

# Understanding Academic Theories Through Computer Gaming

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## Abstract

1. When Sid Meier developed and produced the turn-based strategy computer game Civilization I in 1991, he could not have anticipated its popularity and success in years to come. In 2008, the fourth installation, Civilisation IV, was launched. It was released between October 25 and November 4, 2005 in North America, Europe, and Australia. As of March, 2008, Civilization IV has sold 3 million copies according to Take-Two Interactive.
2. The objective of the Civilization game series is for the gamers to build a virtual empire from scratch. Spanning the history of mankind, Civilisation and its sequels and clones alike are founded on the application of various social, political and economic theories; theories which have in fact shaped real life history and the present world. As such, it makes Civilisation, Rise of Nations, SPORE (launched in 7 September 2008) and the like, lively and suitable platforms for academic learning.
3. In this advanced module developed for Upper secondary students, they would have to study and analyse theories vis-à-vis a few strategy games. Students must, at the end of the module, be able to deconstruct and evaluate the usefulness and reliability of the games in helping them understand social theories. Conversely, students must also be able to use the games to analyse the validity of assumptions and basic strengths and weaknesses of the theories. Students are provided with basic readings and sources on the relevant theories and are required to undertake research on the theories to facilitate their task. Teachers also spend some time with the pupils before and between the gaming sessions to internalise their understanding of the theories.
4. This is an introductory module (1st run) and is part of the Differentiated Modules Programme (DMP) of the school. It is based on an IT (computer games - RISK II) based History lesson module on the macro-concepts of Colonialism and Imperialism for the Lower Secondary pupils that had been running for a few years. The content coverage and learning objectives of modules offered under the DMP generally fall outside of the mainstream curriculum and the DMP serves as a channel for pupils to pursue enrichment of specific knowledge that they are passionate about. Thus for this particular module, pupils keen on the Humanities and with a penchant for gaming would have opted for it from a wide variety of choices.

5. The original and main purpose of the module was to enhance pupils' understanding of academic theories in a fun way through utilising strategy computer games as a tool. The assessment aspects of analysing the utility of the games in achieving the same was added on as the planning of the module progressed. Some of these theories (or macro-concepts as understood in the realm of Humanities) have already been introduced to the pupils in subjects such as History and Social Studies through strategies such as concept-teaching. Hence the module did not specifically utilise any framework from the field of Gaming and Simulation and neither did the teachers apply any Design sciences approach (Klabbers 2008) to structure the module. On hindsight however, reframing the module based on the Design Sciences methodology is certainly workable, especially through the Design in the large process and applying relevant terminologies such as 'Form' versus 'Function'. This will not only benefit the pupils but the teachers as well. Despite of this, it will be productive at this stage to link what had already transpired to the relevant methodology and processes and assess the possible learning points. The learning points will be operationalised in the 2nd run of the module slated for the 4th school term of 2009 in October.

6. The strategy games which were utilised for the module are:

- Rise of Nations
- Civilisation III
- SPORE

7. Some of the theories for discussion which were selected for the module include:

- Social Darwinism
- Constructivism
- Social Psychological Theory - Escapism
- Marxism
- Capitalism
- Realpolitik
- Balance of Power
- Imperialism / Colonialism
- Nationalism
- Urbanism

Pupils are allowed to engage in all the strategy games available them but they must choose and analyze at least two theories mentioned above in their assessment.

8. The assessment is in the form of a report that must include the following:

- An introduction
- Literature Review of the chosen theories
- A Review of the Strategy Games
- The Utility of the Strategy games in enhancing understanding of Academic Theories
- The Utility of selected Academic Theories as perceived in the gaming experience and in the real world
- Conclusion

A rubric for the assessment requirements were provided to the groups and is attached.

9. These are a sampling of some of the general findings based on the assessments, and pupil and teacher reflections about the module :

Positive comments:

- Potential for further development through incorporating DIL processes for discussion
- Boys are actually engaging in the basics of design sciences as they engaged in gaming (practice) to assess utility of the games for specific purposes
- Enhancement in understanding of the various theories and interest in both gaming and simulation as more than an entertainment tool
- The assessment objectives necessitated the in depth analysis of gameplay and game objectives and this opened up a whole new world of appreciating the games and gaming for the pupils.

Areas for improvement:

- Lack of a sound theoretical framework to ground the whole module that covers both the gaming and simulation elements as well as the aspects on the humanities. Pupils should be exposed to this. It need not be an assessment requirement
- Lack of depth and relevance for certain original theories offered for discussion such as economic virtualism and MAD when analysed vis-a-vis the games
- More rigorous discussion of the theories through the use of primary sources and case studies required
- A basic analysis framework could have been useful for pupils to target aspects of gameplay in preparation of their assessment and the assessment rubrics could be tweaked as a follow-up
- Availability of variant/latest versions of games and how to decide on their inclusion / exclusion such as CIV IV etc.

