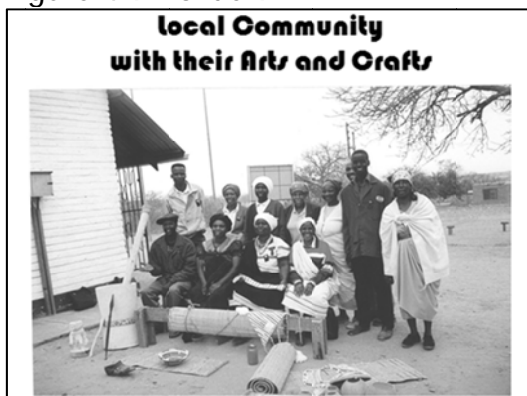
Source: Tourism Planning Tribunal Gaming Simulation *PowerPoint*

Slide 9 is a group of local artists and crafters who came to a workshop to register their products to be sold in the tourist curio shop, which was

finally built in 2001 and called Bollonoto Tourism Centre in Phalaborwa. The photo makes me sad every time I see it, as the political councillors of the tribal areas of Makhushane and Mashishimali, a BaPedi area from the former homeland of Lebowa, also in the photograph, were so idealistic in the mid-nineteen nighties and willing to do anything for the people they represent. In 2011 the curio shop in the Bollonoto Tourism Centre closed down and the councilors of today in South Africa are not known for their idealism and service to their communities.

The idea of this photo is that the tourist area of the proposed development will enable the local artists and crafters to gain an income through selling their arts and crafts to tourists. This will create entrepreneurship and income, however it can have high direct cost as they will need to purchase basic supplies to make the products, yet there is no guarantee when and if they will sell the products. The community is very traditional and social and cultural changes could take place. As the community members start working at the lodge and dealing with the tourists in the village, the demonstration effect could affect change in their family structure, moral behavior, religion, language, food, clothes and behavior. This could change the way they live and consume and the buildings they erect, which could have a very negative effect on the environment they used to live in harmony with. Furthermore, it could lead to migration and a complete change in their lifestyle. The biggest danger as well is that the village and its people can become part of a 'human zoo', as they are visited by tourists. When the village becomes modernized, the tourists might lose interest therein, which could lead to a loss of income to the village through tourism. However, the benefit is that the village is situated across the river from the lodge and could choose to be left alone and without being part of the tourist experience. Furthermore, it can be proposed that the people be given alternative and modern housing and living conditions with running water, electricity and so forth and moved close to town and job opportunities and the existing village be kept as a time capsule for tourist purposes only, where locals can re-enact their traditional roles, without being infringed upon.

Figure 4.10.: Slide 10

Source: Tourism Planning Tribunal Gaming Simulation *PowerPoint*

Slide 10 is a group of local community dancers that preformed at the opening of the Bollonoto Tourism Centre. The idea was that they would perform at the 'lapa' restaurant for the tourists in the evening and gain an income.

Traditional dancers can gain income and jobs or entrepreneurship by dancing for tourists. It can also enhance intercultural communication and appreciation for other cultures. Unfortunately, this can take them away from their traditional roles and families at night and instill consumerist behaviour in them. In many cases female traditional dancers perform topless, this is natural for them, but offensive or seen as sexual invitation by tourists. This should also be guarded against.

Figure 4.11.: Slide 11

Source: Tourism Planning Tribunal Gaming Simulation *PowerPoint*

Slide 11 is of a local tribal office hall in Phalaborwa, where the choir practices. The tribal offices are also used for tribal meetings and sometimes schools.

I indicated it as the proposed development will use their funds to develop a local community centre for the local tribe, which they then can use as

they see fit. A modern building might distract from their traditional practices where the men meet at a designated spot under a sacred tree, and could create hostilities. Then also, it could have an environmental and architectural impact, unless the architecture and services are environmentally and culturally sensitive.

Figure 4.12.: Slide 12
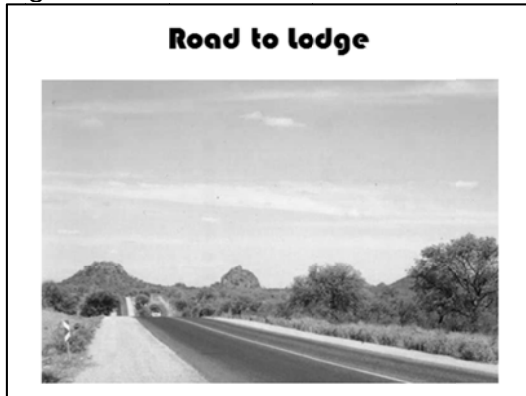
Source: Tourism Planning Tribunal Gaming Simulation *PowerPoint*

Slide 12 is the road from Tzaneen through Gravelotte to Phalaborwa and into the Kruger National Park. It was to present the proposed tar road to the lodge.

This road could also be used by the local tribe to get to proper health care, schools and shops. On the negative side this encourages mass tourism and an increase in development, which could further impact the environment and culture of the local community. It also has a negative environmental impact as it compacts the ground, disrupts the breeding and feeding of animals and it has a negative effect on the habitat of animals and ecosystem.

Figure 4.13.: Slide 13

Source: Tourism Planning Tribunal Gaming Simulation *PowerPoint*

Figure 4.14.: Slide 14
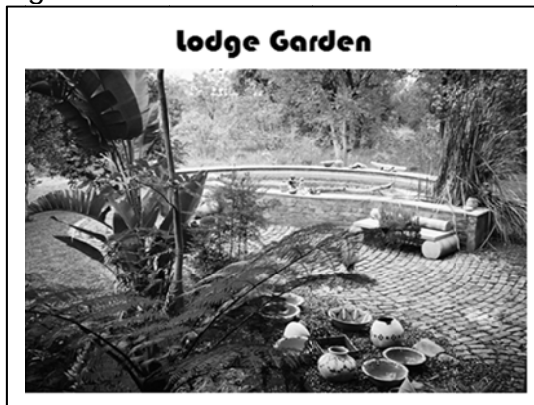
Source: Tourism Planning Tribunal Gaming Simulation *PowerPoint*

Slides 13 and 14 are the proposed garden, which is the garden of Bed in the Bush lodge. Some of the problems are the introduction of invader species that are planted and indigenous habitat is lost. However, it could lead to the education of tourists regarding fauna, flora and ecosystems and the conservation thereof as a result.

Figure 4.15.: Slide 15

Source: Tourism Planning Tribunal Gaming Simulation *PowerPoint*

Figure 4.16.: Slide 16

Source: Tourism Planning Tribunal Gaming Simulation *PowerPoint*

Figure 4.17.: Slide 17

Source: Tourism Planning Tribunal Gaming Simulation *PowerPoint*

Figure 4.18.: Slide 18

Source: Tourism Planning Tribunal Gaming Simulation *PowerPoint*

Figure 4.19.: Slide 19

Source: Tourism Planning Tribunal Gaming Simulation *PowerPoint*

Figure 4.20.: Slide 20

Source: Tourism Planning Tribunal Gaming Simulation *PowerPoint*

Figure 4.21.: Slide 21

Source: Tourism Planning Tribunal Gaming Simulation *PowerPoint*

Figure 4.22.: Slide 22

Source: Tourism Planning Tribunal Gaming Simulation *PowerPoint*

Slides 15 to 22 are the proposed main building. They are photos of the main building of Bed in the Bush lodge north of Phalaborwa and used to be a farm house.

It can be said that the architecture does not fit into the indigenous architecture of the community and services like water, electricity, sewerage and road are pollutive and demanding on the environment. However it is the re-purpose of an old building and has been redesigned to best fit into the local architecture and environment.

Figure 4.23.: Slide 23

Source: Tourism Planning Tribunal Gaming Simulation *PowerPoint*

Slide 23 is the proposed river restaurant in a 'lapa' design, and it is a photograph of the Amarula Lapa near Phalaborwa, where the liqueur Amarula is promoted. It is located next to the pulping facility where the marula fruit is being pulped that is used in Amarula.

This photo can be used by students to indicate the opportunity of jobs and income for the local community and producers, however dependent what food and beverages the tourists will demand; the carbon footprint thereof

is in question. It can also lead to an increased appreciation of local cuisine.

Figure 4.24.: Slide 24

Source: Tourism Planning Tribunal Gaming Simulation *PowerPoint*

Slide 24 is the Nkuhlu picnic spot, in the Kruger National Park between the Skukuza and Lower Sabie camps. The students could then decide where they will have a picnic area between the two black blocks in the tribal village side of the river. Impacts on the environment especially should be considered in this regard as construction close to a dam or on an outcrop could be very damaging to the ground, geology and structure of the site and aid to pollution and erosion.

Figure 4.25.: Slide 25
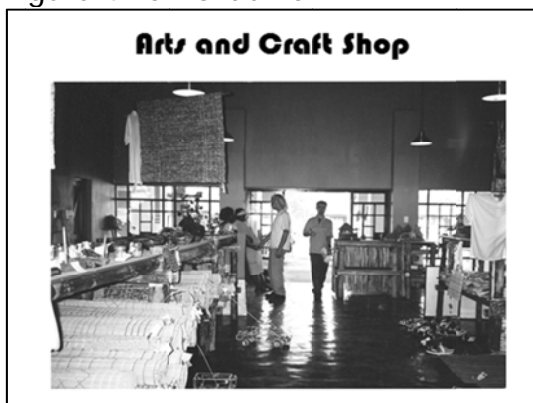
Source: Tourism Planning Tribunal Gaming Simulation *PowerPoint*

Slide 25 is the curio shop of the Bollonoto Tourism Centre in Phalaborwa and the photograph is of some of the crafters doing duty there. The idea is that the students use that as the image of their proposed arts and crafts shop of the tourist development.

A curio shop provides jobs, entrepreneurship opportunities and an income for the local community as they can sell their products in the shop. The fact that it is local cultural goods can lead to a cultural renaissance of

products and indigenous skills, but it can also add to the perception that the culture is being commercialized.

Figure 4.26.: Slide 26
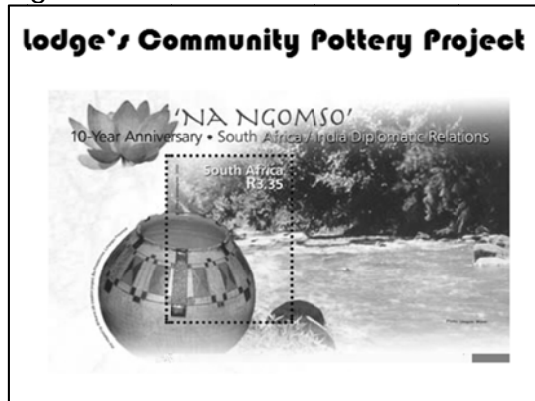
Source: Tourism Planning Tribunal Gaming Simulation *PowerPoint*

Slide 26 is of a stamp of South Africa that commemorated the 10th year anniversary of South Africa and India's Diplomatic relationship and features pottery made at Bed in the Bush with the local Shangaan's tribal design on it. It was to represent that the lodge will run a community pottery project with the local tribe to bring in money for the tribe through the sale of the pottery.

The establishment of a dedicated pottery project with associated skills development and mass marketing by the lodge's company can create jobs and reinterpret the skills of the local people. However, abstracting the clay from the river can have a negative environmental impact, and people can become part of the pottery project and in the process neglect their cultural and traditional roles in a subsistence society.
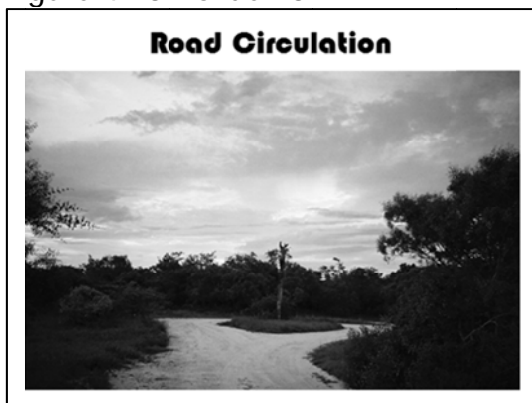
Figure 4.27.: Slide 27

Source: Tourism Planning Tribunal Gaming Simulation *PowerPoint*

Slide 27 is of the proposed tent accommodation that overlooks the river. It is a photo of the tented accommodation at the Tamboti tented camp in the Kruger National Park.

At present many tourist proposals in South Africa have tented accommodation as bases. Part of the reason is the fact that tourists are perceived to prefer this type of accommodation as they feel closer to nature, but it is also easier to get approval for the environmental impact assessment as a tent and wooden installation is seen a more temporary, especially if it is on stilts and does not contribute to as much environmental damage as built structures does. However, there are still issues like pollution, energy, sewage, water, erosion, compaction and a disruption of the ecosystem that must be taken into consideration and planned for.

Figure 4.28.: Slide 28

Source: Tourism Planning Tribunal Gaming Simulation *PowerPoint*

Slide 28 is of the proposed road circulation in the lodge, which is a photo of the road circulation at Tamboti tented camp in the Kruger National Camp. It is to enable students to debate the dirt versus tar road and both their positive and negative attributes.

Figure 4.29.: Slide 29

Source: Tourism Planning Tribunal Gaming Simulation *PowerPoint*

Slide 29 is of the proposed parking area and of the tented accommodation, and is a picture of the parking to the chalets in Berg-en-Dal camp in the Kruger National Park. Compaction of the ground, erosion, water pollution because of run-off and a disruption of the ecosystem can be issues that must be mitigated through planning.

Figure 4.30.: Slide 30

Source: Tourism Planning Tribunal Gaming Simulation *PowerPoint*

Slide 30 is a game drive vehicle owned by (and picture by) Sefapane Lodge in Phalaborwa and it was taken in the Kruger National Park. It illustrates that the proposed activities include game drives. This can lead to jobs and income creation, however the environmental impact must be taken into consideration and mitigated.

The students used this presented scenario in their arguments for or against the development. This was to ensure that both groups had the same development in mind and as the simulation was done within a 2 hour session in the beginning, there was no time to be spent on the actual design of a lodge.

4.4.3. 2002

In May 2002 I started as a lecturer at the Department of Urban and Regional Planning, University of the Free State. I was given two modules to lecture, one being Housing and the other Spatial planning for tourism. It was presented during the second semester of 2002. It was an elective, thus students had a choice of modules to select and five students registered for spatial planning for tourism. The module was presented in Afrikaans as that was the home language of all the students. With five students in the module I decided to give a scenario with given tasks. The *PowerPoint* presentation of the proposed Lodge development, as discussed in 4.4.2. above, was shown, to make sure all students had the same concept in mind. The scenario was the following:

"*The president of the small African state called Zebrine gives permission for the first Lodge to open in the country. The country is sub-tropical and dominantly rural, but with no urbanization. It is the first step the country takes in the direction of tourism. Your tourism planning firm has been appointed by the government to draft a tourism policy for the country.*"

Each student then was given a unique task to present:
1. "*Explain the regulating instruments you will use in the establishment of a tourism policy*".
2. "*Explain how you will use voluntary instruments in the establishment of a tourism policy*".
3. "*Explain how you will use spending in the establishment of a tourism policy*".
4. "*Explain how you will use financial incentive measures in the establishment of a tourism policy*".
5. "*Explain how you will use non-intervention in the establishment of a tourism policy*".

The students had to base their proposals on the presentation, as well as what they had learned throughout the module, in the material, own research for their assignments and on the student tour to the Southern Free State province of South Africa. They were given half an hour to prepare and then give their presentation, using the *PowerPoint* presentation I had shown them. This was done at the end of the module, as an exercise to have them practice presentation skills of a possible scenario they will face in the work environment and to round off the semester at a display of the cumulative knowledge.

There were three tests, with mostly scenario based questions and one assignment. There was no examination for the module. The average for

the module was 73%, which is unusually high, but it was a very good and dedicated group of students.

4.4.4. 2003

In the year 2003 fifty-one students originally registered for the module. However, due to it being an elective module, students often do not take it very seriously and then cancel the ones that have a high workload. Thus, only thirty-five students eventually finished the module. The class average for the students that finalized the module was 67 percent.

There were three scenario based tests, an assignment, a seminar based on a book report and an oral examination for the students that did not have an average of 65% or above.

In the last class of the year for each of the student groups, being full time and part time Afrikaans students, full time and part time English students, and block week compact students, a tourism planning tribunal simulation was initiated. The same presentation as in 2002 was used and students were tasked to break up into two groups. One group was to be for the game lodge development and had to motivate why the impact of tourism would not be detrimental to the community and environment. The other group was to be against the development and had to motivate why the impact of tourism would be detrimental to the community and the environment. They had half an hour to prepare and then state their cases. First the pro-development group, followed by the anti-development group and then they had time to debate the case thereafter. At the end of the debate, a debriefing was done, where I highlighted some omissions, complemented the appropriate statements and criticized the inappropriate statements. It worked particularly well and the students immersed themselves in their side of being pro- or anti-development. The students also mentioned how it made everything in the module fit into place.

4.4.5. 2004

The module was not presented due to re-curriculation.

4.4.6. 2005

In 2005 the tourism module became a community service learning module, one of the first at the University of the Free State. The assignment in the module became the community service learning assignment, which was a tourism development plan for Kapanong District Municipality in the Free State and the three communities that are part thereof, being Greater Philippolis, Greater Springfontein and Greater Trompsburg. The module became an eight credit module, as the course

split from a taught Masters into a taught Honours and thereafter a taught Masters. The elective module, now termed 'Planning for Tourism', was now at the end of the Masters course. A lot of the material previously used was condensed and included into the class notes. The only assessment was thus that of the assignment. However, the material and classes did cumulate into the tourism planning tribunal simulation that was run at the end of the year.

The architecture course also changed and they had to take one elective module and twelve of their students took the module. The simulation was run for the three groups, being Afrikaans full time and part time students, English full time and part time students, and block learning students. The architecture students dominated the Afrikaans full time and part time class made the focus of both the pro- and anti-development groups to be on design and physical issues, more than economic and socio-cultural issues, which I discussed with them during the debriefing session after the debate.

4.4.7. 2006

In 2006 only 11 people registered for the module, with seven of them architecture students. This year the regional tourism plans drafted in 2005 for the Kapanong District municipality's three local municipalities, where to be fine-tuned and actual projects identified to be focused on for planning and development proposals. With only four planning students and they all being compact students, the module temporarily withdrew from being a community learning based module. Alternative, research based, assignments were given to students to complete. There were also two tests, with test 1 being based on questions based on knowledge of the literature, for example the types of impact. This was to ensure the architects put appropriate focus on the various socio-cultural and economic impacts of tourism on a community and not only the physical aspects, as they did in 2005 tourism planning tribunal simulation. The second test was a scenario based test. There was also an oral examination for the students that did not obtain an average more than 65%.

The tourism planning tribunal simulation was run, once for the full time Afrikaans architecture students and once for the block week students in English. The architecture students were very lax when it came to class attendance, thus there were only two students in the pro-development group and two in the anti-development group. After the test that re-inforced their knowledge of the impact of tourism on the socio-cultural and economic aspects, as well as the physical aspects, they were more balanced in their defense for their different standpoints. The block week students were also two per side. The block week students are working

adults in the planning profession and that led to the discussion being very technical and included many references to policies, legislation and by-laws. The problem might have been also that the simulation was run at the end of the September block week, while it is usually run at the end of the November block week. I decided for the 2006 class to do all the teaching and simulation and test 1 for the block week students in the first block week in September and then do test 2, revision and examination in the November block week.

This year of the eleven students that initially registered, ten finished the module with an average of 61%.

4.4.8. 2007

The module was not presented as it was initially decided that the elective modules in the taught Masters would run every alternate year.

4.4.9. 2008

In order to make sure that enough students registered to make the module worthwhile to finalise the community service learning project, I widely advertised the module in both the planning and architecture department. Forty-one students registered and finished the module with an average of 61%.

This year the community service learning project focused on Greater Philippolis and a plan for a specific tourism project. There were three alternatives, the Adam Kok Memorial Centre and the Greater Philippolis Tourism Hub were taken by two groups of full time and part time planning and architecture students and the Philippolis Tour was initiated by the compact students who decided to create a day and weekend visit plan for travel between Bloemfontein and Philippolis.

Adam Kok II was the leader ('Kaptyn') of the Griqua people, who were pastuaralists and farmers (Balson, 2007:151). He had his headquarters in Philippolis and the house he lived in is a national monument, but is currently vacant. This house is the proposed Adam Kok Memorial Centre. He ruled over the land there given to his people between the 1820s and 1860s. However, in the 1900s the houses were taken away from the Griqua people and then had to move to a designated 'black location' based on the orders from the apartheid government (Christopher, 1994:129).

Two of the three plans were handed over to both the local and district municipalities, but no development has followed, unfortunately due to friction within the tourism industry in Philippolis and a high turnover of government staff. A very humiliating thing happened as the students who

drafted the Adam Kok Memorial Centre, made a massive, potentially racist, mistake. The students, predominantly the architects that did the design, designed the interior to look like a cave. Although some indigenous hunter gatherer tribes did use caves as shelter, this was about four hundred years earlier and in other parts of the country.

The Tourism Planning Tribunal Simulation was again run at the end of the semester to round off the module, to test whether the students could use the impacts and merge them with the planning information. A big emphasis was placed on the debriefing by me, explaining the value of anthropological research; to be sensitive towards people in designs and plans. The architects were rather surprised at our discomfort with their plan, calling it an 'organic design'. Again however, due to the architecture students' relaxed commitment to attending classes and the compact students missing the simulation while they were studying for another module's examination instead, only small percentage of the registered students eventually attended the two simulations.

4.4.10. 2009

In 2009 three major changes took place in the module. It was no longer a formal community service learning module as the university funded project was finalized. Architects no longer took the module and the simulation became an actual assignment where students were graded based on their participation.

Nine students registered for the module of which seven finished with an average of 65%; and all nine students completed the reflective questionnaire. The students were in good spirits and really enjoyed the module. There were no tests or examinations and the grading was based on a portfolio that had to be submitted by the students at the end of the semester. The students had to go on a tour with the Department to the Eastern Free State and draft a Regional Tourism Development Plan as group project. The students were very innovative in their presentation of the plan, but it lacked depth.

The Tourist Planning Tribunal Simulation was called a Developmental Debate and the two groups were given the presentation and their brief in the September and they had to do their presentation during the November block learning compact week. Each student had to choose to be an anthropologist, environmentalist or economist and represent their group from that perspective. My presentation was the basis which they had to change and adapt to fit their group and personal character. Students were graded by me, as well as peer reviewed. The grade was out of 100 and 20 points went into each of the following: 'strength of argument', 'integration of theory', 'visual impact of presentation', 'debate contribution'

and 'ingenuity & creativity'. My evaluation counted 50% towards the assignment result and the peer evaluation another 50%. The depth of the presentations and debate was considerably more than before, when they were given half an hour to prepare. The average for that assignment was 65%, the same as the average for the entire module and it counted 20% towards the final grade. Not only did they consider each impact with care, but came up with numerous alternatives from a planning perspective to mitigate the negative aspects and optimize the positive aspects. The students passionately defended their chosen character's opinion and immersed themselves in the roles. It was a great success and the students expressed their appreciation for the exercise that married a scenario with the literature.

4.4.11. 2010

In 2010 six planning students registered for this elective module and five completed with an average of 71%. It was a very dedicated group of students who did very well in their assignments. The students again had to present a portfolio.

This year the students had a choice regarding their assignment 1. They could either design a tourism game to explain the impact of tourism in line with tourism decisions to a community or they could do an analysis of the 2010 FIFA Soccer Cup that was held in South Africa. Only one student chose the game and he created a fun, very applicable, yet simple, board game. Where it was somewhat limited in regard to the impacts and effects thereof, it was a great experience. Some students got very heated during their turns and intense discussion followed the game playing.

The Tourism Planning Tribunal Simulation was again an assignment. Once more, the students were graded by myself, as well as being peer reviewed. The grade was out of 100 and 20 points went into each of the following: 'strength of argument', 'integration of theory', 'visual impact of presentation', 'debate contribution' and 'ingenuity & creativity'. My evaluation counted 50% towards the assignment result and the peer evaluation another 50%. This time I did not assign roles for characterization as there were only five students in the class. The class was only presented during block learning week. In general the students had great cohesion in their groups and the presentations covered everything of importance and the debate was more amicable and light-hearted then passionate. The average for this assignment was 73%, two percent more than the average for the entire module and it counted 25% towards the final grade.

4.4.12. 2011

In this year, there were major changes in the titles and focus of the material and themes. Students had many more class exercise simulations. This was to enforce the various aspects of tourism and then enable a better depth of understanding and subsequent planning.

In the first simulation and assignment students had to design a tourist character for themselves, as it dealt with the tourist in tourism. The aspects they had to focus on were name, age, gender, family situation, language, educational background, occupation, income, status level in society, religion, fitness level, whether they owned a car and had a mortgage, what their hobbies were, why they travelled, what they were afraid of, whether they liked new things, if they liked to be comfortable, three things they loved most in life and three things they hated most in life.   They then had to use these character sheets and represent their characters in the following situations:

- "*The CIA Interview*" as they were stopped at an airport in the USA and had to explain what kind of tourist they were and what they were there to visit.
- "*The Travel Agency*", based on their character they had to plan a trip with a travel agent.
- "*Stuck in London*", as the end of 2010 many South Africans got stuck at airports in London over Christmas, due to the volcanic ash from the Icelandic volcano, as well as snowstorms, making it impossible to land planes. They then had to discuss the situation with other tourists from their characters perspective.
- "*Soccer World Cup Row*", as in 2010 the FIFA Soccer World Cup they had to talk to the people next to them and represent their characters and level of enthusiasm for this event.
- "*The Braai* (BBQ)", where they had to socialize based on their characters and discuss their ideal holiday with other guests.

Students were better able to understand and reflect the different types of tourists, which they had to analyse in the assignment and link to the literature. In the assignment they also had to present ideas on how to plan for their chosen type of tourist, in order to minimize the impact of the tourist on a destination, but at the same time to cater for that tourist's needs. The students had half an hour to prepare, then did the various simulations. Then they had a debriefing discussion. It was a three hour session. The students thereafter had to do a five-page assignment and were given two weeks after the exercise to do it.

The second simulation and assignment was known as The Tourist Backpack class exercise. It was designed to enable students to gain a deeper understanding of the link between tourist's characteristics, wants

and needs, in relation to the tourist destination and all it has to offer. Each student had a turn to act as tourist promoter for a destination of their choice. They had to market that destination to the other students that again took on the characteristics of their design tourist. The students then had to ask questions from the viewpoint of the tourist. The destinations presented were the Namibian coast, the South African Lowveld, Katse Dam in Lesotho, the ThabaBosiu Historical Site in Lesotho, the Kgalagadi Gemsbok Park in South Africa and Namibia and a game farm near Bloemfontein. The students ended up presenting the areas they were from. Most of the time they did the presentation from the perspective of what they personally like about their area. During the question time students probed each other's presentations and required them to think about the needs of tourists who were not like them. The students were given a day to prepare their marketing presentations and a two hour session to present and answer questions. Thereafter there was a debriefing and discussion session. The students then had to write up their experiences during this assignment in five pages, both as tourist marketer and tourist, and then link them to the literature. They then had to connect that all to planning and especially planning for tourism. The students had a month to write up this assignment.

The third simulation dealt with the impact of tourism as The Tourist Footprint class exercise. This time the students had to present their previous destinations to the class for a second time, pre-empting the impact of tourism and explaining how development would optimize the positive impact and minimize the negative impact in that destination. They were given a day to prepare their presentations. Then in a two hour class session they gave their presentations. Instead of the other students being tourists, they had designated roles they drew from a bowl as they walked into the class and they had to engage with the presenter from that stance regarding the destination. The roles were that of an economist, anti-globalist, anthropologist, moral-activist, architect and environmentalist. Students were given a couple of minutes to ask questions about their character and Google more information. I then did a short explanation of each character's role in the development process. The students became incredibly critical about each destination and almost the only development that would satisfy everybody except the economist would be no development. This I pointed out in the debriefing and emphasized that planners needed to listen to criticism and advice and use them as a guide for their tourism planning and re-planning process. The students were then given six weeks to write up a five page assignment on their experiences in this class exercise, link it to literature and finally aligning it with planning.

The final simulation and fourth assignment was the Tourism Planning Tribunal Exercise. Students were again separated into two small groups

this time. They were again given the scenario and in the next block week visit they had to do their presentations. Due to their thorough knowledge by then of the tourist-destination-impact-planning chain the presentations were very technical and thorough. Grading was done by me per group. The grade was out of 20 and 10 points went into 'Statement' and 10 points into 'Reaction'. The average for the assignment was 78%, as their in-depth knowledge and analysis gained them high marks. The debate, debriefing and discussions were also on a much higher academic level than any of the years before.

The problem with so many assignments was that, even if students learned so much more through it, it was only an eight credit elective module and the students did indicate that it involved almost double the work of the majority of the other elective modules. Six students took the module and none of them cancelled, which was rather surprising given the high work load. Only four students unfortunately completed the reflective questionnaire. The average for the module was 63%, which is less than the previous years, but can be attributed to the higher work load.

4.4.13. 2012

On account of the complaints of the students regarding the high work load, I decided not the run any simulations other than the Tourism Planning Tribunal Simulation in 2012. From 2010 to 2014 I ran various 5-year research projects on weekend tourism, known as "Closed on Sundays", as I have experienced that many places have tourism plans and policies and promotions, but the majority of attractions are closed on weekends, when people actually have the time to visit tourist attractions. I also wanted my students to test that in their major assignment of 2012.

It was also the last year this module was presented due to changes in the curriculum that focused on the most important information and all future modules will be compulsory. This was due to the small number of students that register per elective and the non-commitment and high drop-out rates in electives. Students decide to rather take an easier module with lighter work load or register for the module the following year. This drop-out has been the experience in the majority of the other elective modules I lectured; however this has not been the case in this module since 2008. Tourism Planning is more of luxury knowledge for planners and will be developed as a short course instead.

The simulation was again an assignment and it counted 40% towards the final result. The students were separated into two groups, given the presentations and assignment brief in September. In November they had to present their two groups' perspectives. In order to ensure more depth, they also had to submit a 2000 word written document with their

presentation. Six students took the module and received an average of 84% for the assignment and they received an average of 71% for the module. The assignment made up 40% of the final result. The grading counted out of 100 and the group received a mark out of 25 for a presentation that was inspiring; a mark out of 25 for a debate that was convincing; 2 marks for a title page that was neat and filled with relevant detail about the assignment, module and authors with an aptly descriptive title and photograph; 2 marks for a title that was excellent, unique and creative; 2 for an accurate table of contents, list of figures and list of tables; 2 marks for an introduction and conclusion that grabbed interest, was succinct and well written; 25 marks for the content of a written document with an excellent discussion; 2 marks for an excellent biography and referencing and additional sources. Each student then had to complete a reflective questionnaire about the assignment that added an additional 15 marks.

It is sad for me to see the end of this module and this simulation.

4.5. STUDENT REFLECTIONS

I provided students with reflective analysis questionnaires in 2009, 2011 and 2012. The idea was to enable students to reflect on their learning experiences throughout the module and also provide information on the module, which I would then use in the design of the course content the following year.

I will include a selection of the student's reflective comments in regard to the simulation and a brief analysis and summary thereof. It will then be used in the final chapter to line up the teaching and learning reasoning for using a simulation, with the students' perceptions thereof. At first, in order to place their comments in context, I will give a brief demographic breakdown of the students, as illustrated in Table 4.3.

Table 4.3: Student demographic 2009, 2011 and 2012

		2009	2011	2012	Total
Gender	Male	4	2	5	11
	Female	5	2	1	8
Home Language	Afrikaans	3	2	1	6
	English	1			1
	IsiXhosa	3			3
	IsiZulu			3	3
	Tswana			1	1
	SeSotho	1	2		3
	Siswati			1	1
	Herero	1			1
	Oshiwambo	1			1

	Subia			1	1
Age	22-25	1	1	1	3
	25-30	2	2	5	9
	31-35	2	1	1	4
	36-40	4			4
Occupation	Town and regional planning and related	6	3	4	13
	Other	3	1	2	6
Home	Urban	7	2	4	13
	Rural	2	2	2	6
Country or Province in South Africa	Namibia	3		1	4
	Lesotho		2		2
	Swaziland			1	1
	Free State Province, RSA	3		1	4
	Western Cape Province, RSA	1		1	2
	Mpumalanga Province, RSA	1	1		2
	Eastern Cape Province, RSA	1			1
	Northern Cape Province, RSA		1		1
	KwaZulu Province, RSA			2	2
	Gauteng Province, RSA			1	1

Source: RBT Reflective Analysis, 2009, 2011 & 2012

The majority of the students that completed the reflective analysis were male, Afrikaans speaking, between the ages of 25 and 30, in town and regional planning or related fields of occupation, from an urban area (capital city of a province or country) and from the Free State province in South Africa or from Namibia. Thus, the majority of the students was adult learners and had experience in the field of town and regional planning.

The answers of the students on the question of what they had learned about tourism planning by taking part in the simulation, as well as the key concepts that can be deduced from the comment, are indicated in Table 4.4.

Table 4.4: Student reflections on learning about tourism from simulation

Students' comments	Key concepts
"That there are conflicting viewpoints about the benefits and negative impacts of tourism development..." (RBT Student A, 2009).	• Conflicting views
"The importance of taking both sides of the problem presented is very important... Thus it demonstrates that it is important to learn and know both the good and the bad of development,	• Both sides important • Considerate to local community

and the background of the people being planned for, before proposals can be made about projects for any area" (RBT Student B, 2009).	
"More creative thoughts, innovative thinking, strong debate and communication skills, see things differently and learn from each other" (RBT Student C, 2009).	• Creative and innovative thinking • Debate and communication skills • Open eyes to different views • Peer learning
"That different people have different opinions and that all points are debatable" (RBT Student E, 2009).	• Different and debatable opinions
"The debate ... gave us the opportunity to put the theory into practice" (RBT Student H, 2009).	• Put theory into practice
"Pick your words carefully because it is easy to interpret it the way you want to. Get all the stakeholders on board and make sure that evidence exists of what transpired" (RBT Student I, 2009).	• Think before you speak • Get all stakeholders on board • Record meetings
"I learned that we as planners must be able to participate in a debate either by promoting a development or arguing against a proposed development. When arguing for a development one should look at all the positives aspects of the development as well as all the opportunities that it could lead to. One should also identify all the negative aspects in order to limit them and to be able to argue for it. ... It learned me to think like a planner and ask the questions a planner must ask in order to establish if a development should take place or not. I learned that although one might come to the conclusion that any tourism related development is good, it may not always be that case as it can have a negative influence on the local communities ... because of new development the culture of the local people could be in danger and be influenced by other more westernized cultures" (RBT Student A, 2011).	• Be prepared to defend any side • Be opportunity focused • Limit negative aspects • Think like a planner • Evaluate merit of development • Development can have both good and bad influences • Culture of community important
"... I learned that tourism planning advocates for people participation. People participation includes all stake holders in decision making of plans that are going to affect them positively or negatively. ... I also learned that tourism planning enables planners to allocate land for tourism so that economies can be boosted. ..." (RBT Student B, 2011).	• Public participation • Engage all stakeholders • Planners boast economic development through tourism
"... I learned that incorporating the skills that the local people have in the tourist attraction is very important. Again, developing a tourist attraction that has minimal effect or impacts on the environment is also vital. We had to decide we are leaving everything as natural as it was, and that taught me that taking into consideration the natural environment and vegetation while planning for tourism is important to ensure	• Incorporate skills of local people • Minimise effect on environment • Tourism could damage culture • Take local people into consideration

sustainability. ... Additionally, tourism is a distraction of the local community's culture and beliefs, and brings about prostitution and crime. The debate helped me realize that as much as tourism is good economically, it could bring about some destruction to the local community and the environment. Therefore, as a planner, I have to take into consideration, the environment, the local people and their socio- economic aspects" (RBT Student C, 2011).	
"The class debate was an excellent opportunity to experience the real situation, and what really happens in the field. It is important that planning follows a holistic approach, and that people and the natural environment be taken into consideration. It is important to aim to achieve a sustainable environment in terms of the social, economic, cultural and environmental aspects. ... Developers should do an environmental impact assessment, as well as research about the local community, to ensure that there is minimal negative impact on the environment and people. ... It is important that there is continual co-operation between the developers and local community, as well as government officials" (RBT Student D, 2011). (Translated from Afrikaans)	• Experience reality • Plan holistically • Take people and environment into consideration • Complete sustainability • Environmental impact assessment • Research local community • Continual co-operation between stakeholders
"The most important thing I have learned is that since tourism is a complex industry, there are so many issues that need planning from a town planner's perspective. The issues that should be considered relates to the implementation, planning and benefits that the project brings to the community. With regards to planning all the necessary issues such as public participation, environmental impact assessment needs to be considered because the project cannot continue if certain stakeholders are not satisfied with the project. ... The project should enhance the livelihoods of the people..." (RBT Student A, 2012).	• Vast and diverse planning responsibility • Consider all issues regarding planning, running and benefits of project • Public participation • Environmental impact assessment • Project should enhance local livelihoods
"Tourism planning is very crucial before a tourism development is put in place. The debate showed that there is more to tourism than what meets the eye and at times as planners, we often overlook certain aspects. I learnt that during the planning phase for tourism, we should look at both positive and negative aspects from an angle of all sectors involved, be it the local people, developers, government, the natural environment, etc. Tourism planning should involve all stakeholders from the initial stage, to ensure that most if not all issues are captured. So that we can come up with better mitigation measures when a need arises. When planning for tourism, we should not just focus on economic development, but rather also	• Tourism planning before development • Diverse issues involved • Investigate positive and negative from all stakeholders' perspective • Mutually agreed mitigation measures • Focus on economic, social and environmental development • Be realistic

look at the social en environmental development. And as planners, we should be realistic when it comes to tourism planning" (RBT Student C, 2012).	
"... Job creation must not be the main factor when making decisions to approve said plans. The socio, cultural, economic and environmental factor plan an important role. It is also important to develop a clear plan how the entire development will be managed. The objective of planning is not to stop development it is aimed at achieving sustainable development where the community and developer will benefit" (RBT Student D, 2012).	• Socio, cultural, economic and environmental factors important • Develop clear management plan • Not necessarily stop development, achieve sustainable development
"More angles and views appear from a debate than just an assignment. Although we were against the development, just by researching the negative points, one realize the positive sides. A debate triggers real life experiences and discussions, making you think about the topics and how you will apply it in real life" (RBT Student F, 2012).	• More revealing then assignment • Consider both positive and negative aspects • Real life experience

Source: Student Reflection Analysis, 2009, 2011 and 2012

My initial aim for running the simulation with the students was to open their eyes to both the positive and negative impacts of tourism on a community and its environment. Students had to learn the practical skills of arguing their or their client's case in a tribunal situation. Students had to come up with mitigation strategies through planning perspective to minimise the negative aspects, but yet use the positive aspects as opportunities for development. In Table 4.4 I have listed the student reflections on what they have learned about tourism from the simulation. Students indicated that there were conflicting views, different and debatable views and opinions on the same issue. Their eyes were opened to the different views and they realised that both sides of an issue must be taken into consideration and are important. Thus, they realised through the simulation that things is not clear-cut and one-dimentional in planning, especially in tourism there are a vast range of possibilities and opinions linked to the same aspect. Furthermore, they came to the conclusion that as planner, one needs to be fully prepared and able to defend any side of a development, based on who you represent. The also realised that one has to take both the positive and negative impacts on a destination into consideration when planning and development is being done. This is because development can both have good and bad influences on a destination. Thus the merit of each development must be evaluated. This is done through environmental impact assessment, public participation and evaluation of the development on the host community. The culture of the local community is an important aspect to protect, but

also an opportunity to incorporate. Therefore it is important to research the local community. All stakeholders should be continually involved in the planning and development process, with an agreement (which is recorded) on the mitigation strategies. Through careful, sustainable and holistic planning the economic development and livelihoods of the community can be enhanced through tourism, along with the environmental and cultural damage that is suitably minimised. Only then actual development can take place and after development, a clear management plan should be followed. Thus, the aim of this simulation, was achieved through my experience and observation, and verified by the students.

The students also mentioned that the simulation stimulated creative and innovative thinking skills, and that they learned to think before they speak. They also learned how to think like a planner. The students also stated that they developed debate and communication skills. The simulation put theory into practice and granted them the opportunity to experience reality. A student stated that the simulation was more revealing of the realities of planning, than an ordinary written assignment would have been. Thus, apart from merely learning the material, students were able to associate it with the realities of planning. Furthermore, they also acknowledged personal skills development, which was a result of the simulation. Therefore, the simulation was a success not only to convey information, but it added to experiential learning and life skills development.

I asked their opinion regarding the use of the gaming exercise (tourism debate simulation) as a teaching tool in urban and regional planning. Some of the answers, as well as key concepts that can be deduced from it, are indicated in Table 4.5.

Table 4.5: Student reflections about the use of gaming simulation as teaching tool

Students' comments	Key concepts
"The debate was very interesting and a great deal of fun. I learned a lot and it prepared me for being in a similar situation in future" (RBT Student A, 2009).	• Interesting • Fun • Practical preparation
"Gaming makes understanding certain issues better and as it is something you experience while playing, you tend to remember it for a long time. Even the debate demonstrated a lot of different viewpoints from different persons, something which a planner will face in his work. This experience is very rare to encounter in the text books" (RBT Student B, 2009).	• Better understanding • Experiential learning • Longer memory retainment • Work preparation • Open to different views • Unique experience

	not in text books
"We learn from each other, correct the mistakes. More inter-exchange of communication" (RBT Student C, 2009).	• Peer learning • Correct mistakes • Communication
"That one needs to be able to interact with opposing parties and be able to validly motivate your reason for doing a township establishment for instance" (RBT Student E, 2009).	• Prepare for interaction • Motivate your plans
"It brings together learning something new and at the same time having fun learning it" (RBT Student F, 2009).	• New element to learning • Fun
"Give practical understanding of subject matter. Evaluating tool of the understanding and ability to apply of the student" (RBT Student G, 2009).	• Practical understanding • Lecturer can evaluate understanding and application
"I think that it is a great idea. It will enable us as planners to actually see and experience the decisions made by tourists and also the impacts these decisions could have on the environment as well as the local communities. It will enable us to make different decisions, create different scenarios and then to use the gaming exercise to see what the possible outcomes could be. By doing this one can predict future scenarios and how they could play out. This will help limit any negative impacts that tourism planning may have and it will ensure that more options are considered before a final decision is made…" (RBT Student A, 2011).	• Great idea for planning practice • Experiential learning • Scenario testing • Limit negative impacts • Consider more options
"Using the gaming exercise as a teaching tool in urban and regional planning is beneficial. Most of tertiary learning is theoretical. By doing a gaming exercise, one is able to become part of a theory practically. By being practical, we are transformed into reality where what we have learned we experience. Gaming exercise also contributes well to one's understanding of concepts. It is a good teaching tool because one is able to interact with fellow students and grasp a broader idea of how other people think increasing a body of knowledge one has already acquired. The gaming exercise has contributed positively to me as a person because the way it is being applied helps me to apply it at my area of work" (RBT Student B, 2011).	• Beneficial • Theory becomes practical • Bring realism • Experiential learning • Better understanding • Class interaction • Peer learning • Already apply in work situation
"The gaming exercise is an excellent teaching and learning tool. It helps student have more knowledge about the course and in reality. … The gaming exercises help students become better planners as they learn more about what is important and what as a planner to pay more attention to, because I believe that planning is for the people and the gaming exercise have taught me that in planning, people are very important. … Therefore, going further with this kind of teaching will or might help transform planner's way of doing things. Doing the games helped me realize the impacts tourism has on the environment, the people, and the economy" (RBT Student C, 2011).	• Excellent • Increased knowledge • Realism • People-focused planning • Better understanding of impacts
"The class exercise gave the opportunity to the students to widen their intellectual thought, to present innovative thoughts, as well as to illustrate the link between tourism and urban and regional planning" (RBT Student D, 2011) (Translated from	• Wider and innovative thinking • Illustrate link between tourism

Afrikaans).	and planning
"They seem to be working, particularly on the issue of project coordination and understanding what other colleagues think about certain issues in projects. The class debate help in learning to work in groups as it is know that planning is a profession whereby people collaborate in order to reach decisions. Furthermore, planners involved in the debates could be able to change their thinking with regards to approaching certain issues. Through class debates, the students learn how to deal with the complex planning issues in the work environment because the class simulations are designed to ensure that every student participate" (RBT Student A, 2012).	• Seem to be working • Project coordination • Different views • Learn to work in groups • Change in thinking • All students participation • Practical
"The class debate was able to stimulate my thoughts on tourism in terms of its advantages and disadvantages including its economic impact within the community and country" (RBT Student B, 2012).	• Stimulate thoughts
"The class debate is an excellent tool for teaching in urban and regional planning. It allows students to share their experiences and learn from each other. It creates a platform where students show what they have learnt over time and how to apply it. Class debate also allows students to do an in-depth investigation of a topic, make an analysis of it and be able to defend their work. The debate is also good, as it prepares students for the corporate world where they will be required to defend and stick by their work. The debate gives each student a fair chance to contribute, hence encouraging those who speak less to voice out their opinions" (RBT Student C, 2012).	• Excellent tool • Peer sharing and learning • Platform to exhibit learning and application • Learn to investigate, analyse and defend. • Preparation for workplace • Encourages student participation
"We can view an issue from a different perspective from planning and non-planning students. Class debate encourages participation and preparation. We can learn from our colleagues with planning experience. It is easy to understand the topic when you are involved actively in the discussions. Students can come with examples that are relevant to our traditional systems as we are from different cultures and countries" (RBT Student D, 2012).	• Different perspectives • Encourages student preparation and participation • Peer learning • Better understanding • Relate to issues
"... It allows interaction between students. We learn from each other. You learn to speak in public / in front of people which it enhances your confidence and engagement with people" (RBT Student E, 2012).	• Student interaction • Peer learning • Enhances public speaking and confidence • Student engagement
"Good, it allows you to think and reason. You can apply what you have learned, with your personal experiences and view on the topic" (RBT Student F, 2012).	• Good • Think and reason • Application • Express own experiences and views

Source: Student Reflection Analysis, 2009, 2011 and 2012

I use various different methods of teaching and learning, with gaming simulation being one aspect, which is the focus of this thesis. I always ask the students about their reflections on the various methods. In this case I asked about their perception on the use of the simulation as teaching tool. I have not received a single negative comment regarding this simulation in all the years it was run, or documented via the reflective analysis by the students. The students deemed the simulation as interesting, fun, beneficial, good, excellent, added a new element to learning and that it seem to have worked.

From a learning perspective they indicated that it was practical, it aided practical understanding of the theory and prepared them for their work in the real world as planners. It has thus been successful in its aim to aid the experiential learning of the students. It also enables peer learning as students indicated that they were able to absorb different views and learn from one another, especially from the people that were already working in planning. It also enabled the informal sharing of information between peers. It also aids to longer memory retention of what they have learned and experienced.

The students further indicated that the simulation gave a better understanding of the topic and the link between tourism and planning. The students said that they had learned that they should consider more options in planning and tourism and that it was important to limit negative impacts. It was stated that planners should become more people-centered in their planning. A student working in planning indicated that they were applying the lessons from the simulation in their dealing with tourism. Another student mentioned that the simulation could also be run in the field, as it was a great way to test scenarios with the different stakeholders.

From a perspective of wider development of a student in skills that will aid them as planners, the students indicated that it aided in the development of communication skills, and it prepared them for future interaction as planners as they learned to motivate and defend their plans. They also learned to work in groups and to do project coordination. They learned the process of investigation, analysis, application and then defend their proposals and viewpoints.

The students also enjoyed the class interaction and the fact that student preparation and overall participation was encouraged. They felt engaged and able to express their own experiences and views. The students stated that they could correct their mistakes during the simulation. Furthermore, it enhanced their public speaking skills and confidence. They also mentioned that the simulation helped them to think and reason; with an

additional impact as it helped them change the way they think and are more innovative.

From an assessment perspective a student mentioned that the simulation could give the lecturer the opportunity to evaluate the understanding and application of the students. It provides students with a platform to exhibit what they have learned.

I can thus conclude from the students' reflections that they enjoyed the simulation and experienced a change in their learning as a result of the simulation. The students did not view it as a time consuming exercise or unnecessary gimmick. They also gained understanding from the link between tourism and planning. Furthermore, they gained experience in presentation and negotiation skills, project management and group interaction. Softer skills like creative and innovative thinking were also enhanced. Thus, the gaming simulation of the Tourism Planning Tribunal Simulation as a teaching and learning tool was a success.

As part of enabling students to fully reflect and engage, they were also asked what they had learned about themselves during the module. The answers that related to the simulation are indicated in Table 4.6.

Table 4.6: Student reflection on learning about self

Students' comments	Key concepts
"The development debate made me realize that people have different viewpoints about various issues. I should identify my viewpoint about tourism and should be able to defend it" (RBT Student A, 2009).	• Different views • Defend own viewpoint
"I improved my skills of being a team member" (RBT Student B, 2009).	• Team leadership
"To be more open-minded and creative" (RBT Student E, 2009).	• Open-mindedness • Creativity
"Strong ability to work in group and understanding other opinion" (RBT Student G, 2009).	• Group work • Understand different opinions
"I learned that working together always helps to know a lot of things which when doing things alone I would not have thought of" (RBT Student B, 2011).	• Merit of group work • Peer learning ability

Source: Student Reflection Analysis, 2009, 2011 and 2012

Learning should not only transfer knowledge, but enable students to develop as individuals and become rounded planners. The students

indicate that they have a greater understanding of different views and opinions. They have also gained experience in defending their own viewpoint. Personal skills that were enhanced were open-mindedness, creativity and team leadership. They are convinced that group work has merit and that they gain through peer learning.