**RAFFLES INSTITUTION  
HUMANITIES DEPARTMENT  
DIFFERENTIATED MODULE PROGRAMME (DMP) 2008  
UNDERSTANDING ACADEMIC THEORIES THROUGH COMPUTER GAMES**

**Assignment**

At the end of the module, you must submit the following:

1. An essay. Below is a guideline to what you must include in your write-up. The word limit range is 1600-1800. The submission date is at the end of the last lesson or Lesson 8. You are to acknowledge all resources utilized.
2. Your group reflection of 250-300 words on the Learning points and Challenges faced by the group (Typed)
3. Soft copies of your PowerPoint presentation slides saved in CDs / DVDs / thumb-drives (Range of 10-15 slides, using Arial fonts only, and font sizes not smaller than 20)

**Guidelines for your Write-up**

1. Introduction
2. Literature review of the theories
3. Analysis of the theories
  - a) Evaluation of the theories through the gaming experience:
    - Are there parallels between the theories and the games?
    - How did the game bring out the essence of the theories?
    - What examples are there?
    - Are there experiences in the game which highlight the limitations of the assumptions of the theories?
    - What examples are there?
  - b) A discussion of the relevance and implications of the theories today:
    - Are these theories still relevant in today's world?
    - Why are they relevant or not relevant?
    - What examples are there?
    - What implications are there if these theories are espoused?
4. Conclusion

	<b>WOW!</b>	<b>Good Job!</b>	<b>Developing</b>	<b>You are better than that!</b>
<b>Introduction</b>	<p>[5]</p> <p>Grab the reader's attention by using interesting anecdotes, questions, apt quotations, provocative questions, or statements. Tell the reader explicitly what the write-up (the point of the paper) is. Establishes the significance of your point to the reader clearly. Gives a clear preview of how the write up will be presented.</p>	<p>[3 – 4]</p> <p>Establishes the significance of your point to the reader clearly. Gives a clear preview of how the write up will be presented. * The introduction dispenses with the need to grab the readers' attention.</p>	<p>[2]</p> <p>Establishes the significance of your point to the reader with adequate clarity. Gives a brief preview of how the write up will be presented. * In both aspects above, the introduction demonstrates occasional lack of clarity.</p>	<p>[1]</p> <p>Does not grab the reader's attention. Does not tell the reader explicitly what the write-up (the point of the paper) is. Does not establish the significance of your point to the reader. Does not give a preview of how you are going to demonstrate your write-up.</p>
<b>Literature Review</b>	<p>[5]</p> <p>Review reflects accurate interpretation of literature, explores various aspects of the theories, compares different schools of thoughts concerning the theories and chooses relevant theories for the discussion.</p>	<p>[3 – 4]</p> <p>Review shows the potential of attaining WOW. It is able to achieve most of the expected skills in the discussion but at the same demonstrates some weaknesses.</p>	<p>[2]</p> <p>Review shows many weaknesses, and is unable to deliver many of the required skills.</p>	<p>[1]</p> <p>The analysis lacks accurate interpretation of literature, does not explore various aspects of the theories discussed, does not compare different the different schools of thoughts concerning the theories and fails to choose relevant theories for the discussion. It also shows a shallow understanding of theories.</p>

	<b>WOW!</b> [8 – 10]	<b>Good Job!</b> [6 – 7]	<b>Developing</b> [3 – 5]	<b>You are better than that!</b> [1 – 2]
<b>Analysis</b>	The analysis achieves and demonstrates skills such as contextualizing the theories, examining the limitations of theories, providing a profound discussion on the implications of these theories, and providing relevant evidences (both real and virtual) to support assertions both at the macro (conceptual) and micro-level. It is able to highlight themes and commonalities across theories where relevant.	Analysis shows the potential of attaining WOW. It is able to achieve most of the expected skills in the discussion but at the same demonstrates some weaknesses.	Review shows many weaknesses, and is unable to deliver many of the required skills.	Analysis is unable to contextualize the relevance of theories, examine the limitations of theories, provide a profound discussion on the implications of these theories on society, and fails to provide relevant evidences (both real and virtual) to support assertions.
<b>Conclusion</b>	[5] Summarises the main or important points cogently. Reinforces and justifies a stand clearly.	[3 – 4] Summarises the main or important points. Reinforces and justifies a stand.	[2] Summarise some of the main or important points or reinforces or justifies a stand.	[1] Conclusion does not summarize the main points. No indication of attempting to make any stand on any issue.
<b>Participation</b>	[5] Group displays clear commitment and positive attitude throughout Provides quality perspectives during gaming discussions Remains on task throughout the gaming sessions. Reflections demonstrate clear deliberation about the learning points & challenges.	[3 – 4] Group displays commitment & positive attitude most of the time. Provides relevant perspectives in gaming discussions. Remains on task through most sessions. Reflections demonstrate effort in highlighting the learning points & challenges.	[2] Group sometimes displays commitment & positive attitude. Provides relevant perspectives in some discussions. Remains on task through some of the sessions. Reflections demonstrate some effort in highlighting the learning points & challenges.	[1] Group lacks commitment and positive attitude. Not able to provide relevant perspectives during gaming discussions Seldom remains on task during the gaming sessions. Reflections show lack of effort and interest in the learning process.