As part of the process of exploration of my teaching and learning, I also asked the question what they had learned about the lecturer (being me) during the module. This also assists in exploring cultural differences and whether the students understand my motives and if I unconsciously influence their development. Their reflections, which directly and indirectly relate to the simulation, are included in Table 4.7.

Table 4.7: Student perspective of lecturer

Students' comments	Key concepts
"That she is well informed about the different topics and is passionate about teaching, otherwise she would have just given notes and lectures about the different topics. She is willing to try different methods to teaching that is beneficial and accommodating to students (especially compact learners). She is open to new and fresh ideas and teaching methods, something that is sadly lacking in most educators" (RBT Student A, 2009).	• Well informed • Passion about teaching • Try different teaching methods • Student benefit focus • Open to new and fresh ideas
"Those lecturers can come up with creative and innovative methods of teaching to ensure a student has a very good understanding of the challenge" (RBT Student E, 2009).	• Creative and innovative teaching methods • Enable student understanding
"How she allows empowers other to be absorb and grasps subject matter through own initiative" (RBT Student G, 2009).	• Empower students
"I learnt that the tourism development is not something that can easily be implemented it actually consumes time before its completion" (Student H, 2009).	• Tourism development thorough and time consuming
"...learn very practical skills concerned with our expected career choice" (RBT Student I, 2009).	• Practical skills

Source: Student Reflection Analysis, 2009, 2011 and 2012

In regard to the simulation as a teaching and learning method the students stated that I tried different, creative and innovative teaching methods. Furthermore, I appeared open to new and fresh ideas. They declared me passionate about teaching as a result of the teaching methods and that I was well informed. My teaching is student focused; it both enables student understanding and empowers students. The

simulation taught practical skills and they learned that tourism development is thorough and time consuming.

It has impressed me that gaming simulation is a valid method of teaching and learning and that students view the implementation thereof as a teaching method as being focused on them and their needs and as characteristics of an innovative lecturer.

When students were requested to share any final remarks regarding their feelings, perspectives, concerns, difficulties and, especially, recommendations for improvement of this module, they did include some reflections on the simulation. That is indicated in Table 4.8.

Table 4.8: Final remarks from students

Students' comments	Key concepts
"I liked the fact that it was all very practical and my only recommendation would be to keep it practical. I think we as students understand it better when doing it like this" (RBT Student A, 2011).	• Practical • Better understanding
"I believe in the gaming exercise when dealing with RBT because it works well" (RBT Student B, 2011).	• Working well
I feel that this kind of teaching or lecturing helps students have a better understanding about their course. ... I liked the debates that were held as part of learning" (RBT Student C, 2011).	• Better understanding

Source: Student Reflection Analysis, 2009, 2011 and 2012

Students indicated that the practical method of teaching, for example the simulation, works well and aids improved and practical understanding of the subject matter. The fact that of all the aspects in the module, and its teaching and learning and assessment, students took time to reflect on the simulation also indicates that it had a profoundly beneficial impact on them.

4.6. DISCUSSION

At first the Tourism Planning Tribunal Simulation was a fun way to end off a module, by playing out a scenario students might experience when they work with the tourism industry as town and regional planners. The success and enthusiasm of the students made me realize that this simulation is also a great way of doing revision before the test and examinations. It also indicated gaps in students' knowledge and understanding.

However, as it was an elective module, without compulsory class attendance, students missed this crucial class, which had a negative experience on the simulation's effectiveness and value. Thus, I had to

make the simulation a compulsory assignment. Then greater success was established as students were also given time to prepare their arguments and presentations, based on the core presentation. The students took the assignment and simulation more seriously and were able to immerse themselves better in their given argument. It also added to the research and depth of the presentations, as well as knowledge revealed as part thereof. Students also did better in this assignment, than their average for the module, which indicates that they were able to relate to the process, and demonstrate accordingly.

This simulation also indicates the importance of visual learning, as the abstract concepts in the literature were given visual presentations and that enhanced student participation and understanding. Many of the students do not necessarily understand concepts like tribal area or dense vegetation, as the majority of our students are from arid areas. The visual aids used during the lectures and presentations, were designed to aid in visual learning and to witness issues like flooding, erosion, linear development and so forth.
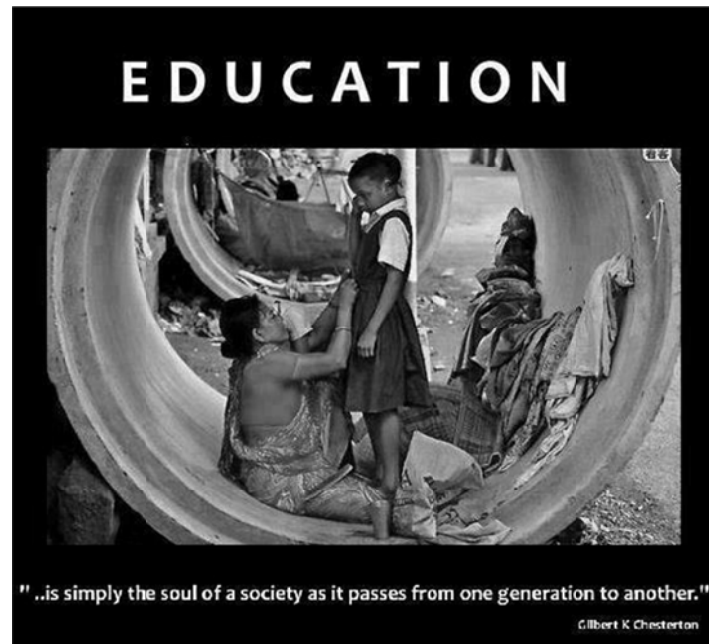
Overall the simulation also increased the students' averages for this module, however, there were too many other changes to verify this with accuracy. The average for the module was consistently over 60% and the average for the Tourism Planning Tribunal Simulation was over 65%.

4.7. CONCLUSION

A simulation where students are presented with a task to act as a planning firm for or against a development, prepares them for the workplace. Tourism is known by me through experience, as an industry filled with passionate people. It might be because it is a people-orientated and labour-intensive industry. The reasoning behind this observation, does merit more in-depth research by psychologists and planners. The determination and passion in tourist meetings, debates and tribunals are fuelled by accommodation establishment owners, entrepreneurs, environmentalists, tour guides, Rastafarians, Hippies, traditional leaders, NGOs, do-gooders, philanthropists, engineers, historians, re-enactors, government officials and government councillors, to name but a few I have had experience with. While I was working in BaPhalaborwa municipality I considered that it might be the heat and humidity of the unique bush there that added to this phenomenon. However, I found the same in the Free State in Bloemfontein, Clarens, Philippolis, Bethuli and Dealesville. I also experienced the same in Rustenburg, Baberton, Pilgrims' Rest and Oudshoorn. Thus, it seems to be the nature of the industry where a passion for the hospitality industry and the attractions it is based on, creates strong opinions. These strong opinions will lead to the most heated debates, most serious tribunals, be that a township board

tribunal or a tribal tribunal. After this simulation, the students are prepared and armed with the appropriate knowledge that will lead to applicable plans and proposals.

CHAPTER 5:
GLOBALISATION SUMMIT SIMULATION

E D U C A T I O N

" ..is simply the soul of a society as it passes from one generation to another."

Gilbert K Chesterton

5.1. INTRODUCTION

This chapter investigates how I related the complexities of globalisation to urban and regional planning students via a simulated globalisation summit and the path that led to the globalisation summit simulation.

Globalisation is not a generic theory or vague concept, it is a complex phenomenon that permeates all of society, economics and the environment and it has a very definite influence on a region and community (Christopherson, Garretsen & Martin, 2008:343). This is due to the complex and diverse nature of globalisation and its challenges for development, specifically in southern Africa (Jordaan, 2001:79). Globalisation has a level of influence that urban and regional planners need to not only understand, but they should be able to create plans, policies and proposals that minimise the negative impacts of globalisation, while harnessing the positive spin-offs.

In the workplace, urban and regional planners have to make daily decisions on how to serve the community and clients with advice on spatial and developmental matters. Globalisation has a definite and severe impact on spatial and developmental issues and thus must be kept in mind in all planning decisions and proposals. During the education of urban and regional planning students, these should be guided in finding

information on globalisation and on gearing their planning reactively as well as pro-actively.

Within the module Economics and Entrepreneurship for Planners, as part of a structured post-graduate programme at the Unversity of the Free State, South Africa, globalisation is one of the many aspects touched on. It takes up about two credits in a sixteen credit module and therefore only 20 notional hours should be spent on the topic. There are countless books and journal articles dealing with globalisation, from various disciplines and perspectives. However, the outlook these provide is very diverse and cannot be dealt with comprehensively.

I subsequently decided to have the students simulate a globalisation summit, where they have to represent the viewpoint of a specific person that is involved in such a summit. In order to get to the presentation part of the summit, the student had to do research on globalisation, investigate the various impacts of globalisation and the various individuals and organisations involved with such a summit. They then had to choose such an individual and present their viewpoint, or the viewpoint of the people or organisation they represent, at the simulated globalisation summit. After the various presentations, as part of the debriefing of the simulation, class discussion is geared towards a focus on urban and regional planning and how planning should relate to globalisation, and subsequently plan with it in mind.

This teaching and learning method, which bases the simulation in role-playing, or more accurately live action role-playing (LARPing), provides the students with an understanding of globalisation, its influence and complexities. It also assists students in finding information on globalisation, not only for the assignment, but also for future reference and use. Furthermore, it also links students to the human faces influenced by globalisation, thus enabling them to be more developmentally focused, rather than pure control focused urban and regional planners.

This chapter will follow the path I have travelled in fine-tuning this teaching and learning method in urban and regional planning, by utilising Living Action Theory as research methodology. In order to substantiate my experience, reflection and claims, I will use the student reflections, presented by using Appreciative Inquiry as research methodology. This is thus a qualitative, perception and reflection based study.

5.2. WORKING AS MUNICIPAL PLANNER FROM 1997 – 2002

From 1997 to 2002 I was a municipal planner at BaPhalaborwa Municipality, in Limpopo Province, South Africa. It was a very exciting

time, as South Africa had just entered the post-apartheid era. All municipalities went through a transformation process, where various former town councils were integrated. BaPhalaborwa Municipality also had the addition of areas from the former homelands of Gazankulu and Lebowa. The municipality grew from a white mining town to a municipality with three formal towns, game farms and numerous rural villages under tribal rule. BaPhalaborwa Municipality is situated adjacent to the Kruger National Park, linked by the Phalaborwa Gate. The area is dependent for economic development on the mines of Foskor and Palabora Mining Company (owned by Rio Tinto). The rest of the municipality's economic lifeblood is derived from tourism, income by migrant workers that work in the cities while their families stay in the rural areas, and subsistence farming.

It was a period of massive economic change in the world, as the fall of Apartheid and Communism not only brought South Africa into the global market arena, but added China and other former Communist countries as competition. Due to anti-apartheid sanctions, South Africa had had to focus heavily on import substitution. There had also been various development schemes from the homelands that provided their communities with sponsorship and rebates to encourage development. However, from 1990 things started to change, due to both global and domestic fluctuations. Countless people were retrenched and the subsidy of businesses removed as it was seen as a reflection of apartheid policies, the economic environment was no longer stable and predictable in the BaPhalaborwa Municipal area.

People came into my office on a daily basis to ask advice about opening franchises, starting all kinds of businesses from informal car washes to multi-million dollar resorts, and options for international people to retire. The answers to the questions posed were not simple, nor limited to the local dimension of BaPhalaborwa. I had to make sure I had a keen knowledge of not only local and national economic issues, but also of global issues impacting on the local arena.

As one chain store opened, selling cheap imported baskets, a rival local community business, once funded by the Gazankulu Development Corporation, faced bankruptcy and we had to start local economic development projects and programmes to assist people in using their knowledge and skills in a unique way in a now much more competitive environment. We geared the focus towards indigenous knowledge-based products and development, as their uniqueness offered some level of product protection in a globalised economy.

Working with communities impacted by globalisation made me realise that for every decision a banker makes in Switzerland, every agreement a

government official in Pretoria signs, and every consumer decision to buy an imported product rather than a local one, there is an impact on a local individual who lives through the practical impact of such decisions by others. This went beyond the sphere of academic books and journal articles, with definitions, diagrams and selected case studies.

5.3. THEMES AND CHANGES IN THE EVB MODULE

In 2002 I was appointed as a lecturer at the Department of Urban and Regional Planning at the University of the Free State. It is a structured post-graduate course. The person who had been lecturing the module, Economics and Entrepreneurship for Planners, was an outside lecturer and had moved away. The module is an overview of economics and entrepreneurship, it is application-based and not an in-depth study. It covers macroeconomics, microeconomics, government finance, development economics, economic realities, globalisation, local economic development and business plans. All of these topics are linked to disciplines in their own rights, but for the purpose of urban and regional planning, these need only to be understood in a broad sense, and then applied in planning projects, plans and proposals. From 2003 to 2012 (within the ten year study period) I facilitated the module.

Global challenges like the global economic downturn and issues like the export of jobs to the East, which is transforming most countries of the West from producers into consumers within a post-production economy, were integrated within the module. The focus of the modules then moved to self-sufficiency, informal trade and alternative economic thinking, like "Small is Beautiful". The name of the module changed to become Economics and Entrepreneurship in 2006 and then Research in Economics and Entrepreneurship for Planners in 2012. Some of the changes took some time to implement on account of the administrative procedure that needs to be followed in South African Universities and the University of the Free State in particular, before the curriculum or even content of the module can be altered, as it had to be changed in the official University Year Book.

The structuring of the various themes in the module through the various years is indicated in Table 5.1.

Table 5.1: Themes presented in the Economics module

Themes	2003	2004	2005	2006	2007	2008	2009 1st Semester	2009 2nd Semester	2010	2011
Module name and credits	Economics for Planners - 16			Economics and Entrepreneurship - 16					Economics and Entrepreneurship for Planners - 16	
Introduction	x	x	x	x	x	x	x	x	x	x
Micro and Macro Economics	x	x	x	x	x	x	x	x	x	x
Globalisation	x	x	x	x	x	x	x	x	x	x
Sustainable Development	x	x	x	Decided that it must be inherent to all development and promoted as such from here hence.						
Development Economics		x	x	Became specialist elective module			Re-introduced to include alternative economic thinking	x	Removed again	
Local Economic Development		x	x	x	x	x	x	x	x	x
Entrepreneurship		x	x	x	x	x	x	x	x	x
Business Plans			x	x	x	x	Included as part of Local Economic Development			
The South African Economy			x	Too many international students and students could base their assignments on their country's economy.						
Indigenous Knowledge Systems									x	

Source: EVB Study guides, 2009 – 2011

The introduction to the module is done at the end of January[14] or beginning of February each year, when all three student groups (Block Week, Part Time and Full Time) have to attend a Saturday introduction to the course and modules. The material (if there is any), as well as the study guides are handed out in that session. Until 2011, attendance was voluntary and many of the students from neighbouring countries or who deemed themselves to be too busy, chose not to attend. This however led to much confusion among students regarding regulations and procedures. Thus, from 2012 the attendance of this introductory induction session was made mandatory for all students. It proved extremely successful, as in 2012 we found students far better prepared and following procedures as required. To introduce my course in this introductory session, I had often played the music video of the German band *Rammstein*, called *America*[15] which is an excellent depiction of how globalisation is seen throughout the world and in many cultures. Globalisation sets the scene of the module, as it must be understood by the student that southern Africa is part of the world and no planning act, policy or plan could possibly act in isolation from it.

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[14] In South Africa the academic year runs from January until December of each year.
[15] America, 2004. Music Video: http://www.youtube.com/watch?v=yydlX7c8HbY

Macro and micro economics, from a basic perspective on the level of understanding, have been presented every year. From 2009 - 2012 a retired former lecturer in economics was recruited by myself to lecture the macro and micro economics part of the module, as it is not town and regional planning *per se*, but essential knowledge for town and regional planners. He was extremely successful in the lecturing thereof to the students and also very popular with the students (EVB Student Reflective Analysis 2009, EVB Student Reflective Analysis 2010, EVB Student Reflective Analysis 2011 & EVB Student Reflective Analysis 2012).

Sustainable Development was a theme in isolation up to 2005, but from 2006 it was seen as an essential component that it would be the foundation of all development, and should be included as such in student assignments. The focus on the South African economy was removed as a theme from 2006 as the students, especially those from other countries, could focus on their country or community in their assignments, as the department had a lot of students from neighbouring countries such as Namibia, Swaziland and Lesotho. Development Economics kept moving in and out of the course, as there was a separate elective module with that theme, but that was cancelled from 2012 and its content integrated with this module as part of the new curriculum. Local Economic Development, in which many southern African planners are involved, was introduced in 2004, along with Business Plans, which was integrated into one theme from 2009. From 2008 students had to write a business plan for a local economic development project, that focused on indigenous knowledge systems and it was also a community service learning project. Indigenous Knowledge Systems was also a separate theme in 2009 and 2010, but was left out in 2011 when the external lecturer was unavailable and in 2012 it moved into the new module called Anthropology. From 2005 Entrepreneurship was introduced to the module, as the actions of town and regional planners can be a great motivator and equally a burden for entrepreneurship. For this theme I have found that the most successful way of lecturing it is to have students "Shadow an Entrepreneur" in their community and then compile a set of questions and reflections to discuss and link it to literature. Students are given no material and critiques of one another's assignments are used as the basis for peer learning. From the student reflections it became evident that this exercise has opened students to the importance of entrepreneurship and what planners can do to assist it (EVB Student Reflective Analysis 2009, EVB Student Reflective Analysis 2010, EVB Student Reflective Analysis 2011 & EVB Student Reflective Analysis 2012).

From 2012 the module became a 20 credit research module and informal trade, subsistence farming, current economic realities and alternative economic thought were included. All these issues are linked to the effects of globalisation and students had to find the linkages themselves through

various assignments. For example, they played an online game called *Third World Farmer* to understand the challenges of subsistence farming and write an assignment about it. Students were given freedom to investigate current economic realities and write an assignment on this theme. However, it was deemed less effective to let them only focus on a community level, as many just did a "cut and paste" from their local government's Spatial Development Framework and Integrated Development Programme. For 2013 the students had to choose specific contemporary topics, such a comparison between Greece and Iceland in their handling of their national debt crisis.

Now that globalisation has been placed in context of the course throughout the study period in question, I will reflect on how I developed a gaming simulation to deal with the teaching and learning thereof.

5.4. DEPENDING ON LITERATURE FROM 2003 - 2005

In 2003 I went the conventional academic route by prescribing research reports and textbook chapters for the course, spending 5 of the 10 lectures dealing with issues of globalisation. The various lectures focused on the global economic status quo and the global economic shift. The two books prescribed were *The 2001 State of the World Report* by the Worldwatch Institute and *Global Shift: Transforming the World Economy* by P Dikens (1998).

As the assignment in the module, the students had to complete a major research paper on one of the following topics:
- Fordism and Post-Fordism and its impact on the South-African economy.
- Flexible specialisation in the globalised economy and its link to mixed zoning.
- The role of the World Bank and the IMF in addressing the widening North-South economic rift.
- The impact of the Internet on the economy: micro to macro scale.
- The interplay between the Bull and the Bear Market and its impact on property, urbanisation and labour.
- The relevance of local economic development and regeneration policies within regional development programs.
- The impact of war on the economy: with special reference to government spending, technological development, employment and private firms.
- The Asian Meltdown: lessons for South African development.
- Can a developing country afford labour unions in the globalised economy?

It is evident from the above, that the major focus was on globalisation and the global economy. The students fared relatively well, with an average of 67% for the module. The students' knowledge and application of their knowledge on globalisation in town and regional planning were assessed in a closed book test and an oral examination. In 2003 six students completed the module and left with a keen knowledge of globalisation, from a theoretical perspective. However, at the end of the year, looking back at the oral examination, tests and assignments, I had to wonder if the students understood the true and complex nature of globalisation and if this understanding would lead to better planning practices in the professional world. Maybe too much time was spent on reading and understanding text books, as well as doing research for their assignments. However, I could not, without gathering further information, change the module fundamentally.

In both 2004 and 2005 the two books were again prescribed being *The 2001 State of the World Report* by the Worldwatch Institute and *Global Shift: Transforming the World Economy* by P Dikens (1998). At that stage no new books were introduced to the university library that were of the quality that could be prescribed to students, with the aim of nurturing their understanding of globalisation, and to impact on their ability as planners. Furthermore, the South African Rand is relatively weaker than the currencies of the countries publishing these books, mainly the USA, Europe and Australia. Therefore, the students were limited by affordability and availability via the university library. However, in 2004 a popular article by J Fox, called *What in the World Happened to Economics*, which appeared in *Fortune* on 15 March 1999, was also added, and this was again prescribed in 2005.

In 2004 thirty-nine students completed the module, with an average of 60%. The 7% drop from 2003 could be attributed to the larger class size, combined by the increase in assessment activities. The assignment choices provided to the students in 2004 which had a focus with globalisation in mind were:
1. The HIV/AIDS economic meltdown: cause and effect from poverty to corporate bankruptcy, where town and regional planners are trapped in the middle.
2. A United States of Africa: discuss its economic viability, especially in light of the European Union.
3. Europe has a growing elderly population and Africa a rapidly growing population of children: discuss the phenomenon and indicate its influence on the world economy and urban and regional planning.
4. Discuss any economic-political ideology theoretically and discuss its possible impact on the South African economy if this ideology should be instituted in South Africa.

5. The cyber economy: how will it change the face of the economic landscape.

In 2005 the focus of the module regarding assignments changed completely and the major assignment was a big research and application project where students had to find indigenous knowledge, along with the local communities and municipalities, and translate that into a local economic development project. The students had to indentify funders and draft business plans. This assignment choice was provided from 2005 to 2011, as it was an application of what the students read, researched and learned throughout the entire module. Three smaller assignments were also provided dealing with the themes of sustainable economic development, development economics and the South African economy. The students' knowledge and application of globalisation were assessed in a closed book test and an oral examination. In 2005 twenty-two students completed the module, with an average of 57%

The constant drop in class average from 2003 became a concern and the possible reason for that could be that the test and examination focus on the application of knowledge, as well as the understanding and recollection thereof. However, when faced with scenarios dealing with globalisation, students struggled to make the necessary links with town and regional planning. Furthermore, my personal opinion is that students also lacked the empathy that will move the future planners from control based planners to developmental based planners. Therefore, a new strategy in teaching and learning was required.

5.5. RUNNING THE GLOBALISATION SUMMIT FROM 2006 - 2011

In this section I will explain the path that led to the globalisation summit gaming simulation and how it was changed and evaluated each year. This is in line with the requirements of living theory creation of action research, where you investigate what you do, how you teach, change it and repeat the process through various cycles.

5.5.1. Testing the waters in 2006

In 2006 the only prescribed literature was key chapters from *Global Shift: Transforming the World Economy* by P Dikens (1998). There were only fifteen students that completed the module and that made a class exercise viable. As an informal class assignment the students had to present the view of certain characters provided to them by me, in a simulation of a globalisation summit. Characters and scenarios given were, for example: "*You are a super-super rich American business-owner who moved their shoe manufacturing plants from Detroit to Thailand, Brazil and Lesotho*" and "*You are an organic coffee farmer in Mphumalanga Province in South*

Africa; two major coffee suppliers have cancelled their order with you as your product is deemed too expensive for the mass market". They had to do some of their own research on their characters and how these would view and react to globalisation. The class assignment was e-mailed to the students two weeks before the class where they had to take part in the globalisation summit gaming simulation. Then they had to deliver a 10-minute PowerPoint presentation to make their case to the class, or given the gaming simulation, to the other attendees of the globalisation summit.

They were assessed by me and also peer assessed, which did force them to pay attention to the other students' presentations. The assessment was based on a total of 50 points, 10 points per aspect which were 'presentation style in line with character', 'content', 'PowerPoint presentation visual quality', 'presentation clarity' and 'how convincing?'. The students thus had to do proper research in regard to their character and immerse themselves thoroughly into the characterization for the presentation. This globalisation summit gaming simulation was a big success, which kept the students involved and enthusiastic to defend their cases and take on other student characters' cases. The students enjoyed it and in the debriefing discussion afterwards, as well as the oral examination, it was clear that the students were more able to link the literature with the people and places being influenced and relating that to issues dealt with by urban and regional planners, given globalisation. The class assignment only counted towards 5% of their final result and 12 students took part therein. The class average for the module went up to 60% again, as the students were better able to complete the scenario questions in the tests and oral examination.

5.5.2. 2007

Due to the success of the globalisation summit trial run as class assignment in 2006 it was subsequently decided to formalise this successful class assignment into a true assignment (Assignment 2) that was to count 10% towards the students' results for the year 2007. It was the second-last theme in the module, as the other information was meant to stack up and add to the understanding of globalisation. The students were given the brief that in this activity, each student must present a specific viewpoint to the class, to be presented in a globalisation summit which was to be simulated in the classroom. Students had to choose a specific character that would be involved in such a summit. It was the students' responsibility to research globalisation, what is discussed at a globalisation summit and what kind of people speak at a globalisation summit. The students had to draft either a *PowerPoint* presentation or "one-person act play" (geared towards the rural students with no access to technology) to make their case and present it to the class during the scheduled time for lectures 9 and 10.

Again, the lecturer, as well as each of their fellow students, graded the presentations. The assessment was based on a total of 50 points, 10 points per aspect which were 'presentation style in line with character', 'content', 'P*owerPoint* presentation visual quality', 'presentation clarity' and 'how convincing?'. No material was provided to the students, allowing them to focus their notional hours on self-study and doing their own research on the topic, thus enhancing their research skills and enabling them to make choices in the vast and diverse field of globalisation. They could thus choose to be pro-globalisation or anti-globalisation or they could represent government, a non-profit organisation or business. In 2007 eleven students completed the module and took part in the assignment (globalisation summit), with a class average of 66% for the assignment, with the year average being 64% for the entire module. The students chose characters ranging from government officials, politicians, farmers and anti-globalisation lobbyists. The presentations were gripping and the debriefing discussions very heated as the students defended their characters' choices and opinions. Unfortunately some of the students did not take up a character, but did a theoretic analysis of the literature of globalisation and that defeated the point of the entire simulation.

5.5.3. 2008

The number of assignments was reduced to only two in 2008, along with two tests and an oral examination. The globalisation summit was the last theme for the module and students had to do all the other themes building up from micro economics and ending with the broad view of globalisation. The globalisation summit accounted 25% to the final semester result. Again no material was provided and students had to do their own research. Due to some students not choosing characters in 2007, characters were allocated in 2008. The assessment was based on a total of 50 points, 10 points for 'presentation style in line with character', 30 points for 'content' and 10 points for 'how convincing?'.

In 2008 seventeen students finished the module, with an average of 62% for the module and 61% for assignment 1 (globalisation summit). The students fared worse in 2008 for the assignment than in 2007, which can be attributed to a bigger class and thus more students grading their fellows, as well as the assignment's portion of the semester mark increasing with 15%. Some of the students did not like the characters they were assigned, some students were increasingly challenged by it and others neglected the assignment and discussion on account thereof.

5.5.4. 2009

In 2009 there was a change in the general town and regional planning course and the module was presented twice, once in the first semester and once in the second semester. Again the syllabus started with economics, then proceeded to cover development economics, then entrepreneurship, then local economic development and ending off with globalisation. More assignments were included and some of the material was taken away allowing for self-study and peer learning.

This time no characters were chosen for the students, but students were instructed to find their own character again, and to prepare a presentation at the globalisation summit gaming simulation. Students were instructed to research globalisation summits and meetings on the Internet and in books and magazines and identify the type of people that attend these summits, as well as the viewpoints they represent. Students then were informed that they should act / pretend to be one of them. Thus, they should not be vague about globalisation, but be a specific person, with a specific issue and viewpoint.

During the prior globalisation summit simulations, students came dressed in, for example Caterpillar boots, Addidas sweatpants and a Nike cap, with their characters presenting an anti-globalist stance. As the format of the gaming simulation is based in Live Action Role-Play, students were requested to dress up as their character would, ranging from just dressing appropriately to dressing as the character would for a globalisation summit. This added a dimension of drama and excitement to the proceedings, and the students were notably more able to immerse themselves in their chosen characters and subsequently the students fared extremely well in this assignment, when comparing the assignment average to the class average.

The assessment was based on a total of 50 points, 10 points for 'presentation style in line with character', 30 points for 'content' and 10 points for 'how convincing?'. Again the lecturer gave an assessment and the students had to peer assess each other and each session ended in a debriefing, in the form of a discussion and debate. The students also completed reflective questionnaires about their experiences from 2009, which will be discussed in Chapter 10.

During the first semester of 2009 eleven students completed the module, with an average of 72% for the module and an average of 77% for Assignment 3 (Globalisation Summit). It was an exceptionally strong group of students, who supported one another and were in high spirits throughout their studies. This led to very enthusiastic and passionate debate and discussions.

During the second semester of 2009 twelve students completed the module, with an average of 66% and with 72% for Assignment 3 (Globalisation Summit). The students chose a variety of characters ranging from The Prime Minister of India to Gwede Mantashe of South Africa, there was a medical advisor, a South African multi-national liquor business, an environmentalist, an African farmer and a neo-capitalist. Issues that were tackled ranged from farming restrictions to the environmental threat of the bottled water fad.

5.5.5. 2010

The syllabus sequence that started with microeconomics and ending with globalisation presented a couple of problems: for example the students got stuck on issues of supply and demand and the focused issues of economics, to the extent that they were unable to tie the thread through to globalisation, regardless of their strong understanding of globalisation.

For the 2010 course it was decided that the students start with globalisation in the syllabus. In order to plan the actual presentations according to themes, the students had to submit the PowerPoint presentations by February; however they took part in the globalisation summit only in May, at the end of the semester. The module consisted of only four themes with globalisation as theme 1, entrepreneurship as theme 2, local economic development and community development as theme 3 and economics as theme 4. The idea was to let them start with a globalised view of economics and then go through the other study units, culminating with it all in their final presentation and its subsequent debriefing discussions.

Apart from the theme Economics presented by the guest lecturer, students were given no material whatsoever. The entire module became assignment based, where students had to do research on the themes and thus self-study became the core of the module. During class sessions the topics were discussed in class, *Blackboard* (on-line university module system) was used to clarify problems and topics were presented within the themes for the students to discuss. The assignments of the various students were then placed on *Blackboard* for peer learning. There was a test at the end of the semester, with scenario based questions, to determine if students could apply the knowledge gained and link the various themes with each other and with town and regional planning. There was no written examination in the module.

The outcomes of theme 1 on Globalisation were: "*Students should understand what globalisation is as an economic force and what influence that has on the economy and on specific individuals and groups and their*

interests".   The globalisation summit assignment counted 10% towards the final mark.   It was made compulsory for the students to have *PowerPoint* presentations and dress up as the character.   A strict 10 minute presentation allocation was established, due to the number of students and a 10% penalty was invoked for every minute over 10 minutes.   The assessment was again based on the lecturer's assessment (50%) and then peer-review assessment (50%).   It counted out of 50, with 10 points for 'character role-play', 20 points for 'content', 10 points for 'presentation style' and 10 points for 'how convincing?'.   Students had to send in their *PowerPoint* presentations in February and it was placed on *Blackboard* for the students to view for the purpose of peer learning, as the groups were too big for all students to do their presentations during the block week, was previously usually the case.   In 2010 the three groups, full time, part time and compact students were broken into three mini globalisation summits.   Characters that were presented were a family farmer representing an agricultural society, economist academic specializing in globalisation, minister of environment from Namibia, Prime Minister of the United Kingdom, anti-globalist activists, traditionalist, Namibian President, South African finance minister Pravin Gordhan, a representative of the Ovahimba community in Namibia, environmental activists, African Union's representative, Botswana President Ian Khama, personal view from student from his position as government official, representative from the Global People's Forum, chairman of the American Federal Reserve Board Alan Greenspan, tribal leader, Managing Director of the International Monetary Fund, Director-General of the International Labour Organisation Juan Somavia, and an Indian pro-globalist, and so forth.   I am not certain if it was having the students send PowerPoints before their presentation or the fact that they had to dress up, but for the first time we had very high profile globalisation summits, due to the number of politicians and global leaders that were represented.   Twenty eight students completed the module, with an average of 66% for the module and an average of 73% for the assignment.

5.5.6. 2011

Globalisation, specifically the globalisation summit simulation was the first assignment for 2011.   It was however the third theme.   This was to allow students to start off with the self-study of globalisation and submit the assignment to the *Blackboard* forum.   The guest lecturers of themes 1 and 2 had to present a class as well during the first block week.   This was an administrative decision to fit guest lecturers into the compact learning timetable, while still having the students start the module off with globalisation as the basis for the rest of the module.   As an experiment the first block week that is usually in the end of February was run in January in 2011.   Usually the end of January is reserved for an introduction to the modules only, as well as the distribution of study

guides and administrative issues. This session became a block week instead, with all the classes. The guest lecturers usually only lecture during block week for three groups of students. Unfortunately, it was a very bad experience with students being overwhelmed by the sudden onslaught of back to back classes and material, where they usually have about six weeks to prepare themselves and read through the material, although, from experience does not happen anyway as they often turn up in class unprepared. The full-time students missed the economics lecture completely, as they somehow managed to miss the multi-coloured posters placed all over the Department informing them that they had to attend as well. Thus it was decided not to hold the Induction session and first block week at the same time in future.

It was again a self-learning and class discussion based theme, as well as peer learning as the other students' assignments formed the learning material. The same detailed brief was again given to the students regarding the selection of the character, the dressing up, a mandatory *PowerPoint* presentation and 10-minute time limit. This time the students were limited to 10 slides, with pictures and only 10 words per slide, with no bullet points. The intention was to let the students rather use the visual media to support what they are saying, instead of reading off bullets and numerous slides. It was specifically stated that dressing up: "*does not necessarily mean rent a costume, it means dress properly and formally as a character that attends a globalisation summit should and would dress*". This was added as the results from the 2010 reflective questionnaires had the students very negative and confused regarding the process of requirement of dressing up. The intended learning outcomes of the globalisation theme were:

- "*Explain globalisation as an economic force and identify its influence on the economy and on specific individuals and groups and their interests.*
- *Generate your own knowledge base on globalisation and plan for the influence of globalisation by creating suitable spatial and policy plans*".

In 2011 a detailed assignment checklist was given to each student for every assignment with questions they must ask themselves, in order to make sure the assignments were satisfactory. The Dean of the Faculty of Natural and Agricultural Sciences (where our Department is located) however said that this was rather spoiling the post-graduate students, which should be able to do a proper assignment, given specifications. It took hours to draft and many students acknowledged in the 2011 reflective questionnaire that they had not had time to go through the checklist. Hence, it will not be done again.

The general average of the globalisation summit is usually very high as can be seen in previous years. Thus the usual 50% of the result given by the lecturer and 50% given by the students might have made it a high average as students are not always very strict on one another. Thus, in 2011 the lecturer gave 60% and the students 40% towards the final assessment grade for the globalisation summit. A grading rubric was used this time and out of 50, 5 points were given to the 'title' (maximum if it was an excellent title), 5 points to the 'introduction' (maximum if it grabed interest, succinct, well written and illustrated), 10 points to the 'character' (maximum if the presenter was dressed up and became the character), 10 points to the 'viewpoint' (maximum if the viewpoint was clear and convincing), 10 points to the 'content' (maximum if it was well described and explained), 5 points to the 'conclusion' (maximum if it had an exceptional conclusion, succinct and well written) and 5 points to 'creativity and originality' (maximum if it was excellent and with groundbreaking originality and creativity).

Characters that were presented were a tax haven critic, environmentalists, climate change debunker, economists, anthropologist, anti-globalist, government officials, Democratic Republic of Congo diplomat and so forth. In 2011 there were many specialists, consultants and academics and no high level politicians.

Due to the fact that thirty six students completed the module, three separate globalisation summits were held again for the three different student groups. However, students had to grade on another's *PowerPoint* slides as well as part of the class participation result that accounted 10% towards the final result. That gave them the opportunity to see each other's *PowerPoint* presentations at least, if they could not attend the actual globalisation summit. Unfortunately, the 10 word limit made it difficult to clearly express themselves in the *PowerPoint* and that did not provide sufficient information about their topic and character in many cases. There was no examination again, thus the module was assessed through continuous evaluation. Students received an average of 65% for the module and an average of 70% for the assignment. The lower module average of 3% can be attributed to the fact that my assessment weighting was moved up 10% and the students' peer assessment weighting was decreased by 10%, with my evaluation generally being stricter.

5.5.6. 2012

When it was evident that due to another restructuring in the course's curriculum that there would be more than 40 students registered, it was decided that students should make a 5 minute video of their topic from their character's perspective. Very few students placed themselves as

'character' in the video and hence there were no role-playing *per se* and thus it does not fully fulfill the prerequisites for a gaming simulation. Therefore, it will not be discussed as part of this thesis. It can be noted however that starting the module with globalisation made a huge difference again, as students proved that they could see and understand the big picture of the role of town and regional planning in the realm of economics.

In 2013 I will again return to the globalisation summit class presentations, with students dressing up as their characters, but without the aid of electronics, as an experiment.

5.6. DISCUSSION AND STUDENT REFLECTION

From a living theory creation perspective one studies what you do, evaluate it, critique it, change it and repeat the process. Some of the major issues experimented with were the sequence of the themes within the modules, giving students characters or letting them choose their own and dressing up as the characters.

It was more successful to place globalisation at the beginning of the module and then zoom into the various aspects that must link with it. The students then carried their characters and their viewpoints and experiences regarding globalisation with them throughout their module, having a better understanding of how town and regional planning and globalisation influence each other and issues such as entrepreneurship, local economic development and economic policies.

It was more successful to have students choose their own characters and viewpoints, after I gave proper explanation what this entailed and how they should find a character and related point of view. Through the process of research students find the characters they have empathy with, respect most or view as most challenging and thus immerse themselves more into the characterization and research, and eventual portrait of that character and his or her point of view regarding globalisation (EVB Student Reflective Analysis 2009, EVB Student Reflective Analysis 2010 & EVB Student Reflective Analysis 2011). Students also valued the freedom of opinion granted to them and expressed how they have learned more from this process of self-research than by being given a handbook (EVB Student Reflective Analysis 2011). Also, students were exposed to a myriad of views which no book can do in a matter of a couple of hours, with equal passion and determination. Both the pro-globalisation and anti-globalist ideas were exposed, as well as the various views from socialists, trade unions, politicians, business, environmentalists and anarchists.

At no point during the summit simulation did any student attend as a celebrity, which is rather interesting as the mass media often report on various celebrities like Bono (Dowling & Trott: online), from the Irish band U2, attending globalisation related summits and meetings on behalf of various causes. Many celebrities have made lobby documentaries as well, like Leonardo diCaprio's environmental movie called The 11th Hour (Wikipedia: online). The question is whether the students would rather focus on the word of politicians and academics than celebrities, or have celebrities and their causes lost their appeal, or do Western celebrities mean very little to southern Africans?

During the Globalisation Summit simulation it was compulsory to dress up as the character that the student decided to portray. Dressing up did not only mean dressing like an anti-globalist hippy, but if a student presented a government official or president the student should have dressed neatly and not do the presentation in the usual slops, shorts and t-shirts or tracksuits students usually attend class in. As a student in town and regional planning in North West University from 1991 to 1994 we always had to dress professionally when we did presentations, but in our course it was only expected when students did their Masters' dissertation presentation for the examiners. Practicing professional dress and presentation skills are important aspects for town and regional planners when presenting ideas and proposals in public meetings and to government officials and politicians, which students should prepare for. The dressing up was met with a bit of confusion by the students that equate dressing up to Halloween parties and where some enjoyed it and viewed it as indicating respect for the character they portrayed, other students saw it as childish and did not see the point of it (EVB Student Reflective Analysis 2009, EVB Student Reflective Analysis 2010 & EVB Student Reflective Analysis 2011). Figure 5.1 is a collage of photos of student presentations from 2009 – 2011.

Figure 5.1: Collage of student presentations at the simulated Globalisation Summit

Source: Barclay, 2007 - 2011

5.7. CONCLUSION

The core of a role playing based gaming simulation is characters, characterization, story and plot, decisions and scoring. Students were given the opportunity to choose a character, live the character for ten minutes, tell their story given the plot of a globalisation summit convincingly, decide how to defend their character in the debriefing discussion and link their character and viewpoint to town and regional planning and the eventual scoring was done via assessment by me and peer-review.

Thus, a globalisation summit simulation is a highly successful and recommended method of teaching and learning in urban and regional planning, concerning globalisation and its various dimensions and links to town and regional planning. It does not only transfer knowledge, but also an empathetic understanding of globalisation and all its dimensions.

CHAPTER 6
COST AND BENEFITS OF DEVELOPMENT BOARD GAME

Teachers open the door, but you must enter by yourself.
~ Zen Proverb
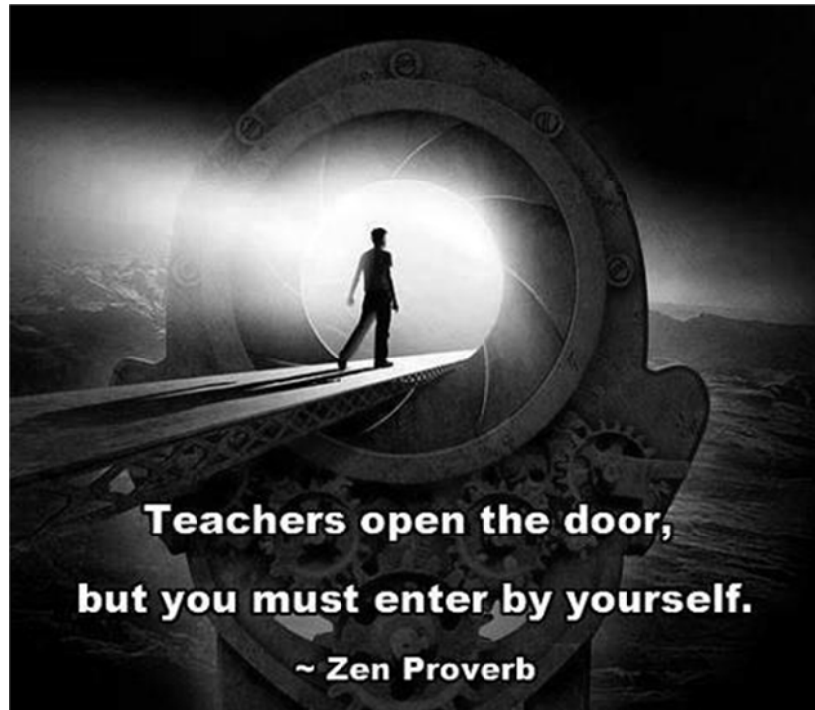
6.1. INTRODUCTION

This chapter will indicate the process I have followed in designing a board game dealing with the costs and benefits of development, with the emphasis on development aid in the form of grants, loans and foreign direct investment.

It will also investigate the students' opinions and reflections after they have played the game.

As explained in Chapter 1, I used Action Research as research design, with Living Theory creation as vehicle for the research. Thus, the document is written in the first person.

6.2. LECTURING THE MODULE DEVELOPMENT ECONOMICS

In 2004 the lecturer who presented the elective module Development Economics in the course work Masters Degree in Urban and Regional Planning moved away to Pretoria. She was an outside guest lecturer and not part of the University of the Free State staff component and employed at the Development Bank of South Africa. She was also not a town and

regional planner. The Department of Economics at the University of the Free State was reluctant to design a special module for a small number of students and preferred that our students fall into their existing programmes. Our elective modules were focussed on the provision of a background of certain topics, development and development economics in this case, and the major part of the modules was to understand it from a town and regional planning perspective. Furthermore, the majority of our students visited the campus for two block weeks per semester and could thus not be integrated into an exiting program at the Department of Economics.

As I was already presenting the module Economics and Entrepreneurship for Planners, a compulsory module in the structured masters degree programme in Urban and Regional Planning, I was requested to present this module as well in 2005. I restructured the module completely to fit in with the competancies of urban and regional planners, as decided at the drafting of the Bloemfontein Competencies. The Bloemfontein Competencies was drafted during a session in 2000 by all the town and regional planning schools to guide planning education with the aim of preparing students to register as professional planners (Harrison, Todes & Watson, 2008:201). Furthermore, I matched it with my experience working in developmental projects in Limpopo province of South Africa and Mozambique.

The outcomes of the module were that students should be able, after the successful completion of the module, to:

- Understand the relationship between national, regional and local development planning and control, to evaluate how philosophical and theoretical values influence it.
- Convey concepts, ideas, theories; communicate effectively with individuals, audiences, providng information for use by other desciplines as an individual or as a team leader.

The outcomes are very low on the skills levels as per Blooms Taxonomy (as amended by Krathwohl, 2002), but various elective modules are presented to create an understanding thereof, which students should use to base their plans and proposals on in the more practical modules like Regional Planning Project, as well as their decisions as town and regional planner in their work environment. Thus, many of the aspects of development economics are touched apon and not studied in depth. Students who took this module were students that either worked in rural development, for non-profit organisations, premier's offices or in local government in rural areas.

As the module was an elective, student numbers were not predictable or standard and in 2006 no students registered for the module.

In 2011 only two students took the module and they registered late, and most of the module ended up being self study as they were also block week students and they missed the classes of the first block session where the lectures, discussions and practicals took place.

In 2012, after major restructuring of the courses presented by the Department of Urban and Regional Planning, the module was absorbed into the Honnours in Spatial Planning module Economics and Entrepreneurship for Planners, also presented by myself.

Only the years 2005 – 2010 will thus be covered in this chapter.

6.3. THEMES

In order to prepare the Town and Regional Planning students fully for a career, where they would make decisions within the context of development and with regard to foreign aid, including foreign direct investment; various themes were presented to the students as part of the teaching and learning curriculum in the module from 2005 – 2011.

The structuring of the themes in the module in the various years it was presented is shown in Table 6.1.

Table 6.1: Themes presented in the Development Economics module

Themes	2005	2007	2008	2009	2010
Introduction to development economics	x	x	x	x	x
Theories of economic development	x	x	x	x	x
Profile and characteristics of developing countries		x	x		
Development economics' place in international economics	x	x	x		
The dept crisis	x	x	x		
International trade and developing countries	x				
Planning for development economics	x				
Subsistence farming in developing countries				x	x
Cost-benefit analysis of development aid				x	x
The worldwide recession and development economics				x	
The impact of welfare grants					x
Meaning and measurement of economic development	x				
Case studies	x	x	x	x	x

 Source: Drafted from study guides for the Development Economics module, 2005, 2006-2010

The themes that were presented in every year were "Introduction to development economics", "Theories of economic development" and "Case Studies".

For the themes "Introduction to development economics", "Development economics' place in international economics" and "The debt crisis" sections from the books by Nafzinger (1990) and by Ghatak (1995) was used as basis in 2005, 2007 and 2008. These are old resources, but the University of the Free State had a very limited collection of development economics books, which discussed the topic in a simplified and understandable level for town and regional planning students. The other available books were elaborate, technical and cumbersome. In 2007 and 2008 these sections were also broken down into separate lectures dealing with "Profile and characteristics of developing countries" and the "Meaning and measurement of economic development".

In 2005 and 2007 I mostly used the *PowerPoint* based formal lecture method of teaching. However, given the dynamic of our students being mostly part-time and block-week students, they struggled to listen and concentrate with the 10 hour class days they had or the part-time lectures after a full work day.

In 2005 and 2007 I ran a live-action role playing scenario simulation game after all the material and themes were covered. I divided the students into two groups, each a 'planning firm' hired by a group to represent their case at a tribunal. One group was pro-development and the other anti-development. I gave them a scenario where part of a community wanted to get development aid, but the other section of the community did not. The students had to use the material, their research, their assignments and class discussions to present their cases, as if it were a real tribunal. Although it was very successful, I felt that more discussion and analysis of each theme and issue should be integrated into the simulation.

When I reflected about my teaching on these themes, I came to the conclusion that the live-action role playing scenario simulation game might be too fast-paced and, as I was using the method in other modules, students might tire of it.

I was also already using PC gaming platforms and games like *Third World Farmer* and *Civilization* in other modules and they were very time-consuming and thus not applicable. I thus had to look further for a suitable gaming platform.

My lecturing in this module has enabled me to identify several issues in development and development economics, which can be either negative

or positive, sometimes given the same issue, depending on how it is applied and planned for.

From my working experience I have realised that town and regional planners should understand that their decisions are not merely limited to land use control or deciding on suitable local economic development projects, but also that their land use decisions, limiting subsistence farming or home based businesses, could affect foreign aid or foreign direct investment for a construction project or social grants or a feeding program and that could have adverse effects on that community. Therefore, these issues should be identified and understood by town and regional planners.

6.4. ISSUES IN DEVELOPMENT AND DEVELOPMENT ECONOMICS

The core issues that emerged from Nafzinger (1990) and Ghatak (1995) were essentially identifying the various costs and benefits of development, especially certain aspects of development aid and relating that to foreign aid and investment. Issues that emerged are indicated in Table 6.2, along with their positive (benefit) or negative (cost) classification.

Table 6.2: Costs and benefits of development

Issue	Benefits	Costs
Tourism	Jobs	Loss of culture
	Income	International ownership
	Conservation	Cost of tourism
Education	Development	Social disorder
	Freedom	Migration
	Income	Consumerism
Indigenous Knowledge	Income	International Intellectual Property rights
	SMME's[16]	International ownership
	Jobs	Labour and environmental abuse
Health	Longevity	Strike of staff
	Vitality	HIV/AIDS
	Social Wellbeing	Epidemic/Pandemic
Politics	Democrasy	Military Coup
	International relations	Dictatorship
	Freedom	Civil war
Agricultural investment	Food	Genetically Manipulated seeds
	Income	Loss of jungle
	Jobs	Land dispute
FDI[17]	Jobs	Loss of power
	Income	Loss of local entrepreneurship
	Entrepreneurship	Labour and environmental abuse

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[16] Small Medium and Micro Enterprises
[17] Foreign Direct Investment

Dam	Irrigation	Debt
	Uranization	People displacement
	Tourism	Ecological disruption
People	Development	Xenophobia
	Indigenous Knowledge	Migration
	Culture	Social disorder
Rainfall	Good crops	Floods
	Full rivers	Mud slides
	Healty animals	Crop rot
International Aid	Food	Debt
	Infrastructure	Conditions
	Jobs	Control

Source: Own table

I realized that these issues created a suitable backdrop for a board game based educational simulation game in urban and regional planning education.

6.5. BOARD GAME

I decided in 2008 to take these issues as stipulated in table 6.2 as the foundation for the design of a simple board game. The board game is based on a single board where a winding path is followed by the student's token from start to finish. The path also consists of a number of circles. I used simple blue thin card board and drew the connected and winding circles on it using a glass as a stencil. It was an experiment to see if the format would be applicable as a teaching and learning aid.

The issues, having either a negative (cost) or positive (benefit) impact, as indicated in Table 6.2, was converted to impact cards that were shuffled and placed face down on the board. The benefit cards were yellow and the cost cards were red.

When it was a student's turn, the student had to roll two dice. The blue die was used to determine the number of circles a student may move forward, if they drew a positive impact card. The red die determined the action regarding the impact cards.

In 2008 I made the students who drew cost cards stay on their circle, without moving further. However, in 2009 the students had to move backward when the impact card was a cost card, the amount of circles corresponding with the number on the die. Unfortunately, that made the students very negative, with a student stating that: "*Playing this game was such a bad experience for me being the loser in all times I tried*" (Student 5 OEB Reflective Analysis, 2009), as she played the game twice but ended up back at the Start both times, by predominantly drawing cost

cards, both times. In 2010 the game was again played by students who then had to leave their icon in the circle it was on, when the cast card was drawn.

Dice were used to facilitate probalistic thinking (Sharma, 2012:63) and patterns to accommodate uncertainties. This represented the issue of randomness, or chance. It characterized that element that is unpridictable and undefinable. Furthermore, it also simplified the game.

Each impact was also given an amount, it being $50, $100 or $500. I cast a D6 die to identify what amount should be allocated to which impact. Furthermore, as I used *Star Wars Monopoly* money for the game, thus I was limited to its assigned notes.

Each student was given a fixed amount of money at the beginning of the game, be that representative of the annual budget of a country or community. With each time a card was drawn by a student, the student also had to either "Get" or "Pay" said amount on the card as stated. There was a central "Bank", which I managed. This represented the cost and income (benefit) associated with the given impact. Table 6.3 indicates the Issues, its impact and associated cost.

Table 6.3: Costs and benefits of development and dollar allocation

Issue	Positive	Get	Negative	Pay
Tourism	Jobs	$100	Loss of culture	$100
	Income	$1000	International ownership	$500
	Conservation	$500	Cost of tourism	$1000
Education	Development	$500	Social disorder	$100
	Freedom	$100	Migration	$1000
	Income	$1000	Consumerism	$500
Indigenous Knowledge	Income	$1000	International Intellectual Property rights	$1000
	SMME's[18]	$500	International ownership	$500
	Jobs	$100	Labour and environmental abuse	$100
Health	Longevity	$100	Strike of staff	$100
	Vitality	$1000	HIV/AIDS	$1000
	Social Wellbeing	$500	Epidemic/Pandemic	$500
Politics	Democrasy	$100	Military Coup	$500
	International relations	$1000	Dictatorship	$100
	Freedom	$500	Civil war	$1000
Agricultural investment	Food	$500	Genetically Manipulated seeds	$500
	Income	$1000	Loss of jungle	$1000

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[18] Small Medium and Micro Enterprises

	Jobs	$100	Land dispute	$100
FDI[19]	Jobs	$100	Loss of power	$100
	Income	$1000	Loss of local entrepreneurship	$500
	Entrepreneurship	$500	Labour and environmental abuse	$1000
Dam	Irrigation	$1000	Debt	$1000
	Uranization	$100	People displacement	$100
	Tourism	$500	Ecological disruption	$500
People	Development	$500	Xenophobia	$500
	Indigenous Knowledge	$1000	Migration	$100
	Culture	$100	Social disorder	$1000
Rainfall	Good crops	$500	Floods	$1000
	Full rivers	$1000	Mud slides	$500
	Healy animals	$100	Crop rot	$100
International Aid	Food	$100	Debt	$1000
	Infrastructure	$1000	Conditions	$100
	Jobs	$500	Control	$500

Source: Own table

In order to speed up the game, the impact card contained the issue and all three impacts and the amount ascribed to it. The students rolled the red die to determine what the impact was and what amount they must pay or get. Table 6.4 indicates the number on the die and the amount it corresponds to, along with its impact.

Table 6.4. Number on die and its effect

Number	Impact	Amount
1	Negative	Pay $100
2	Positive	Get $100
3	Negative	Pay $500
4	Positive	Get $500
5	Negative	Pay $1000
6	Positive	Get $1000

Source: Own table

The students were able to experience development from two perspectives, with the one being the cost and income (benefit) implications it has, viewing development as a fixed point in time. The other perspective was the ability to move forward to the "Finish", representing development as process, thus represented as a staggered path from underdeveloped to being developed. Both perspecives are linked and the students experienced this through playing the game. Development aid, as

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[19] Foreign Direct Investment

donation, loan or foreign direct investment, was particularly emphasised and explored as part of the process of and point in development.

The game was played by all the students within two hours during the block week visit, where each time an impact card was drawn there was a discussion of said impact on the specified issue and relating that to its costed amount.

The student who won the game was the student who finished first, with either nothing or some money left. When a student lost all their money by paying it all to the "Bank", the student had to remove their icon as they were no longer in the 'race' to a developed state. This represented the fate of not only developing countries and communities, but even developed countries like Spain, France and Portugal, which we are seeing now. The fate is that it is impossible to develop fully and sustainably, if you are too indebted as a community or country and thus the student was out of the game and hence lost the game. This is especially the case where development aid is in the form of loans that have to be repaid. Also, the students who were unable to move forward, but getting predominantly cost cards, even if they were plagued by minor negative impacts of issues and thus did not lose their money, lost the game. This represented that in many developing countries, their mere location and background made them vulnerable and they struggled to advance in development.

In 2008 the board game was run at the end of the semester to enable students to see a completed picture of their studies in the module by playing the game and discussing the various issues. After the game was played, students expressed appreciation thereof, as it created a holistic view of the issues regarding development, specifically development aid, and the costs and benefits associated with it. They enjoyed the interactive nature of the game and also stated that they learned a lot by playing the game and discussing the impacts of the various issues.

Due to its success, I decided to use the game again in 2009 and then again in 2010. In 2009 and 2010 the students had to play the board game in class, then do independent research and write their research up, linked to their game play experience, as an assignment. During both years the assignment contributed to 20% of the students' final mark, as it was a continual evaluation module, with no examination. It was grouped under the theme cost-benefit analysis of development aid. No material was given to the students to study, they had to play the game, while taking notes, go home and do their own research regarding the topic.

Figure 6.1 is a collage of photographs that were taken during the game play on 11 November 2009.

Figure 6.1: Playing the game in 2009

Source: Barclay, 2009

6.6 STUDENT REFLECTION

Upon realisation that the board game that was designed and run in 2008 had been successful, and the fact that I decided to use the board game again in 2009 and also in 2010, I realized I needed formal feedback from students. Therefore, in order to find out what students learned and appreciated about the use of the board game format to combine and illustrate the dynamic aspects of development, development economics and development aid, I drafted reflective questions regarding the board game for the students. The students were graded on the depth of their replies in the questionnaires and thus 100% submission rate was achieved in 2009 and 2010.

Table 6.5 indicates the student profile of the students that completed the reflective questionnaires in 2009 and 2010.

Table 6.5: Student profile

		2009	2010	Total
Amount of students (respondents)		5	5	10
Gender	Females	40%	80%	60%
	Males	60%	20%	40%
Home Language	English	40%	40%	40%
	SeSotho	0%	60%	30%
	Afrikaans	40%	0%	20%
	Herero	20%	0%	10%
Age	22 - 25	0%	20%	10%
	25 - 30	20%	40%	30%
	31 - 35	20%	40%	30%
	36 - 40	60%	0%	30%
Occupation	Town and Regional Planner & related	80%	100%	90%
	Other	20%	20%	20%
Urban or rural	City	100%	4%	90%
	Rural / Small town	0%	20%	10%
Home	Free State	20%	40%	30%
	Namibia	40%	0%	20%
	Western Cape	40%	0%	20%
	Lesotho	0%	40%	20%
	Eastern Cape	0%	20%	10%

Source: OEB Student Reflective Analysis 2009, OEB Student Reflective Analysis 2010

The predominant students were thus English, female, between 25 and 40, from a city, from the Free State and held positions as town and regional planners or in related fields, like development planner. Table 6.6 will provide a numeric representation of the data, indicating the amount of time a specific statement was mentioned by the students.

Table 6.6: Students' reflection after playing the game

		2009	2010	Total
Learn about costs and benefits of development in developing countries by playing the game	Every action and developmental attributes can be both negative and positive.	3	4	7
	Success depends on strategic decisions of government and implementation thereof.	4	2	6
	FDI[20], IMF[21] and aid rip off developing countries and cause a cycle of debt and dependency.	2	4	6
	Corruption and greed have negative developmental effects.	1	1	2
	Developing countries must learn to be resilient and self-sustainable.	0	2	2
How difficult to	No	5	1	6

[20] Foreign Direct Investment
[21] International Monetary Fund

get used to the board game environment – Motivate	Yes	0	0	0
	Understanding increased through game-play	0	4	4
	Made easy by lecturer through guidance before and during the game	1	0	1
	Instructions was clear and good	1	1	2
	Once rules was understood, it became easy	0	4	4
Opinion regarding the use of gaming exercise as teaching tool	Good	1	2	3
	Enjoyable	2	1	3
	Innovative and fresh, out of the box thinking	1	1	2
	Practical scenarios reflect reality	3	4	7
	Enhances student participation	1	2	3
	Enable understanding of the issues	0	4	4

Source: OEB Student Reflective Analysis 2009, OEB Student Reflective Analysis 2010

The predominant lesson the students learned through the game play was that every action and developmental attribute could be both negative and positive, which was the basis of the game mechanism. Furthermore, the students indicated that they learned that the success of development depends on strategic decisions of government and implementation thereof (OEB Student Reflective Analysis 2009, OEB Student Reflective Analysis 2010).

With specific regard to foreign aid students noted that they have learned that FDI[22], IMF[23] and aid rip off developing countries and causes a cycle of debt and dependency (OEB Student Reflective Analysis 2009, OEB Student Reflective Analysis 2010).

Some students also mentioned that corruption and greed have negative developmental effects (OEB Student Reflective Analysis 2009, OEB Student Reflective Analysis 2010).

It was emphasised that developing countries must learn to be resilient and self-sustainable (OEB Student Reflective Analysis 2009, OEB Student Reflective Analysis 2010).

In order to evaluate the difficulty of the game platform, students were asked how difficult it was to get used to and they all said it was either easy or it became easy through playing the game (OEB Student Reflective Analysis 2009, OEB Student Reflective Analysis 2010).

I also wanted to get student input regarding the use of gaming simulation in their teaching and learning experience in town and regional planning.

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[22] Foreign Direct Investment
[23] International Monetary Fund

It was primarily mentioned that it was practical and that the practical scenarios reflected reality. Students indicated that they were enabled to understand the themes and issues in development economics and foreign aid better by playing the game. The students also were enthusiastic about the fact that they could participate and engage and that further enabled understanding of the themes and issues. Then it was also enjoyable and they had fun playing the game (OEB Student Reflective Analysis 2009, OEB Student Reflective Analysis 2010).

6.7. CONCLUSION

Students' reflection on what they had learned by playing the game was that it was a practical scenario exercise that reflected reality. Students acknowledged that strategic decisions, especially regarding foreign aid, could lead to either negative costs or positive benefits and that communities should strive towards self-sufficiency.

Therefore, the board game, which is rather simplistic, was easy to design, but a worthy educational tool in town and regional planning.

CHAPTER 7:
HOW APPLICABLE I FOUND GAMING SIMULATION IN TEACHING AND LEARNING IN URBAN AND REGIONAL PLANNING

Self-education is, I firmly believe, the only kind of education there is.
— Isaac Asimov
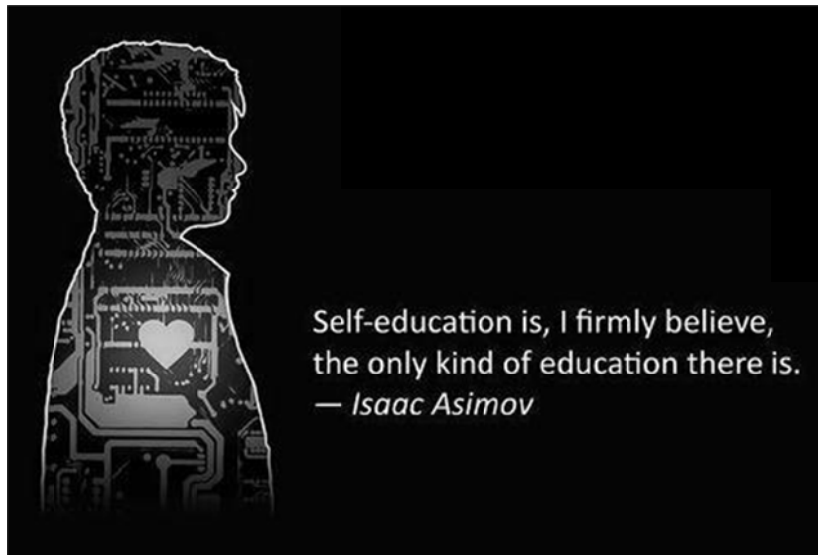
7.1. INTRODUCTION

This chapter is based on a personal action enquiry case study of testing and applying various forms of gaming simulation by me in Town and Regional Planning at the University of the Free State, between August 2002 and August 2012. I have explained the cycle of every enquiry in regard to each game that I designed and used in the previous chapters.

I will measure is the application of gaming simulation in line with the Bloemfontein Competencies, then I will determine the applicability in line with the pedagogical approach I used. I will use my experience as a gamer, my experience in the design, use and running of gaming simulations, and the literature that is available to identify and analyse the various gaming simulation formats and types and level of applicability to the Bloemfontein Competencies and my pedagogic approach.

7.2. FINDINGS

Throughout my 10 year case study, based in action enquiry as an action research method, I have reflected and redirected my application of gaming simulation in urban and regional planning. I have mostly lectured in regional and economic planning-linked modules and did not engage in

teaching of design or urban theory. Thus, my focus was mostly on the growth of regions, the economy of a region, tourism, development economics, regional planning, rural development, civilization development, and transportation. In the context of Southern Africa, I have found that gaming simulation meets the pedagogical requirements that are set by theory and demands of the market. It also meets the approval of the students and I will continue using it in my teaching and learning activities. I do hope that this thesis has inspired other town and regional planning lecturers to endeavour in gaming simulation as well.

The unique aspects of this study are that it is the first longitudinal action research case study in urban and regional planning in South Africa. It is also the first action research based case study that investigates the application of gaming simulation in South Africa from a reflection action research perspective. Furthermore, I have tested, reflected and designed numerous games that can be used by other lecturers. They can adopt and change the simulations and also then add to the knowledge base by also doing action research about their practice.

General findings are that role-playing games have the highest match for meeting the demands of the Bloemfontein Competencies and the pedagogic approach I have taken. It is diverse and because they were custom designed by myself one can ensure that all the requirements are met. Scenarios can be tested and mapped out and people skills developed simultaneously. The complexities of planning can be studied, experienced and creatively reflected on. This is why I have applied role-playing in so many of my modules as well.

Board and card games are more limited in meeting the demands of the Bloemfontein Competencies and pedagogic approach, as they do not enable many of the design-based and people-based skills to be developed. It is stagnant but has its limited uses, as in the case of the Development Cost-Benefit Analysis Board Game.

Computer and on-line games are somewhat limited, unless used as a component of a wider assignment and teaching and learning activity. They cannot be changed to match the realities and current needs of urban and regional planning, as they have copyright laws and external game designers. Perpetual growth is one of the biggest problems with many of the resource based games, and testing principles of New Urbanism are rather limited in *SimCity*. Furthermore, it is costly for students in Southern Africa as these games are expensive and unless you have uncapped Internet (which is slow), on-line games use up a lot of the students available Internet access. My experience is that students did not enjoy the computer games, with the exception of *Third World Farmer* which is easy to play. Most of our students are not gamers or technologically

advanced, even the young male white students, which would be considered gamers in other countries, have indicated that they are not gamers. The notional hours spent by students by first learning how to play the computer game before embarking on the actual assignment, could rather be spent on other assessment opportunities or learning outcomes.

Another question asked is, "Was a 10 – year case study necessary". I would say absolutely. For an Action Research study to be done properly, one needs multiple cycles. I have changed and experimented and even after five years, I would not have had the rich experience and knowledge that I have gained through reflection and analysis. The economy has fundamentally changed globally in 2008; the ripple-effect is still felt in South Africa where unemployment is an issue on all sectors of society. The weakness of the American dollar has pulled down the Rand as well. The gold price might be high, but labour strikes have a lot of companies considering closing down. These economic aspects had a pronounced effect in the student's view on globalisation and development. Europe, especially the European Union is on the verge of possible collapse and their economies are in dire situations. The countries, such as Germany, that used to send a lot of development aid to Africa, are now providing aid to countries in Europe. This is way I realised the gaming simulation and debriefing itself is not enough and a written research document should be tied in with the gaming simulation. Students may only use sources that are not older than 5 years in their literature analysis. This contextualises the gaming simulation within the contemporary global economy and local South African and Southern African economy and political climate. I have also realised that reflection and self-reflection is essential after the gaming simulation, debriefing and written assignment, as it allows the students to digest the information and then come up with creative solutions and they are more able to link it with reality then as well.

7.3. ANALYSIS OF MY GAMING SIMULATION TO MEET THE BLOEMFONTEIN COMPETENCIES

In this section I will measure the success of my gaming simulations against the Bloemfontein Competencies that stipulates with what knowledge as town and regional planning student must enter the job market.

7.3.1. Knowledge and understanding of moral and ethical dimensions of planning's role in the public domain, and the application thereof in practice

7.3.1.1. Orientation to social justice and equal opportunity

The Tourism Planning Tribunal Gaming Simulation enforced the idea that the community must have access to resources and the tourists and not be exploited.

The Globalization Summit Gaming Simulation enabled students to investigate social justice from a global and economic perspective and they found that the South is deprived of many of the opportunities to which the North has access. Issues such as gender, slavery, child labour and sexual orientation were also explored.

The Housing Estate Gaming Simulation enabled the students to make decisions as home-buyers and those with the most money chose exclusive living and avoided places close to informal trade and settlements, thus discarding the Access to the City notion. This was discussed and pointed out in the debriefing after the simulation.

The EPZ Gaming Simulation placed students in the position where they must negotiate and make decisions in regard to local companies, black economic empowerment and labour. They were faced with the difficult decisions made with profit in mind, but to the detriment of social justice.

The Development Cost-Benefit Board Game provided the students with the opportunity to experience the cost of exclusion of cultural groups and loss of culture, measured against the benefit of culture and social justice that are preserved as a country that does that gain from investment and trade.

Students that chose the computer game, *Grand Theft Auto*, were exposed to the darker sides of urban areas, with mob justice and set social injustice to women.

In the on-line game *Third World Farmer* students were exposed to the issues of overpopulation, urbanisation, child labour, growing of drugs, corrupt governments of the South and lack of education and health opportunities.

7.3.1.2. An appreciation of the diversity of cultures and views

In the Tourism Planning Tribunal Gaming Simulation students were tasked to evaluate the impact of the development on the local community. They could use it as a tourist attraction and cause a cultural renaissance or they could abuse it and cause cultural breakdown.

The Globalisation Summit Gaming Simulation had a lot of students that focused on the position of a unique culture and its relation to

globalisation, like people in the tropical rainforests, tribes in Namibia and so forth. The emphasis mostly fell on the negative effects of globalisation on the corrosion and corruption of culture.

The Housing Estate Gaming Simulation focuses on culture from a wealth and class perspective and the divide caused between the haves and have-nots. The EPZ Gaming Simulation did not have culture as an important element.

The Development Cost-Benefit Analysis Board Game also looked at culture as an asset to be exploited, or to be destroyed by the demands of donor countries and companies. An example that students discussed every year was the increase in funds and projects from China, but with the disregard to the local culture by them.

Computer games that have a cultural element such as *Civilization* where the spread of culture is a positive element and where cultural products such as libraries, museums and so forth add to the happiness of the local population and that boost productivity and creativity.

7.3.1.3. A people-centred approach

The Tourism Planning Tribunal Gaming Simulation ensured that needs of the individual tourist, as well as community members, be taken into account when planning takes place. Students realised that if the needs of individuals are not met, the destination will suffer.

The main aim of the Globalisation Summit Gaming Simulation is to enable the students to step into the shoes of various people and view globalisation and the effects thereof from their perspective.

In the Housing Estate Gaming Simulation students made decisions as characters that ended up being more selfish than people-centred from a home buyer perspective. Issues regarding pro-poor housing policies and 'rights to the city' were discussed. Also, students had to consider whether their planning should address the abovementioned issues or be line with the needs of the tax payers.

The EPZ Gaming Simulation also had students making decisions that were not in the interest of the community at large. They decided to not use local labour and resources and ignore the black economic empowerment policies. They made the decision from a profitability perspective. This was analysed in the debriefing session.

The Development Cost-Benefit Analysis Board Game made students aware of the negative impacts that development aid and debt might have on the community and people therein.

In the On-line game *Third World Farmer* students became aware of the plight of the one family they were representing in the simulation. Issues like health, child labour, lack of schooling and political matters and the impact thereof on the individual in subsistence farming communities were highlighted.

Games like *Civilization's* urban development and productivity are linked to happiness amongst the population. Thus food, health and entertainment must be provided.

7.3.1.4. Promotion of efficiency in resource use

The focus on the Tourism Planning Tribunal Gaming Simulation was to enable students to minimise the negative impact on resources, be that human or environmental, with mitigation strategies.

In the Globalisation Summit Gaming Simulation students often took on the role of an environmentalist and highlighted the damaging effects of consumerism on global resources.

The Housing Estate Gaming Simulation illustrated to students that the rich will prefer housing estates outside the urban edge and urban sprawl needs to be contained otherwise the environment will be lost to urban development.

The EPZ Gaming Simulation led students to rather use carbon heavy energy resources, due to the cost of clean energy. Thus, legislation from planning is again necessary to ensure environmental protection.

The Development Cost-Benefit Analysis Board Game focused on resources from an environmental and human perspective and students were exposed to the potential benefit of pristine environment, aligned with the potential damage of development on the resources of a community and country.

In *Third-World Farmer*, the on-line game, students were exposed to the family they managed in the game dying of hunger due to environmental disasters and incorrect farming procedures.

Unfortunately the game design of *Civilization* supports sustained growth rather than sustainable growth; however there are clean energies as options to choose that benefit the health of the community.

7.3.1.5. An orientation towards sustainable development

Sustainable development was the core principle of The Tourism Planning Tribunal Gaming Simulation, as if it does not take place, the very destination that the tourism is built on, will be destroyed.

The majority of students promoted the idea of sustainable development from their characters' perspective in the Globalisation Summit Gaming Simulation.

The Housing Estate Gaming Simulation emphasised the importance of planning legislation to ensure and enforce sustainable development, because the market tends to focus on sustained growth, rather than sustainable development.

The EPZ Gaming Simulation also emphasised the notion that sustainable development is essential, but it will only take place if strict planning legislation is enforced. Again the market tends to choose to act in its own interest to ensure profit.

In the Development Cost-Benefit Analysis Board Game students were faced with the cost of environmental disaster and damage on account of development. Again, planning legislation must be enforced to ensure sustainable development in the South.

As stated above, the game design of *Civilization* supports sustained growth and not sustainable growth; but the option of clean energies does benefit the health of the population.

7.3.1.6. Respect for professional ethics

The Tourism Planning Tribunal Gaming Simulation placed students in the position of professional planners representing either the developmental group or anti-developmental group. This gave them the opportunity to make unethical decisions and this was discussed in the debriefing session. The "client is always right" was contrasted with the role of the planner as custodian of the environment and local culture.

The professional ethics of planners did not directly emerge in the Globalisation Summit Gaming Simulation, but general moral and ethical issues of development and globalisation, did emerge. In the debriefing we discussed the reaction and responsibilities of planners in light of the global demands and unethical demands from clients.

The Housing Estate Gaming Simulation really challenged students on the question of where a planner's (in public or private sector) loyalties should lie. Should the community's larger needs 'rights to the city' and pro-poor development be the focus and thus mixed neighbourhoods that include housing for the poor be enforced? Or, should the demands of the rich for exclusive, aesthetic and safe communities be respected and the poor be isolated and withheld from opportunities? Is there a balance to be found in post-apartheid South Africa? That is the cause of much debate in regard to planning ethics. However, a solution eludes us, despite admirable attempts at New Urbanist developments, such as Newtown Johannesburg.

The EPZ Gaming Simulation also deeply challenges the students planning ethics as they make decisions from the perspective of corporations and discard the environment, local community and black economic empowerment in favour of cheap imported goods, foreign direct investment and carbon rich energy. Again, it challenges them to question existing planning legislation and whether the focus should be shifted. The more strictly enforced, the greater the loss of business to other countries and regions and the less strict, the more the abuse of the local population and environment. Again, in Southern Africa, within the globalised world context, the perfect balance and comfortable ethics are lacking.

The Development Cost-Benefit Analysis Board Game also challenge students' ideas about the benefit of aid and debt and the bigger demands that it makes on the community and environment. So, what should the planner decide? Create economic development at the cost of debt to future generations? Is ethics a long term responsibility or short term goal to feed starving children and get politicians re-elected?

Third World Farmer does challenge the control-focussed planner by asking whether compelling subsistence farmers to formalise and commercialise is such a good idea. The notion is put forward that planners should rather create an enabling environment for substance farming to thrive, within the context of the Slow Movement, Intermediate Technologies or Primitivist Anarchism.

7.3.2. Demonstration of a sound theoretical and contextual knowledge, and ability to apply this in action

7.3.2.1. The nature, purpose and methods of planning

The Tourism Planning Tribunal Gaming Simulation focused on tourism planning specifically and on the methods of how it must be aimed at minimising the negative impact on the economic, socio-cultural and physical aspects of a destination; while maximising the positive impacts.

This can have broader application for the student in other planning projects as well.

Globalisation Summit Gaming Simulation did not address this issue directly.

The Housing Estate Gaming Simulation placed students in a scenario where they could choose four different Housing Estates to live in and thus experience normative goals and policies, like the Urban Edge, and its impact on the population.

The EPZ Gaming Simulation questions the validity of industrial areas where legislation is relaxed, which is becoming a favoured policy of planning to draw investment in the global South.

The Development Cost-Benefit Analysis Board Game challenges the purpose and nature of planning and how this is influenced by developmental issues.

Third World Farmer does invoke debate about the placement of schools and clinics. Furthermore, the development in line with the Spatial Development Framework of a municipality is tested in line with the right to survival by local people.

7.3.2.2. *The histories, philosophies and theories of planning and of development*

The students analysed various tourism developmental theories, which they applied in the Tourism Planning Tribunal Gaming Simulation to strengthen their case.

Students did take on character's roles in the Globalisation Summit Gaming Simulation that have been impacted by development, be that apartheid planning or colonial development.

The Housing Estate Gaming Simulation analysed the heritage of apartheid planning and how planners can now integrate development, while mitigating urbanisation's challenges and minimising urban sprawl; given the heritage of separate development.

The Development Cost-Benefit Analysis Board Game focused on the effects of certain elements like debt and the colonial heritage of development in the South.

Computer games like *Civilization* provides students with the evolutionary path of development and marginalised areas and settlements that have

been ravished by war, struggles to develop as extensively as the well located settlements where sensible development was fostered.

7.3.2.3. The theories relating to the natural, social, economic, developmental and political environment

In the Tourism Planning Tribunal Gaming Simulation students had to base their planning proposals on the various theories specific to the impacts on the natural, social, economic, developmental and political environment.

In the debriefing of the Globalisation Summit Gaming Simulation we discussed the theories responsible for and relating to, any of the issues pertaining to the natural, social, economic, developmental and political environment.

Holistic development does play a big part in the challenges provided by the Housing Estate Gaming Simulation where students have to make decisions that challenge the premise thereof from a practical perspective. Can a balance really be possible?

In the EPZ Gaming Simulation students have to make decisions within a given economic, environmental, socio-cultural and political context and find a way to balance the needs of every aspect, with a holistic paradigm.

The Development Cost-Benefit Analysis Board Game dissects the various theories and questions the validity of each, within the contexts of the positive and negative ripple-effect it causes.

In a computer game such as *Civilization* the decisions of the student, within a given environmental, political and social paradigm, have an indirect link to the theory it is based on and this theory is explored in the written assignment by the students.

7.3.2.4. The theories and principles relating to the design of urban environments

The Tourism Planning Tribunal Gaming Simulation did not focus on the urban environment, but on a rural setting.

The most prominent issues related to the design of urban environments, dealt with transportation issues in the Globalisation Summit Gaming Simulation, especially connected to global warming, or disproving carbon's role in global warming.

The Housing Estate Gaming Simulation questioned the validity and effectiveness of the Urban Edge and design theories like Smart Growth

and New Urbanism. These theories must be adapted and enforced to ensure sensible, sustainable and integrative development.

During the EPZ Gaming Simulation students started to question the established design concept of Industrial Development Zones and Export Processing Zones. They debated the associated principles in the debriefing session and scenarios were discussed, if alternative theories were applied.

The Development Cost-Benefit Analysis Board Game focused on micro issues like erosion, social isolation and so forth that are related to design, and the theories that inform it. It gave students the ability to understand that not only a grand theory must be considered, but also the smallest effect its application might have.

The games the students played did not focus on urban design.

7.3.2.5. The theories relating to urban, metropolitan, rural and regional development, and to these contexts and processes

The Tourism Planning Tribunal Gaming Simulation enables students to apply the information they gathered in the theory of regional planning, in the context of a rural project with regional developmental impact.

Urbanisation was highlighted from various perspectives in the Globalisation Summit Gaming Simulation, linked to rural poverty and regional development and innovation.

Urbanisation and rural-urban linkage was at the core of the Housing Estate Gaming Simulation.

Regional development, and its promotion of industrial development, was the focus of the EPZ Gaming Simulation.

The Development Cost-Benefit Analysis Board Game focus on the costs of issues like debt and foreign direct investment, which could be part of regional policy.

Third World Farmer, the on-line game, provides a glimpse in of the hardships of isolated communities. The computer game *Civilization* tests various practices, but again it is flawed on account of the game design that encourages perpetual growth.

7.3.2.6. The South African context and its particular challenges

The Tourism Planning Tribunal Gaming Simulation is set in a uniquely South African environment, where tribal culture is set in an animal-rich setting, which is to be exploited for tourism purposes.

Many students focussed on characters from South Africa and their view of globalisation in the Globalisation Summit Gaming Simulation, either from a positive or negative perspective. The finance minister, president, government officials, environmentalists and tribal leaders were represented to highlight South Africa's unique position in regard to global issues.

The Housing Estate Gaming Simulation is designed within a paradigm of the unique South African urban and metropolitan context. Some of the chance cards that were drawn by the students address informal settlements, a right-wing militia farm, informal trade and military establishment. Regardless of the students' background and personal philosophy, as a character they tried to stay as far away from those areas as possible. The apartheid planning of segregated development was integrated as a challenge in the game.

The EPZ Gaming Simulation addresses pertinent issues including black economic empowerment, labour demands and environmental legislation, that does make South Africa a less desirable investment opportunity, from a foreign investment perspective.

The Development Cost-Benefit Analysis Board Game addresses issues that are unique to the South and to South Africa, like indigenous knowledge and sub-tropical environments, both from a cost and benefit perspective.

The on-line game *Third World Farmer*, might as well be called South African Subsistence Farmer, as it deals with applicable challenges. With the possible exception of hosting of a guerrilla training camp or planting of poppy seeds (yet, however cannabis cultivation is common), but the drought, environmental disasters, lack of education and health care, are issues that face planners and communities in South Africa.

7.3.2.7. An application of these theories to the design, management and implementation of planning interventions to bring about positive change and societal benefits within human settlements

The core of the Tourism Planning Tribunal Gaming Simulation is the creation of an enabling environment for the local village to benefit from tourism.

Various applicable issues, related to the relevant theories, linked to human settlement and planning, were discussed in line with the presentations in the Globalisation Summit Gaming Simulation during the debriefing and the role of the planner to optimise opportunities while mitigating negative aspects were discussed.

The Housing Estate Gaming Simulation enables students to make decisions that are contrary to what is demanded by planning policy and subsequently question how these planning policies should be implemented and who they should benefit.

The EPZ Gaming Simulation led students to question the planning interventions in industrial development and also question who really benefits.

The Development Cost-Benefit Analysis Board Game allows analysis of the effects of planning decisions on a micro level and the costs and benefits linked to those decisions.

The computer game *Civilization* enables planners to view the cause and effects of planning decisions.

7.3.3. Linking knowledge to spatial plans and policies

7.3.3.1. Collect, analyse and organize information to determine planning processes

The Tourism Planning Tribunal Gaming Simulation provided students with the opportunity to analyse the given information of the proposed development, and then align that with suitable planning processes to minimise the negative impact, while maximising the positive impact.

The aim of the Globalisation Summit Gaming Simulation was to enable students to learn how to collect and analyse information relating to globalisation and then through the debriefing and assignments, link it to planning.

In the Housing Estates Gaming Simulation and the EPZ Gaming Simulation students were provided with learning material at some times and other times they had to find it themselves. The assignments then had to align their experience in the gaming simulation with the information, to enable them to have a better understanding of planning processes.

The Development Cost-Benefit Analysis Board Game provided students with a glimpse of the potential negative aspects of both negative and

positive aspects of development. This they should apply in analysis and evaluation in the planning processes.

Third World Farmer, the on-line game, provided students with an opportunity to witness the importance of obtaining full detail of a rural area before planning is done.

7.3.3.2. Use of technologies to assist these processes

Students used 'PowerPoint' and CAD, GIS, and some architectural drawing programmes to illustrate their proposals in the Tourism Planning Tribunal Gaming Simulation.

Design technology did not play a part in the Globalisation Summit Gaming Simulation. I did however caution against seeing GIS as a panacea for development, especially if a great deal of a municipality's budget is spent on it. Focus should rather be on local economic development or the provision of local services, then technology, if finances are an issue. As I always tell students, they should get out of their offices and walk in the communities they are responsible for. Statistics and technology cannot give you nearly as well a picture of who you are responsible for then walking, talking and observing. A good town and regional planner knows every site in their area (if it is a local municipality) and does not need expensive statistics and GIS to tell them what it looks like. Then they need not role-play researched characters as they will know the community and see what the effects of globalisation are on them.

In the Housing Estate Gaming Simulation, the EPZ Gaming Simulation and the Development Cost-Benefit Analysis Board Game technology did not play a role.

The *Third-World Farmer* gave students the opportunity to learn about the lay-out in rural areas and how farming and planning decisions coincide.

Computer games like *Civilization*, *Anno* and *Empire Earth* visually and electronically present the decisions students make and the processes involved.

7.3.3.3. Application of appropriate knowledge pertaining to political, policy and institutional contexts, and of planning legislation and procedures

Due to the presence of international students, I tend not to focus on South African legislation, but the students did apply their proposals within the Tourism Planning Tribunal Gaming Simulation to fit into South African

planning policies like the Integrated Development Programme (IDP), Spatial Development Framework (SDF) and White Paper for Tourism.

The students that role-played government officials did mention legislation and procedures, but it was not the focus of the Globalisation Summit Simulation.

The debriefing of the Housing Estate Gaming Simulation led to discussions where the various countries' and province's legislation and policies concerning urban sprawl were discussed and analysed. Particularly in regard to how they can be applied in the drafting of the Spatial Development Framework.

The debriefing of the EPZ Gaming Simulation allowed students to discuss their countries' and province's views on the establishment of industrial spaces and how these link to spatial planning and policies and theories.

The Development Cost-Benefit Analysis Board Game examined the effects that spatial decisions, policies and legislation will have on the people and the environment, from a positive and negative perspective.

The *Third World Farmer* On-line game gives students the opportunity to view the lives of rural subsistence farming. Issues of linking urban and rural areas and development and rural areas were discussed in the assignments linked to the gaming simulation exercise.

Students had to play a resource-based computer game of their choice and then analyse the game from a planning perspective. The playing of games like *Civilization*, *Anno* and *Empire Earth* was discussed by each student in light of their municipal and country's legislation and policies concerning spatial development.

7.3.3.4. Prepare plans and formulate policies with spatial orientation at different scales

The students used the baseline proposed development in the Tourism Planning Tribunal Gaming Simulation and created mitigation policies and plans to manage the impact of the development on the site and within the immediate region.

Planning policies and frameworks were dealt with in the Globalisation Summit Gaming Simulation indirectly in the discussions of the role of transportation corridors in linking for example South Africa with Mozambique and Namibia with Angola.

The Housing Estate Gaming Simulation provided a view of planning on different scales, starting with regional planning and the urbanisation and New Regionalist policies. Then it looked at urban policies linked thereto like Smart Growth and finally it focussed on the housing estate level with the integration of New Urbanism principles. These policies were analysed in line with their effect and linkages.

The EPZ Gaming Simulation investigated how globalisation influences regional economic and policy decisions, as determined by national legislation (like black economic empowerment) and how that impacts spatial planning.

The Development Cost-Benefit Analysis Board Game explored the linkage between spatial plans and policies and how they impact the country, regional and community positively and negatively.

The computer games chosen by students had to link regional development spatially to infrastructure and settlement development, as well as resource use and trade.

7.3.3.5. Undertake planning with due appreciation of aesthetic dimensions, and with sensitivity to the links between human settlement and the natural environment

The Tourism Planning Tribunal Gaming Simulation expected students to ensure that the development fits into the landscape from an aesthetic perspective, and respect the features of the local village and develop the tourist lodge with respect to the natural environment.

In the Globalisation Summit Gaming Simulation many students took on the characters of environmentalists and architects and they all lobbied for development to fit within the environment within which the development takes place.

The Housing Estate Gaming Simulation linked the needs of the rich for an aesthetic environment and the willingness to pay for it when seeking housing. Then the issues of keeping the environment pristine were contrasted with the ills of urban sprawl. Pollution and informal activities of the poor were seen as something to be avoided by the students in their decision to purchase housing. This issue was discussed from a spatial planning perspective, yet there is no golden rule or blueprint to solve this contrasting situation in the Southern African landscape.

The EPZ Gaming Simulation required the students to make decisions contrary to aesthetics or environmental integrity, as the aim of business is profit. This was set against the backdrop of global pressures for cheap

goods. In the debriefing the balance between the environment and profit was discussed, again there was no clear answer.

The Development Cost-Benefit Analysis Board Game investigated how spatial development damages the environment and the cost thereof.

In *Third World Farmer* students ended up exploiting land to farm, even if the ground needed rest. Furthermore, chemical dumping was allowed on the farm as money was needed. Aesthetics played no part as survival was the only focus.

7.3.3.6. *Interpret and apply plans to on-going decision-making and problem-solving*

The Tourism Planning Tribunal Gaming Simulation was a scenario of a situation that occurs in most tourist destinations in South Africa. Students had to adapt the proposed plans to ensure mitigation of the negative impacts of tourism.

The link between the planners' plans and impact on the community by globalisation, was discussed as a key theme in the Globalisation Summit Gaming Simulation, where issues like mixed zoning and adherence to the Spatial Development Framework were analysed from a mitigation and scenario planning perspective.

The Housing Estate Gaming Simulation and EPZ Gaming Simulation provided students with a glimpse of possible scenarios and how planning should be applied to address the problems.

The Development Cost-Benefit Analysis Board Game enabled students to see the cause and effect of planning decisions from a cost and benefit perspective.

Computer games, such as *Civilization*, starts in a historic setting and move into the future (unless your civilization gets destroyed) thus multiple game-play allowed students to test various scenarios to solve problems that was presented in the game.

7.3.3.7. *Application of knowledge to the implementation of plans and to land management and development processes*

The Tourism Planning Tribunal Gaming Simulation expected students to apply their cumulative knowledge to manage the proposed tourist lodge development.

Globalisation Summit Gaming Simulation informed certain issues; like the fact that factories can move in an instant and that sparked the debate of how strict should our land management legislation and plans really be in industrial areas.

The Housing Estate Gaming Simulation and EPZ Gaming Simulation provided full opportunity for students to discuss and experience planning decisions regarding land management from a stakeholder perspective. The multitude of stakeholders and their opposing needs are very important for planners to keep in mind when planning, especially within a collaborative planning paradigm. However, the activist planner might make other decisions than a more conservative planner, depending on whose campaign the activist planner adopts.

The Development Cost-Benefit Analysis Board Game focused on the costs and benefits of planning decisions on various aspects of the environment, economy and society. These lessons surprised some students, but they realised how important holistic planning is.

7.3.4. Linking and synthesizing programmes and projects from various sectors and institutions within a framework of integrative development

7.3.4.1. An integrative understanding of development issues and processes

In the Tourism Planning Tribunal Gaming Simulation students had to fit the development within the context of the region and country, and not to view development as a site-only process.

The core principle that underlined the Globalisation Summit Gaming Simulation is the fact that all development issues are integrated within the dimensions of globalisation.

The Housing Estate Gaming Simulation integrated rural-urban integration, New Regionalism, New Urbanism, Smart Growth, urbanisation and Urban Sprawl in one exercise to make sure students understand the inter-connectedness of these concepts and how one influences the other.

The Housing Estate Gaming Simulation integrated globalisation, industrial development theories, labour laws, resources and environmental issues in the exercise, to ensure understanding of the interrelatedness of these issues and how one links and influences the other.

The Development Cost-Benefit Analysis Board Game showed students how one single aspect like heavy rains can lead to a cascading effect that can

have an ultimate disruption of the developmental process in a community, region or country.

Third World Farmer, the on-line game, allowed students to understand how problems like drought in a rural area of a country can lead to urbanisation in nearby urban areas.

The computer games, such as *Civilization*, enables students to track their developmental decisions over time, and experience the integrated nature of development on a global and regional scale.

7.3.4.2. An understanding of the management requirements of integrative development processes

The students were able to suggest management systems in The Tourism Planning Tribunal Gaming Simulation to ensure the development stays on track.

Within the roles taken by students in the Globalisation Summit Gaming Simulation, the message was clear that development must be well managed and integrated to meet the demands of the modern connected world we live in.

The role of planners as enforcers in the Housing Estate Gaming Simulation came out clearly if the environment and pro-poor policies are to be respected.

The planner must also make very tough decisions based on the EPZ Gaming Simulation; however a balance must be found between the needs of the current and future generations.

Many of the negative effects illustrated in the Development Cost-Benefit Analysis Board Game, e.g. the loss of indigenous knowledge and environmental disasters, cannot be directly controlled by planners, however planners can still play a part in the management of development to minimise the cost and optimise the benefits.

The planners role in managing the integrated nature of development issues was exposed when students played the computer games and realised that one wrong decision regarding a road or the permitting of an industry, can create a ripple-effect that can either be beneficial or detrimental to development.

7.3.4.3. An ability to think creatively and synoptically

The Tourism Planning Tribunal Gaming Simulation forced the students to use the vast array of information on the impact of tourism and work out creative ways to mitigate the negative impact and also be creative in their presentation and defence of their ideas.

Students had to study globalisation and various stakeholders involved therein, choose a character to role-play in the Globalisation Summit Gaming Simulation and present their viewpoint from the vast data available. That required succinct and creative thinking.

The Housing Estate Gaming Simulation, EPZ Gaming Simulation and Development Cost-Benefit Analysis Board Game were linked to written assignments, or a test, where students had to reflect on their experiences and come up with creative solutions given their experience and research.

Creative problem-solving is at the heart of computer gaming, as you have to make a quick decision that cannot be undone.

7.3.4.4. An understanding of the legal, policy and institutional frameworks with which such planning and development occurs

The Tourism Planning Tribunal Gaming Simulation did not directly require students to adhere to a specific framework, but the students did themselves include the drafting of Environmental Impact Assessments, Cultural Impact Assessments and public participation. They also mentioned that all development should be in line with the local municipality's policies. It was mentioned on several occasions that the local community does not have title on tribal land, which hampers development in the village. I did challenge that notion in the debriefing, based on the respect for indigenous practices and knowledge.

In the case of the Globalisation Summit Gaming Simulation the emphasis was on international treaties and policies, dealing with trade barriers, the slave trade and child labour. The debriefing session involved linking these policies to planning practice.

The core of the Housing Estate Gaming Simulation and EPZ Gaming Simulation was to identify the need for planning legislation and policies to guide and optimise development in a specific area. Various levels of government have specific set duties and that was discussed in the debriefing.

The Development Cost-Benefit Analysis Board Game was also related to the fact that international, national, regional and municipal treatise and

legislative procedures must be followed and instituted to minimise the social and environmental cost of developmental issues.

Commercial computer gaming that the students played, did not have a specific legislative context. However, it was required from the student to put the various developmental issues in the correct framework and management infrastructure in their linked assignment.

7.3.4.5. An understanding of key issues in relation to development in South Africa including local economic development, land reform, and urban restructuring and the development of integrated settlements

Land reform and post-apartheid planning did not really play a role in the Tourism Planning Tribunal Gaming Simulation. The students did however have to consider the issues of local economic development, community development and rural development. Integrated settlements is a bit of a problematic issue in the remote villages and many Spatial Development Frameworks focus on the villages growing towards each other and along the primary road systems, but the chiefs do not always agree with the politicians and government officials in regard to this suggested development path.

Post-apartheid planning issues did not emerge prominently in the Globalisation Summit Gaming Simulation, but rather the fact that South Africa has entered the global market at the same time as former communist countries in the early 1990s and the impact that had on the country and its people.

The unique nature of the post-apartheid landscape and how the integration of the fragmented settlements should be handled given the perspectives of an Urban Edge and Smart Growth, were key aspects of the Housing Estate Gaming Simulation.

Local economic development and the South African government signing every environmental treaty, unlike India, China and the USA, was part of the EPZ Gaming Simulation and evaluated from a planning perspective.

The Development Cost-Benefit Analysis Board Game had very uniquely South and Southern African costs and benefits, such as the benefit of tourism linked to indigenous knowledge of traditional healers for example.

The Computer and On-line games did not directly impact on South African and Southern African issue, but students had to provide the link to their country (e.g. South Africa, Lesotho, Swaziland or Namibia) in the written part of the assignment or the test.

7.3.5. Conducting academic research in order to develop critical thinking and problem-solving abilities

7.3.5.1. An understanding of appropriate methodologies for different research requirements

The Tourism Planning Tribunal Gaming Simulation did not specifically focus on research designs. However, students had to analyse the given information, informed by a desktop study.

Students had to research globalisation in the Globalisation Summit Gaming Simulation and draft a viewpoint from a specific stakeholder, which involved a desktop study.

The Housing Estate Gaming Simulation, EPZ Gaming Simulation, Development Cost-Benefit Analysis Board Game and computer gaming all had linked written assignments. Here students had to reflect on their experience and connect that to the literature, thus a measure of research was done, which included a desktop student, and an element of Action Research was involved.

7.3.5.2. An ability to collect, analyse and evaluate information

Students had to analyse and evaluate the possible impact of tourism on the destination based on the given scenario in the Tourism Planning Tribunal Gaming Simulation.

For their preparation to the Globalisation Summit Gaming Simulation students were given no information or reading material for the topic. Students were only given the task outline. Thus, they had to search for and collect, analyse and evaluate their own data, select what was relevant to the view of their chosen character. Then they had to present that information as part of the simulation.

The Housing Estate Gaming Simulation, EPZ Gaming Simulation, Development Cost-Benefit Analysis Board Game and computer gaming all had written assignments linked where students had to reflect on their experience and link that to literature; thus they had to collect the relevant information, link it to theories, legislation and case studies and reflect on it.

7.3.5.3. An ability to apply generated knowledge to planning problems, in a creative way

The Tourism Planning Tribunal Gaming Simulation enabled students to make creative suggestions in regard to the proposed development, based on the information they analysed and evaluated.

Through their self-study and collaborative learning enabled by the Globalisation Summit Gaming Simulation, students generated a knowledge base about globalisation. That knowledge had to be applied and related to planning in the debriefing and associated assignments.

The Housing Estate Gaming Simulation, EPZ Gaming Simulation, Development Cost-Benefit Analysis Board Game and computer gaming all had linked written assignments where students had to reflect on their experience and align it with literature and eventually to present creative proposals for the planning problems presented.

7.3.6. Application of the managerial and communicative skills necessary for managing planning and development processes in the public and private sectors

7.3.6.1. An understanding of social dynamics and power relations

The students were able to exercise their roles for or against the development in the Tourism Planning Tribunal Gaming Simulation and hence were exposed to the power relations that marks a Tribunal and the debriefing and provided information informed them about the given social dynamics they should be aware of. Most of the students are employed in planning and related fields and were able to add a lot of personal stories in this regard.

The Globalisation Summit Gaming Simulation allowed students to acquire understanding of power relationships on a global scale. The issues of North vs. South, donor aid, migrants, and so forth were discussed in depth. The reaction to that by planning was discussed during the debriefing.

The Housing Estate Gaming Simulation enabled students to experience decisions where people want to get the best housing, given their income. The demands the rich are contrasted with the needs of the poor, both have to co-habit the city.

The EPZ Gaming Simulation investigated issues like black economic empowerment, labour, minimum wages and then demands of the market. All these issues play a role in how the planner manages industrial location.

The Development Cost-Benefit Analysis Board Game investigates issues like debt and foreign direct investment, which places the global South in a disadvantaged position in respect to the North.

The *Third World Farmer*, on-line game, looks at the control from guerrilla groups and government taxes on subsistence farmers. In the written assignment students always discuss the fact that people do not have title deeds to their land in tribal areas and the problems that presents for formalisation.

In the computer games greater and more developed nations tend to invade the weaker nations and completely annex their cities. This is a familiar situation in Africa, given colonisation and now the 'invasion' by China.

7.3.6.2. An understanding of political processes and governance

Being a relatively new democracy South Africa and Namibia are very aware of the role of government and politicians. A heavy demand is placed on government and government officials.

The Tourism Planning Tribunal Gaming Simulation suggests direct involvement in local politics and the tension between the local community, the chief, politicians and government officials. That has led to much debate and deliberation.

Political and governmental representation outnumbered any other character group in the Globalisation Summit Gaming Simulation. The needs of a community and country were measured within the global context. In South Africa students are still rather over-optimistic about the role of politicians and government officials in regard to development. Yet, in their position as planners they tend to be more control focused than developmentally minded. This issue was discussed in great depth.

The Housing Estate Gaming Simulation addressed the issues of urbanisation and housing and that it is linked to a lot of social unrest and political intervention.

The EPZ Gaming Simulation had actual political characters that had to influence the process and lure potential investors to their industrial space.

Political issues that are developmental costs, such as a military coup, dictatorship and civil war are experienced by students in the Development Cost-Benefit Analysis Board Game, benefits are democracy, international relations and freedom from persecution.

In *Third-World Farmer* on-line game you win the game when you can finally afford to put a politician in office to lobby on your behalf.

7.3.6.3. Strategic thinking and management

Students must suggest their strategies for development and management with the aim of optimising the benefits for all at the proposed lodge.

Strategic thinking and management came into the Globalisation Summit Gaming Simulation when students had to do group work to analyse the various presentations in line with town and regional planning's reaction to the constrains and opportunities presented by globalisation.

Strategic thinking and management was challenged in the Housing Estate Gaming Simulation as students had to experience the effects of land management by planners and then they had to discuss it in the debriefing session and in the written assignment propose changes to how strategic management is achieved in regard to the urban-rural linkages, housing and urban sprawl.

Students had to make strategic decisions regarding the placement of their industries, where they bought cars and how they chose suppliers in the EPZ Gaming Simulation and they also experienced how strategic thinking from a planning perspective influences the process.

The Development Cost-Benefit Analysis Board Game provided students with a background in the costs and benefits of their strategic decisions.

The computer games and the on-line game *Third World Farmer* has strategic decisions and thinking at is core, as you have to make fast decisions, with its effects both for the short term and long term.

7.3.6.4. Financial management

The Tourism Planning Tribunal Gaming Simulation allowed students to point out the financial benefits of tourism, like income generation and entrepreneurial creation.

The Globalisation Summit Gaming Simulation had a lot of people taking roles of the World Bank, finance ministers and marginalised community representatives and anti-globalists, all with the core defence of how the finances they are responsible for, are impacted by globalisation.

In the Housing Estate Gaming Simulation students were given a personal budget and they had to find a housing estate with housing within their

budget. The housing estate representative had to negotiate with the potential buyers to give them deals, yet still make a profit.

The EPZ Gaming Simulation was all about finances of the industrial space representatives, energy companies, suppliers and eventual car buyers. They all had budgets and the EPZ representatives had to lure industrialists and thus had to negotiate. The component suppliers had to sell their components and consequently negotiated with their suppliers and customers. The eventual car buyers then had to choose the best car for their pocket. Students understood that an industrial space is not merely a zoning on a map, but involves global and personal finance decisions.

The Development Cost-Benefit Analysis Board Game also had finances at the core of the game. Student were given money as a country and then lost money when negative cards were drawn and made money when positive cards were drawn. When a student (as representative of a country) became bankrupt, they lost the game.

Financial management is very much part of the various computer games and on-line games. If a farmer in *Third World Farmer* does not have money for seeds, his family starve or he has to let children go and work in the cities or allow dumping of chemicals for a price. If a farmer goes bankrupt, the game ends. The games like *Civilization* are strongly based on earning money through mining and industrialisation and trade. If you do not have money, the people die and other nations invade you.

7.3.6.5. Organizational management

Organisational management was practiced by the group leader as a consultant firm in the Tourism Planning Tribunal Gaming Simulation.

Various students represented chiefs of countries, NGOs or corporations in the Globalisation Summit Gaming Simulation, in their capacity as organization leaders who have a direct impact on globalisation.

Some students represented the housing estates in the Housing Estate Gaming Simulation and in consequence had to practice limited organisational management in regard to negotiations with potential homeowners.

Students represented industrial space representatives, corporations and households in the EPZ Gaming Simulation and thus they had to make definite decisions and negotiations that would impact their organisation in a limited fashion.

The Development Cost-Benefit Analysis Board Game had, for example, the issues of building a dam and the decision to get international aid from a benefit and cost perspective, which was linked to organisational management and the effects of their decisions.

In the computer games students represented countries and settlements, and so they had to balance investment to infrastructure, human resources, buildings and governance from an organisation management perspective.

7.3.6.6. Project management

The group leader had to manage the students' project and coordinate tasks in the Tourism Planning Tribunal Gaming Simulation.

When the students discussed the Globalisation Summit Gaming Simulation in groups and did a group assignment, a group leader had to handle project management.

The Housing Gaming Simulation, EPZ Gaming Simulation, Development Cost-Benefit Analysis Board Game and computer games do not directly promote project management skills.

7.3.6.7. Decision-making skills

The Tourism Planning Tribunal Gaming Simulation required students to make decisions; present, explain and defend those decisions.

Students had to find their own information in the Globalisation Summit Gaming Simulation and subsequently decide who to present and to represent that person's viewpoint.

In the Housing Estate Gaming Simulation students must decide where to buy, given the budget and information available, they will then also influence the development of the entire region through that decision.

In the EPZ Gaming Simulation students had to make investment and purchase decisions from various stakeholder perspectives. During the debriefing their decisions were analysed, in line with the effect that have on the community and region.

The students had no direct decision making power in the Development Cost-Benefit Analysis Board Game, as that was the idea, that they learn that decisions by other countries, corporations or environmental disasters can have a direct impact, and can only be managed.

In the *Third World Farmer* on-line game the students had to decide what to plant, if the wife should get pregnant, whether kids should work in the land or go to school. These decisions faced by subsistence farmers, were internalised by the students, and then they had to match the decisions by planners to those individual decisions.

In the computer games numerous decisions are made seconds after each other, e.g. where to build, what to build, when to build. Even an accidental decision, can cause havoc and end the game for the player.

7.3.6.8. Organizational skills

The group members had to simulate a consultant firm and operate within such an organisation for the Tourism Planning Tribunal Gaming Simulation.

Internationally based organisations, from the UN to corporations, were represented in the Globalisation Summit Gaming Simulation by students and their role in development and globalisation analysed.

In the Housing Estate Gaming Simulation and the EPZ Gaming Simulation students had to work together in groups of 2 to 4 and thus they had to learn to negotiate within the best interests of the organisation they represented.

The Development Cost-Benefit Analysis Board Game and computer games did not directly add to organisational skills development.

7.3.6.9. An ability to relate to and work with people

The Tourism Planning Tribunal Gaming Simulation grouped students randomly and they had to work and agree with one another to prepare the final presentation reflecting their views. Thereafter, they had to work with the opposing group in the debate setting.

Students had to work in groups together to discuss the Globalisation Summit Gaming Simulation, do related assignments or just take part in the class debriefing and presentation; hence they had to fine-tune their ability to work with a variety of people.

In the Housing Estate Gaming Simulation and EPZ Gaming Simulation students are pulled from their comfort zones and they had to interact and learn how to work with other people in a professional capacity.

The Development Cost-Benefit Analysis Board Game and computer games did not directly add to organisational skills development. However, in

Civilization it is extremely important to have peaceful treaties with other countries in order to establish peace and trade routes.

7.3.6.10. An ability to work in teams as well as individually

Students had to work together in the random group in which they were placed in the Tourism Planning Tribunal Gaming Simulation. The group leader then gave them specific tasks to complete individually as well as to contribute to the group's presentation.

Students had to find a character by themselves in the Globalisation Summit Gaming Simulation, but then discuss the link to planning in a group.

Students in the Housing Estate Gaming Simulation and the EPZ Gaming Simulation had to work in groups during the gaming simulation and individually during the debriefing discussion and the written assignment linked thereto.

In the Development Cost-Benefit Analysis Board Game and computer games students had to work individually.

7.3.6.11. An understanding of approaches, processes and techniques associated with participatory and collaborative forms of planning

The Tourism Planning Tribunal Gaming Simulation required students to focus on public participation with the local community as one of the mitigation strategies and the students also had to come to the conclusion that collaborative planning must be done with the local village in the lodge development.

The Globalisation Summit Gaming Simulation as such did not emphasise participation from a characters' perspective, however many of the problems raised could be mitigated through collaborative planning and public participation. This issue was discussed in the debriefing.

The Housing Estate Gaming Simulation involved all students as stakeholders in a scenario where they had to include various aspects in order to make decisions regarding the location of housing estates in a community.

In the EPZ Gaming Simulation students had to focus on collaboration at various levels and by various stakeholders within the industrial space to eventually enable the manufacture and sale of motor cars.

In the Development Cost-Benefit Analysis Board Game students realised in the debriefing how important it is to have all stakeholders involved in planning, as the costs will be minimised when people take responsibility for collective decisions.

Participatory and collaborative planning does not get addressed in computer games played by the students.

7.3.6.12. Negotiation, facilitation and mediation skills

In the Tourism Planning Tribunal Gaming Simulation students had to negotiate with one another in the group, firstly to come to consensus in regard to their proposals.

Students were exposed to negotiation in the Globalisation Summit Gaming Simulation when they had to come to a conclusion regarding their groups' reaction to globalisation from a planning perspective.

The core of the Housing Estate Gaming Simulation was the fact that students had to negotiate deals, given their budget.

Negotiation was fundamental to the EPZ Gaming Simulation as students had to negotiate with representatives from the industrial spaces, suppliers and car manufacturers; given the constraints of their budget and information available from their characters' perspective.

Negotiation, facilitation and mediation skills did not really feature in the Development Cost-Benefit Analysis Board Game or directly in the computer games.

7.3.6.13. An ability to communicate effectively verbally, graphically and by electronic means

Students had to present and defend their proposals in the Tourism Planning Tribunal Gaming Simulation. Sometimes the group leader did all the talking, but sometimes each member was given a part to present. In the debate the individual members of the group took part on behalf of their group's stance on the development. Students used the *PowerPoint* presentation I gave them as a basis and then re-worked it to motivate their proposals and then aired it during their presentation.

In the Globalisation Summit Gaming Simulation students had to give a *PowerPoint* presentation of the characters' viewpoint and they had to do an oral presentation.

Students did not give any verbal presentations during the Housing Estate Gaming Simulation, the EPZ Gaming Simulation, the Development Cost-Benefit Analysis Board Game or the computer games.

7.4. ANALYSIS OF THE APPLICATION OF GAMING SIMULATION GIVEN MY CHOSEN PEDAGOGICAL APPROACH

In this section I will discuss to what measure I found my gaming simulations applicable measured against my chosen pedagogical approach.

7.4.1. Constructivism

The Tourism Planning Tribunal Gaming Simulation allows students to use the data to their disposal to define their learning and decisions regarding the proposals, they are free to decide if they want to include the tourism village in a tribal tour or rather not, for example.

I did not prescribe any information in the Globalisation Summit Gaming Simulation and students had to find their own data and present and choose a character's viewpoint. I thus merely facilitated the learning process. Personally I am a strong anti-globalist, but I did not want to influence the students' stance. Some had very compelling arguments for the case of globalisation.

During and after the Housing Estate Gaming Simulation, EPZ Gaming Simulation, Development Cost-Benefit Analysis Board Game and the computer games, students had to integrate their experience with literature. They were free to choose the literature and stance they prefer. This led to surprising conclusions that New Regionalism, New Urbanism and Urban Edge have dramatically different perceptions in literature and in 2012 I gave students the literature I thought to be more accurate from a urban and regional planning perspective.

7.4.2. Reflective teaching and learning

Throughout the cycles of running the Tourism Planning Tribunal Gaming Simulation I reflected on the application and success thereof and made the applicable changes. The students also had the opportunity to reflect in several of the cycles in the tourism reflection analysis questionnaires.

Students had to reflect on the Globalisation Summit Gaming Simulation, Housing Estate Gaming Simulation, EPZ Gaming Simulation, Development Cost-Benefit Analysis Board Game and computer games regarding what they have learned in various cycles in reflection analysis questionnaires. I also reflected personally on how I used and structured the Gaming Simulation and changed it accordingly.

7.4.3. Experiential learning, problem-based learning & scenario-based learning

The students experienced a Tribunal situation, which the will meet formally or informally, at some point in their planning life in the Tourism Planning Tribunal Gaming Simulation. They will be part of a developmental debate on many occasions and this simulation provides extra preparation.

Students were placed in the set-up of a Globalisation Summit Gaming Simulation and had to act as if they are delegates at such a Summit. They learned to engage in such as an environment, as many of them will attend various related Summits and conferences where they will have to present their or their organisation's view.

In the Housing Estate Gaming Simulation and the EPZ Gaming Simulation students learned by doing, by being in the shoes of the stakeholders that are involved in the processes of planning. They thus experienced planning from the perspective of those they plan for.

The Development Cost-Benefit Analysis Board Game made students experience the highs of winning if all goes well and the sadness of losing when negative costs keeps dragging a community or country down.

In the *Third World Farmer* on-line game students experience the trails and challenges faced by subsistence farmers.

7.4.4. Deep learning

Students mentioned on many occasions in their reflective analysis that they will remember what they learned through the gaming simulations, better than any other method of teaching and learning.

Through the process of analysing the impacts of planning, in order to present their proposals in the Tourism Planning Tribunal Gaming Simulation students were able to internalise the information and practice.

As self-learning through a process of discovery was part of the route of learning in the Globalisation Summit Gaming Simulation, students engage more with the content and are able to personalise it, thus having a deep learning experience. Surface learning would have taken place if they merely had to remember and recite the characteristics and theories surrounding globalisation.

Students did not merely memorise the different concepts that addresses urbanisation and urban sprawl, they had to make decisions from a characters' perspective in the Housing Estate Gaming Simulation, and thus they were forced in a situation of deep learning. Thereafter students had to link their experience to the literature and critically analyse it.

In the EPZ Gaming Simulation students also had to bring the location theories to life, and after the gaming simulation do a written assignment where their reflection, must be substantiated with literature and rounded off with planning proposals. Again, they were forced into a deep learning situation.

In the Development Cost-Benefit Analysis Board Game students had to discuss, and in some cases do a written assignment, in order to create a deep understanding of the inter-connectedness of development and developmental issues.

The link between resources, infrastructure and settlement development was not a couple of theories, but it was analysed and experienced by the students and thus deep learning was facilitated in the computer games.

7.4.5. Collaborative learning

In the groups and through the debate, discussion and debriefing of the Tourism Planning Tribunal Gaming Simulation students learned together and from each other in an informal setting.

Students had to peer review each other's presentations and thus had to pay attention, they have also discussed and analysed various stances in the debriefing after the Globalisation Summit Gaming Simulation. This led to collaborative learning as I could not in the time available, expose them to as wide a variety of viewpoints, in such a convincing manner.

Due to the fact that students played together in the Housing Estate Gaming Simulation, EPZ Gaming Simulation and Development Cost-Benefit Analysis Board Game, learning was done during and after the gaming simulation in the debriefing. Gaming simulations ensure that the environment is usually conducive to collaborative leaning as student's debate and discuss with each other and hence learn together and from each other. This is the reason I put full time, part time and block week students together in the gaming simulations.

Computer gaming does not really enable collaborative learning.

7.4.6. African Indigenous Knowledge Systems

The importance of indigenous knowledge as a resource and as an aspect of culture was a vital element and impact aspect in the Tourism Planning Tribunal Gaming Simulation, which students had to protect, yet engage.

Students Globalisation Summit Gaming Simulation took the role of traditional healers, tribal leaders and representative of marginal nations (on islands and in rainforests). They emphasised the importance of indigenous knowledge, especially African indigenous knowledge systems, and pledge for the protection thereof. In the debriefing we analysed how planning can play a role in this aspect.

African Indigenous Knowledge Systems was more challenged then re-enforced by the Housing Estate Gaming Simulation, as the 'spirit of Ubuntu' disappeared and personal gain was the most important aspect. This was addressed during the debriefing and the way our modern communities are spatially structured can be blamed as it strengthens isolation and selfish behaviour. Integration of the village (kraal) into how we design and view our human settlements should get a lot of attention by planners and planning researchers. It does fit nicely into the concepts underlying New Urbanism.

African Indigenous Knowledge Systems were discussed during the debriefing after the EPZ Gaming Simulation as it is my personal crusade that it should be used as the basis for industrial product development, as its unique nature does not make it replicable in mass market producing countries.

African Indigenous Knowledge Systems were prominent in the Development Cost-Benefit Analysis Board Game, as the positive aspects are income, the creation of entrepreneurship and jobs. However, issues like international intellectual property rights and the stealing thereof by corporations, international ownership and labour and environmental abuse should be addressed.

The computer games did not fully address the African Indigenous Knowledge Systems.

7.4.7. Blended Learning

Students had to use *Blackboard* for information gathering, as the impact class notes are placed there and then they had to use the *Blackboard* Discussion section, *Facebook* and e-mail to organise their group and group work in preparation for the Tourism Planning Tribunal Gaming Simulation.

Students had to place their *PowerPoint* presentations for the Globalisation Summit Gaming Simulation on *Blackboard*, and then I gave them access to each other's presentations to enable further collaborative learning.

Students' assignments after the gaming simulations were placed on *Blackboard* to enable collaborative and blended learning. *Facebook* discussions added to the blended dimension.

7.4.8. Blooms Taxonomy

The Tourism Planning Tribunal Gaming Simulation allowed students the opportunity to use their understanding and analysis of the impacts of tourism and apply the planning proposals to mitigate the negative effects, evaluate each other's viewpoints and create plans for the possible scenarios envisaged.

Students were tasked to search their own information and choose a character to represent in the Globalisation Summit Gaming Simulation. They had to understand globalisation, to choose a character, then analyse and evaluate that person's viewpoint in order to present it and then remember the key concepts for their presentation. Students then had to analyse and evaluate the different presentations to determine the role of planning and come up with creative solutions to mitigate the negative aspects and optimise the opportunities presented by globalisation.

In the Housing Estate Gaming Simulation students had to understand the various concepts relating to urbanisation and urban sprawl, then they had to apply that knowledge and the game experience to the literature, analyse the literature, evaluate their decisions in the gaming simulation and then create planning proposals to address the problems identified.

In the EPZ Gaming Simulation students had to understand globalisation, local policies, industrial location theories and apply that in the gaming simulation. Then they had to analyse the literature and evaluate their experience based thereon. Finally they had to propose planning solutions to the complex problems that was identified in the gaming simulation.

The Development Cost-Benefit Analysis Board Game forced students to analyse the impacts of various aspects on development, evaluate its dimensions in line with literature and draft a planning reaction in light thereof.

The *Third World Farmer* on-line game enabled students to experience the difficulties faced by subsistence farming and then evaluate various possible strategies presented in the literature and propose how planning should function in the developmental context.

The computer games, like *Civilization* and *Anno*, allowed students to experience and understand the linkage between resources, settlements, infrastructure and trade. They had to match that understanding with theory, analyse and evaluate their game-play and then also propose how planners should act given their knowledge and experience.
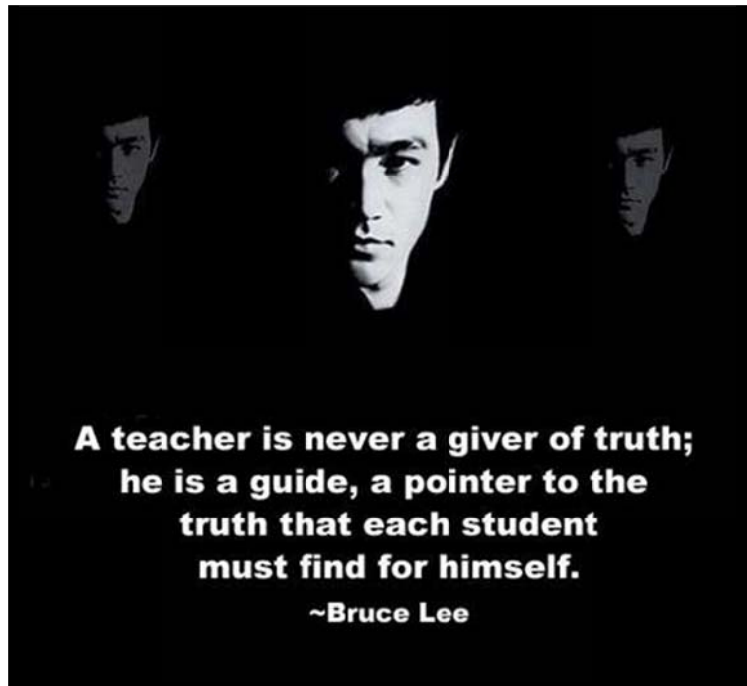
7.5. CONCLUSION

Gaming simulation has been very successful in the teaching and learning activities for my urban and regional planning students. I will continue to use my existing gaming simulations and I will develop new ones.

It has been found that role-playing gaming simulations are more popular with the students. Furthermore, it also meets the requirements of the Bloemfontein Competencies and my pedagogical approach. As in the study by Betts, Lewis, Dressler & Svensson (2009) students have responded well to role-playing and view it as a tool for preparing them for real world situations.

Board games are not as successful in aligning with the Bloemfontein Competencies and my pedagogical approach. However, for the purpose of allowing students to explore the negative and positive aspects of development, it is a useful tool. Therefore, I agree with Fouché & Visser (2008) that board games is a useful tool in linking theory and practice.

My findings and analysis also corroborate the studies in the literature Devisch (2008) and Gaber (2007) that indicated how limited commercial computer games, such as SimCity, are for educational purposes, but it does have still a lot of valuable lessons to teach students.

CHAPTER 8:
ROLL THE DICE TO DECIDE THE FUTURE PATH

A teacher is never a giver of truth;
he is a guide, a pointer to the
truth that each student
must find for himself.
~Bruce Lee

8.1. INTRODUCTION

This chapter is the finale where I make my suggestions, based on my experiences, as to how gaming simulation can be applied to the Bloemfontein Competencies in general by other lecturers. Thereafter I will propose how gaming simulation can be applied to the pedagogic approach I chose, which is in line with contemporary thinking in tertiary education in South Africa. Finally I will suggest further research in the application of gaming simulation in teaching and learning in urban and regional planning.

Gaming Simulation should not only be seen as a fun distraction or gimmick in order to be perceived as a cool lecturer by students. It takes serious thinking, design and planning, especially if financial aspects are included in the gaming simulation. Political traps should be avoided and students should feel free from harassment during their participation in the gaming simulation. It must also be rounded off with debriefing in all circumstances, as that is where the discussion and debates analyse and explain what has happened in the game-play and how it relates to the literature and reality. Students are usually either relaxed or enthusiastic after the gaming simulation and they want to discuss what they

experienced. Even the introverts and usually stoic students participate with vigour in the debriefing. Furthermore, the gaming simulation should form part of a larger written assignment, where students should reflect on their game-play, analyse it in light of literature and creatively propose how planning should react to the identified problems. While it is a lot of work and pressure on the lecturer, the reward of seeing students participating with enthusiasm and portraying their gained knowledge in reflection or assignments, is absolutely worth the effort.

8.2. PROPOSALS FOR GAMING SIMULATION TO MEET THE BLOEMFONTEIN COMPETENCIES

The Bloemfontein Competencies are being challenged at present, but has still not yet been replaced by a new format, hence, I will use it as the basis of suggesting how others would be able to apply gaming simulation in their teaching and learning activities for urban and regional planning.

8.2.1. Knowledge and understanding of moral and ethical dimensions of planning's role in the public domain, and the application thereof in practice

8.2.1.1. Orientation to social justice and equal opportunity

Role-playing games can be custom designed to enable students to be placed in situations where they are confronted with decisions regarding social justice. Issues regarding the homeless, gender and so forth can be used as case studies.

Computer games that are useful are *Third World Farmer* and *Grand Theft Auto*.

8.2.1.2. An appreciation of the diversity of cultures and views

Role-playing simulation games can be custom designed to enable students to step into the shoes of people that want to sacrifice cattle within a residential property, or land use applications that involve development on traditional cultural sacred sites or graves. It can also involve issues such as cultural differences in food or moral issues like the placement of adult shops.

Civilization is a very applicable game, which emphasises the role of culture as an urban element.

8.2.1.3. A people-centred approach

Role-playing games provide an excellent opportunity for planning lecturers to place their students in the shoes of people involved in decisions that affect planning and communities directly and indirectly. Circumstances such as poverty, corporate profit and culture force students to become aware that planning is, in essence, for the people. Debriefing can then analyse to what extent the balance must be between the needs of the poor and the demands of the rich.

Computer games such as *Civilization* place emphasis on the importance of people in urban and regional growth and development.

Third-world Farmer is an easy and free on-line game, but does take players down to the level of the person that has to make decisions for themselves and their families in the subsistence farming environment.

8.2.1.4. Promotion of efficiency in resource use

Students can be exposed to making decisions from a governmental, community or corporate perspective and then discuss how planning legislation can ensure the protection and efficient use of resources, be that environmental, economic or human resources. I am convinced that given Game Theory, people will make decisions to profit themselves as individuals, community or company and only very strict planning legislation with extreme penalties will ensure the proper use of economic, environmental and human resources.

Various on-line games exist that involve especially an environmental focus on development, from transportation development, to rural villages.

The computer game *SimCity* places great emphasis on attaining an environmentally friendly city that focuses on the development of green zones and alternative clean energy.

8.2.1.5. An orientation towards sustainable development

Sustainable development is not just an option, but it is non-negotiable and should be the foundation of urban and regional planning. In role-playing games students can be exposed to the decisions of corporations, governments and individuals, which are self-seeking, as predicted by Game Theory. Thus, if students act in a way that questions their own planning ideas and practices, they will become increasingly aware of how planning's focus should be shifted to less control where it is redundant (like strict residential zoning) and more control where it is required (like

cell phone towers that creates frequencies that may cause cancer and the disappearance of bees).

There are on-line games and computer games such as *SimCity* that have sustainable development as their goal and focus.

8.2.1.6. Respect for professional ethics

Role-playing games are ideal for challenging students, particularly those that are employed in planning related jobs who are stuck in a colonialist or modernist framework, to question their practice. It can also create the opportunity for full time young students to experience scenarios that they will be faced with in practice to enable them to be more comfortable to make the correct and ethical decisions.

Computer games indirectly challenge planning ethics in regard to the placement of land uses and development decisions that are made, as such decisions that can lead to undesirable consequences.

8.2.2. Demonstration of a sound theoretical and contextual knowledge, and ability to apply this in action

8.2.2.1. The nature, purpose and methods of planning

Gaming simulation itself may not fully teach aspects in regard to the nature, purpose and methods of planning and therefore it is best to use gaming simulation, like role-playing games, as an element of a bigger educational framework. Site visits and design may be a beneficial complements to the role-playing scenario testing and would be ideal if time and money allows.

SimCity and *Cities XL* are excellent examples, despite criticism in regard to reality, for allowing students to understand the cause and effects of various planning methods and decisions.

8.2.2.2. The histories, philosophies and theories of planning and of development

Various role-playing games can be created to directly address a scenario of given histories, philosophies and theories. What if there had been no apartheid development? What if South Africa had developed as a socialist country?

Computer games, like many of the settlement building games, do provide students with the ability to test scenarios and theories and record the effects thereof. However, the game design is usually based on sustained

and perpetual growth, which is neither achievable nor possible, given resource constraints.

8.2.2.3. The theories relating to the natural, social, economic, developmental and political environment

The various theories can be illustrated by the creation of a role-playing game to test various scenarios and outcomes. For example, what if a community decided to build itself around anarchist principles? How would that influence the economic and social decisions in that community? Discussions could then analyse the various scenario paths and establish the role of planning in it.

Computer games like *Civilization*, *SimCity* and *Grand Theft Auto* enable students to see the effects of their decisions, and how this relates to theory can be analysed in the written component of the gaming simulation's assignments.

8.2.2.4. The theories and principles relating to the design of urban environments

A lecturer could design a specific role-playing game, as an element in a larger project, which could involve a site visit and studio session, if time and money permitted. Students could then, within the given roles of various stakeholders who would evaluate a design from an economic, social or environmental perspective, and would decide for example, whether or not they would want to invest there. Then the various designs can be analysed and discussed in line with given theories.

Computer games like *Cities XL* and *SimCity* and even virtual environments such as *Second Life*, do give students the freedom to test ideas, theories and principles linked to design in urban settings. A written assignment and discussions can then evaluate the design in light of the theory, possible scenarios and alternative outcomes can be tested in a second round of game play.

8.2.2.5. The theories relating to urban, metropolitan, rural and regional development, and to these contexts and processes

The hierarchy of development and how that relates to each segment, is ideal for scenario based role-playing games, where various groups are appointed as consultant teams to provide alternative regional growth proposals, and then these can be discussed in light of the larger effects they might have on the urban and rural areas within the region.

Computer games are flawed based on their design, but *Civilization* can provide a glimpse of regional development and its related theories and *SimCity* provide the urban view.

8.2.2.6. The South African context and its particular challenges

A planning lecturer that also does fieldwork, consulting and research; especially in the former homelands and townships, as well as urban CBDs and forgotten small rural towns, will have many case studies to use in scenario based role-playing games. These will expose students to possible issues that they might have to deal with that are uniquely South African, and test their ideas and proposals in a gaming simulation setting, before they go out as planners and repeat many of the mistakes of the established planners before them.

Third World Farmer is excellent in introducing the problems a subsistence farmer has to face in the rural areas on a daily basis. These will convey an idea of what leads to requests for social welfare grants, urbanisation and rural-urban migrant workers.

8.2.2.7. An application of these theories to the design, management and implementation of planning interventions to bring about positive change and societal benefits within human settlements

There is boundless potential for scenario-based role-playing games. Students can work in groups and take a case study, present and debate the proposals and analyse the possible outcomes and consequences of their decisions.

Computer games like *Civilisation* can highlight how the decision to connect settlements with a road can lead to trade and economic growth in both. *SimCity* and *Cities XL* provide urban examples of how decisions to provide a well-located business district can lead to happiness in the population.

8.2.3. Linking knowledge to spatial plans and policies

8.2.3.1. Collect, analyse and organize information to determine planning processes

Role-playing games can be customized to analyse the effect of planning processes and the experience and roles of different stakeholders in the process. Moreover, it provides the ability to do scenario planning.

Games like *Third World Farmer* and the virtual world *Second Life* provide other opportunities for students to test their ideas on a practical platform.

8.2.3.2. Use technologies to assist these processes

Computer based gaming simulation, either custom or commercially available allows students to witness their decisions electronically. Free on-line games, like *Third World Farmer*, commercial games like *SimCity* and *Civilization*, and virtual worlds like *Second Life* can be used to their full potential. The students should be technologically advanced and preferably gamers to really get the best advantage.

8.2.3.3. Apply appropriate knowledge pertaining to political, policy and institutional contexts, and of planning legislation and procedures

A lecturer can again customise a variety of role-playing games to allow students to experience certain planning policies' impact on stakeholders. This is for example the establishment of a tourism corridor and the effect of industrial development on that corridor.

Gaming simulation can facilitate allowing students to link their spatial decisions in the game-play with policies and legislation in a accompanying assignment.

8.2.3.4. Prepare plans and formulate policies with spatial orientation at different scales

My experience indicates that a gaming simulation should not be an exercise on its own, but be matched with a project or written assignment, for best learning results by students.

Undertake planning with due appreciation of aesthetic dimensions, and with sensitivity to the links between human settlement and the natural environment.

Role-playing games can be designed with scenarios that deal with issues of aesthetics or environmental disasters. One that is possible is a public participation meeting to discuss erosion that is taking place, due to town house complexes having high densities and hard paved surfaces and that result in fast and unchecked run-off of rainwater. They would have to consider that this could cause erosion in lower-lying areas, especially in an urban conservation site. Students could represent both the stakeholders that would attend such a public participation meeting and air their views, as well as the municipal planners that were called to this meeting by the ward councillor.

8.2.3.5. Interpret and apply plans to on-going decision-making and problem-solving

Scenario based role-playing games can focus on a problem and groups of students can be matched against each other to make proposals and criticise each other's decisions from an academically sound perspective.

Gaming simulation would be an extremely good tool for scenario planning, where a student can change a decision in every game-play to address a problem and link the outcomes to the literature and existing case studies. This would however, only work if students were gamers, otherwise multiple game-plays would be too time-consuming, as is the case with my non-gamer students. It is indeed an extremely good way to develop alternative plans and evaluate them, selecting the best in each case.

8.2.3.6. Apply knowledge to the implementation of plans and to land management and development processes

Cause and effect is again important for planners to understand where the implementation of plans is concerned. Role-playing scenarios and computer gaming can again be used a discussed in the point above.

8.2.4. Linking and synthesizing programmes and projects from various sectors and institutions within a framework of integrative development

8.2.4.1. An integrative understanding of development issues and processes

In this case computer simulation, either commercial games, or self-programmed (if a lecturer is that savvy or has friends who are computer programmers). A complex gaming simulation, similar to those was used in the 1970s and would will be an excellent way to illustrate the integrated development issues and processes, and how planning decisions are impacted on, and impact on, these issues and processes.

8.2.4.2. An understanding of the management requirements of integrative development processes

Computer gaming simulation, as indicated in the point above, would be a great method of higlighting management in integrated planning and development.

Role-playing could be used, on a scenario base, to allow students to come up with solutions to problems and then criticise one another's proposals in a debate. Alternatively one group should continue on the proposals of a

previous group in a following session, so that they can learn to mitigate problems through developmental management.

8.2.4.3. An ability to think creatively and synoptically

Gaming simulation itself has a strong element of creative expression and many students indicated that it allowed then to 'think outside the box'. To link the game-play to problem solving a written assignment and design element works best.

8.2.4.4. An understanding of the legal, policy and institutional frameworks with which such planning and development occurs

This issue is unique to every municipality and development; it also changes and evolves often. Students should thus be enabled to role-play given scenarios where decisions are not made in line with the given framework and where the given framework is perceived as detrimental.

8.2.4.5. An understanding of key issues in relation to development in South Africa including local economic development, land reform, and urban restructuring and the development of integrated settlements

Computer gaming simulation is not specific enough, however students must discuss the uniquely South African contexts in their assignments and it must be matched up with the grading rubrics.

Role-playing games can allow students to understand the rich diversity of people and problems in the South African spatial landscape.

8.2.5. Conducting academic research in order to develop critical thinking and problem-solving abilities

8.2.5.1. An understanding of appropriate methodologies for different research requirements

Gaming simulation cannot be done in isolation, but should be linked to a written assignment, especially where students can do reflection based action research.

8.2.5.2. An ability to collect, analyse and evaluate information

Gaming simulation should not be done in isolation, but be linked to a written assignment, especially where students have to link their experience to the real world through the collection of data, analyses of the

data given the gaming simulation and evaluation and reflection thereof, within the framework of learning to be urban and regional planners.

8.2.5.3. An ability to apply generated knowledge to planning problems, in a creative way

From my experience, gaming simulation cannot be done in isolation, but must be linked to a written assignment, where students have to align their reflected experience with literature and eventually present planning solutions to the problem. The latter works best if it is done via a group brainstorming session.

8.2.6. Application of the managerial and communicative skills necessary for managing planning and development processes in the public and private sectors

8.2.6.1. An understanding of social dynamics and power relations

This is a potentially painful role-playing gaming simulation as students might be confronted by situations where they have to be the dominant person, from a power relation perspective, and that power does impact on how the students treat one another during the simulation, and thereafter. Furthermore, to be true, this exercise can only be politically incorrect. Thus, one needs to be cautious when designing this type of simulation.

Computer games are again a faceless alternative, where students can exercise their power relationships under chosen usernames and consequently it is safer. However, the computer games do not really address the finer issues related to power relationships and social dynamics.

8.2.6.2. An understanding of political processes and governance

Again a touchy issues for role-playing games, as politics are emotional issues for all people. Anarchists like me believe people should govern themselves. The communists and statists believe that there should be maximum governance. Especially now globally, political issues are dubious, given the various protests against austerity measures and the banking-political elite. The application of Agenda 21 will cause disruption in American classrooms and then it will lead to a discussion on gun control. In South Africa, I have not experienced too many problems, because anarchists are an extreme minority and the majority of our students, regardless of their race or class, are very optimistic about governments ability to solve developmental problems. I have not had any outspoken right wing white students in a gaming simulation yet. However, let us discuss this again in another 10 years as unhappiness

with the government's service delivery has led to massive riots by the poorest of the poor.

Computer gaming is faceless, and thus games like *SimCity* could be less disruptive for a class situation.

8.2.6.3. Strategic thinking and management

Gaming simulations, be it computer, card, role-playing or board games, are well-known for testing and practicing strategic thinking and management, especially in a scenario-based setting. Any possible planning scenario can be applied to a gaming simulation, in order to foster strategic planning.

8.2.6.4. Financial management

Planners should not only know financial management at their project level, but how their decisions impact on the finances of others. They must understand the impact of mixed zoning to enable income generation and save money; they must understand that if their processes are too slow business will move to a place where approval is faster, because time is money. In the world we are in today, with financial crises prevalent in countries, governments, banks and individuals, it is now more important than ever before to understand financial issues and management.

Most computer games have finances as their core to allow you to do things with consequences and nobody to bail you out.

This is also where board games are very efficient, as money plays a big role, influenced by strategic decision-making and the chance element that the dice represents.

8.2.6.5. Organizational management

Organisational management is not a direct element in role-playing; however it is indirectly experienced from a decision and effect perspective.

Computer gaming simulation is again the best way to truly allow students to exercise organisational management, especially if it is played over the long term.

8.2.6.6. Project management

Project management can be practiced when group work is linked to gaming simulation.

8.2.6.7. Decision-making skills

Gaming simulations are perfect for students to hone the decision-making skills. They will experience the effects of their decisions in the scenarios presented. The will then have to defend their decisions and learn from their mistakes.

8.2.6.8. Organizational skills

Organizational skills will only be learned when students work together in groups in order to represent a specific organisation and that organisations' interests, within the role-playing game.

Organisational skills can be developed by students representing certain organisations within the virtual world Second Life in a project.

8.2.6.9. An ability to relate to and work with people

The ability to relate to, and work with people can be best fostered in role-playing exercises. The more and more diverse the better, so that students can learn to work with the biggest diversity of people in every possible situation that planning will present to them.

8.2.6.10. An ability to work in teams as well as individually

All types of gaming simulation can be designed to allow students to work in team and in the best interests of the team, or individually. Both elements can be included in the same gaming simulation.

8.2.6.11. An understanding of approaches, processes and techniques associated with participatory and collaborative forms of planning

Role-playing games, with as many stakeholders represented, in specific scenarios, is an excellent way for students to practice public meetings, tribunals and collaborative planning. However, they will possibly not simulate the absolute chaos of some of the public meetings they will face, especially in the tourist industry. The gaming simulations will however prepare them more than the mere study of practices, case studies and theories. Furthermore, real life interaction can have potential dangers, especially in regard to the creation of false expectations in the minds of the community and thus gaming simulation is very beneficial to enable students to experience real world situations in a safe setting.

8.2.6.12. Negotiation, facilitation and mediation skills

Role-playing games with students representing various stakeholders in for example, the location of a taxi rank, would be an excellent opportunity for them to exercise their skills in negotiation, facilitation and mediation. When they get to a real taxi rank public participation session, they will be more able to face the demanding business and taxi owners.

8.2.6.13. An ability to communicate effectively verbally, graphically and by electronic means

The skills of the students in regard to presentations can be practiced during debates, tribunals and when students must present themselves as planners to a group of stakeholders, within a role-playing game.

8.3. PROPOSALS FOR A CONTEMPORARY PEDAGOGICAL APPROACH

8.3.1. Constructivism

Gaming simulations are excellent methods to challenge students, especially their pre-conceived ideas. They tend to be more interested in finding explanations in the literature for what they experienced and positioning themselves philosophically than when a topic-based research project or textbook is given to them.

8.3.2. Reflective teaching and learning

Reflection from the lecturer and students' perspective should be done in private and in writing after the gaming simulation, as this forces students to think critically about what they experienced and decided in the gaming simulation. It also provides the lecturer with the opportunity to alter the gaming simulation or the assessment and learning outcomes linked to the gaming simulation.

8.3.3. Experiential learning, problem-based learning & scenario-based learning

Gaming simulations are experiences; this allows students to learn by doing. Role-playing games students can experience the decisions and challenges faced by planners or the stakeholders in the planning process. In computer gaming simulation students also learn by making decisions about design and development, which they can track throughout the entire scenario.

8.3.4. Deep learning

Gaming simulation brings learning to life and that leads to better contextualisation of information and thus deep learning. It is even more beneficial when a written assignment is linked to the gaming simulation where students have to reflect, link their experience to literature and the present planning proposals to address the given planning problem and scenario.

8.3.5. Collaborative learning

It is especially the debriefing after the gaming simulation where collaborative learning takes place. Lecturers should also invite other lecturers and stakeholders from 'real life' to the debriefing to clarify certain issues and enhance the collaborative learning experience of the students. In fact, they themselves can learn a lot as well, especially if scenarios are played out.

8.3.6. African Indigenous Knowledge Systems

Gaming simulation is learning through play, which is a characteristic of indigenous education. Furthermore, African Indigenous Knowledge Systems can best be analysed and applied, in the role-playing scenario setting where Ubuntu and collaborative learning are key factors.

8.3.7. Blended Learning

Gaming simulation, especially the discussion thereof, is ideal for a blended learning approach, where Blackboard and Facebook can be used.

On-line gaming platforms for multiple player engagement and virtual world like Second Life has a lot of potential for blended learning. The problem lies with the game design, which does not fully meet the needs of planner and planning students.

8.3.8. Blooms Taxonomy

Gaming simulation presents the opportunities to enable students to understand the various complexities related to planning, then apply the experience in the gaming simulation to the literature, evaluate their experience and create proposals and solutions to the intricate planning problems, given the scenarios they were exposed to through the gaming simulation.

8.4. THE PROCESS OF USING GAMING SIMULATION IN PLANNING EDUCATION

One of the most important lessons I have learned in my application of gaming simulation in teaching and learning is that it is not an isolated event, but should be an integrated process. A properly written and elaborate study guide must be able to prepare students on each theme, along with each outcome in the theme, the aligned teaching and learning activities, and aligned assessment.

When it is time to run the gaming simulation the lecturer must do an introductory, typical formal, lecture on the theme or themes that relates to the gaming simulation. However, this introductory lecture should not at all be an attempt to guide students or influence the outcome of the gaming simulation exercise. After the formal lecture, regardless of it taking 5 minutes or an hour, there must be a break where students can leave the class.

When the students are back in the class, the gaming simulation must be explained to them, clearly and in detail, until they understand the rules and procedures. Then all materials must be handed out and if there are groups, they must be allocated and moved to their group discussion point. When the students are quiet again, the materials and scenario and problem (if there is) can be explained.

Then it is time for the gaming simulation, be that board game or role-playing game. At all times the lecturer must facilitate the process, answer questions and make sure violence and disorder does not break out. Again, the lecturer should not guide the students to an outcome of their choosing, but allow students the freedom to find their own path and solutions.

Either at a pre-determined time, or when the class gets unruly or too quiet, it is time to end the game. Then there should be another break and thereafter students should return to their seats.

The debriefing should not be rushed, but given enough time and freedom for discussion and debate. Students should feel comfortable and able to express their opinions. Questions should be answered and posed by the lecturer. Possible outcomes to the scenario or solutions to the problems can also be explored. I have found that the debriefing is the time where students whose opinions were not chosen for the group's decisions, air their opinions and test its legitimacy. Again, the lecturer can use literature and case studies as a substantiating instrument to measure the students proposals, however every situation is unique and even theories can be rewritten after a gaming simulation exercise has proved it incorrect.

The best success can be achieved to link the gaming simulation with a written assignment, where a student must test the theory, align what they have experienced and learned with literature and practice and present more detailed solutions. This ensures that students retain the information they were meant to learn in this theme or these themes. I do not give literature and reading material to my students, they must find their own academic books and journal articles to back up their statements. This again allows for the freedom to choose their stance.

Either at the end of the semester of after they have submitted the written assignment, students can be issued with the reflective questionnaire that allows them to freely make comments and think about the gaming simulation and what they have learned in the process. This provides valuable information for the lecturer on what should be explained in more depth and what to change or leave out.

Another issue that influences the use of gaming simulation in planning education is the personality of the lecturer. The more control a lecturer would prefer in regard to what students are meant to learn, what theories they should learn, how they should apply what they have learned and what should happen in the classroom; the less likely would be the success of a gaming simulation as teaching and learning tool for that lecturer. However, if you are an options person like me, who does not belief in a golden rule and allows multiple outcomes for the same problem and scenario, gaming simulation is perfect. I respect the diversity of people and opinions and allow them to be expressed freely in my class and different views bring forth very creative solutions for planning problems. As a gamer I understand games and gaming, which also aids to the success of my use of gaming simulations. My classes are chaotic and filled with laughter and discussion, but the students do state in the various reflective analyses and the evaluation of me as lecturer, that they do enjoy my classes and learn the most from them. I also regularly receive e-mails from former students who thank me for my teaching and learning style. They stated that they did not understand or appreciate it at the time of being a student, but now that they work, they experience the simulation in reality.

Gaming simulation is a valuable tool for teaching and learning in urban and regional planning, but it must be designed with care, it must allow freedom, foster creativity, be part of a bigger structure and be facilitated by a lecturer with an accommodating personality.

8.5. FURTHER RESEARCH

My research was done from an action research perspective and that does open up equal opportunity for other lecturers all over the world, to also reflect on their teaching and learning and the use of gaming simulation therein in urban and regional planning. Even the shortest and smallest gaming simulation merits research and reflection by the practitioner thereof, as it adds to the available knowledge of how planning can be taught more effectively. We can then analyse one another's data and draft a theory for learning that is unique to teaching and learning in urban and regional planning.

Research should also be done that inform the design of computer games, to bring it in line with reality. The biggest problem is that since the 1970s there have not been computer simulations that were made available in urban and regional planning, and in particular in the planning education. Thus custom computerised gaming simulations should be crated for town and regional planning, especially to be used in scenario planning by students. I love the idea of 'Intelligent GIS', then alone will GIS be something other than a 'cute' map-lined database. Computerised gaming simulation should thus combine the ability to import GIS data of a specific space into a gaming simulation. However, the victory outcome will be influenced by the planners who are involved in the gaming simulation designs' philosophical outlook. The utopian view of a city or region will look completely different for a primitivist anarchist, than for a 'pro-poor' planner, than for a taxpayer loyal planner, than for a 'rights to the city' activist, than for an anarcho-capitalist like me and so forth. Thus, an open, global and integrative network portal will work best. Issues of copyright should be set aside and a platform created where planners and planning lecturers all co-operate on the research and design of a computerised gaming simulation, that are close to reality and easily usable and accessibly by planners, planning students and other stakeholders.

8.6. CONCLUSION

This study has been ground-breaking on various levels. The fact that it is a 10-year unconventional longitudinal study is extremely unique in planning research that gets published in such detail. It adds to the limited amount of research in regard to planning education. Furthermore, it also adds to the limited amount of research that focuses on the application of gaming simulation in teaching and learning in urban and regional planning.

It is also an action research, action enquiry and living theory based case study, which is also very rare in urban and regional planning and the building sciences (Du Toit & Mouton, 2012). Planning is moving from

being a technocratic profession, to a profession that is collaborative, people-centred and protectionist towards the environment. Action research is thus the best research method to endorse this movement in planning, as planners that are reflecting on their practice, becomes planners that enable and drive change. Who 'The People' planners plan for is, is centred in another debate, especially if 'themes of the moment' (such as 'right to the city') is set aside for a more eclectic analysis. Only narrative based research can explore these debates.

This is also the responsibility of every planning lecturer, as we are few in the world and can learn from ourselves, our practice and one another, to promote the development of new theories that are so necessary in a fast changing world where economic and environmental problems lead to social and cultural problems, which planners need to deal with.

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