Model Masters Module Outline

Innovation and Development

A Living Document

(v1 - August 2014)
# AfricaLics Model Masters Module: Innovation and Development

## CONTENTS

1. Module Overview ................................................................................................................. 4
   - Purpose of the Course ................................................................................................. 4
   - Expected Learning Outcomes of the Course ................................................................. 4
   - Course Content .............................................................................................................. 5
   - Mode of Delivery .......................................................................................................... 5
   - Instructional Materials and/or Equipment ................................................................. 6
   - Course Assessment .......................................................................................................... 6
   - Core texts and journals ................................................................................................. 6

2. Week by week guide of study ........................................................................................... 7
   - Part 1: An introduction to innovation and development ........................................... 7
     - Week 1 ......................................................................................................................... 7
     - Week 2 ......................................................................................................................... 8
     - Week 3 ......................................................................................................................... 9
     - Week 4 ......................................................................................................................... 10
   - Part 2: Methods for analyzing the relationship between innovation and development .................................................. 12
     - Week 5 ......................................................................................................................... 12
     - Week 6 ......................................................................................................................... 13
     - Week 7 ......................................................................................................................... 14
   - Part 3: The innovation, industry and policy nexus: current policy debates .................... 15
     - Week 8 ......................................................................................................................... 15
     - Week 9 ......................................................................................................................... 17
     - Week 10 ...................................................................................................................... 18
     - Week 11 ....................................................................................................................... 19
   - Part 4: The practitioner perspective: project work .......................................................... 20
     - Week 12 ....................................................................................................................... 20
     - Week 13 (and 14) ...................................................................................................... 21
     - Week 14 or 15............................................................................................................ 22
   - Part 5: Assessment ........................................................................................................... 23
AfricaLics Model Masters Module: Innovation and Development

Week 15 - 16 or 16 - 17 ................................................................................................. 23

3. Examples of possible student handouts ........................................................................ 24

   Week 1 .......................................................................................................................... 24

   Week 2 .......................................................................................................................... 27

   Week 7 .......................................................................................................................... 28

4. Class facilitator notes ................................................................................................. 31

   General support notes ................................................................................................. 31

   Weekly take home points .............................................................................................. 31

   Suggested weekly activities outlined ........................................................................... 35

5. Assessment .................................................................................................................. 38

   Continuous assessment (60%) ...................................................................................... 39

   Final assessment (40%) ................................................................................................. 39

6. Supplementary reading ............................................................................................... 40
1. MODULE OVERVIEW

Course Code:
Title: Innovation and Development
Credits: Learning and assessment has been developed to qualify as 3 Credit Hours, 3 Units or 3 Points (depending on your institutions’ credit rating system)

PURPOSE OF THE COURSE

The aim of the module is to introduce students to the role that innovation activities have on, and how they are impacted by, economic and social development. In so doing, the module will create reflexive practitioners who understand the importance of creating social value as well as business added value.

The module content can be modified to satisfy the requirements of particular contextual environments within which students are studying. For example, for partner universities in East Africa, continuous assessment and/or project activities could focus on the six priority sectors as stipulated by the East African Community Industrialization Policy 2012 namely:

(i) Iron-ore and other mineral processing;
(ii) Fertilisers and agrochemicals;
(iii) Pharmaceuticals;
(iv) Petro-chemicals and gas processing;
(v) Agro-processing; and
(vi) Energy and Bio-fuels.

EXPECTED LEARNING OUTCOMES OF THE COURSE

The Learning Outcomes are proposed as follows:

(a) Gain knowledge and understanding of:
   - Innovation, entrepreneurship and development theories and concepts
   - the historical trends in academic thought and policy emphasis with regards the relationship between innovation and development (globally and regionally)
   - issues effecting innovation and development specifically in key economic sectors for the region/country

(b) The development of the following cognitive skills:
   - Engage critically with literature from innovation and development studies and be able to think using a more interdisciplinary perspective when solving problems
   - Assess the application of innovation and entrepreneurship policy and practice in the promotion of social and economic development

(c) The development of the following practical academic skills:
AfricaLics Model Masters Module: Innovation and Development

- Analysis of simple data tables from websites such as the World Bank, UN statistics, African STI Observatory etc
- Assess the usefulness of case studies
- Conduct a stakeholder analysis
- Ability to conduct a review of a system of innovation
- Conduct an academic social science based literature review in the area of innovation and development
- Carry out research, data analysis and present findings in a concise and comprehensive report

(d) The development of the following professional skills:

- Reflect critically on their role as an innovation and development practitioner

COURSE CONTENT

The module will be run over 17 weeks of which 14 or 15 will be ‘teaching weeks’ (depending on whether a semester runs for 16 or 17 weeks). During the teaching weeks students will cover the following main topic areas:

- An introduction to innovation and development: theory and history (4 weeks)
- Methods for analyzing the relationship between innovation and development (3 weeks)
- The innovation, industry and policy nexus (4 weeks)
- The practitioner perspective: project work (3/4 weeks)

The last two weeks of study (weeks 15 and 16 or 16 and 17) are assessment weeks. A week by week breakdown of study is provided below in Section 2.

MODE OF DELIVERY

This module uses a Problem Based Learning (PBL) philosophy to guide its methodology. More information on PBL can be found at: http://www.ucpbl.net/. In short, PBL refers to a way of teaching and learning that:

1. Is focused on learning through active enquiry
2. Has the teacher as facilitator
3. Students as pro-active
4. Has learning focused on problem solving supported by theory and practice.

As such this module uses facilitated tutorials rather than lectures supported by practical study time (devoted to case study analysis, self study and project work).

Students will be expected to conduct a series of activities – mostly around selected readings – every week before attending a 2 hour class. This involves self-study (reading, taking notes) but also group work (developing class presentations, preparing for class debates and working towards a sustained period of group work in the last 3-4 weeks of teaching).
The 2 hour class is recommended to be run as a one hour lecture or guided discussion followed by a one hour tutorial rather than as a full two hour lecture.

Students will be encouraged to work in groups throughout the module – to form study groups in the first week which will then work together on a project activity in the last three or four weeks of the module. Students will be expected to have identified a problem they wish to address during the group work weeks and to have started working on background reading by Week 6.

INSTRUCTIONAL MATERIALS AND/OR EQUIPMENT

All students will require access to a computer and the internet throughout their study in order to access the reading materials.

COURSE ASSESSMENT

This module will be assessed through both continuous assessment tests and a final assessment. The final assessment can either be conducted as an exam or as a project – based on the project work conducted in the last weeks of the module.

The percentages for each assessment mechanism are recommended to be as follows:

- 60% continuous assessment
- 40% final assessment

Specimen examples of the two forms of final assessment are provided in Section 5 below.

CORE TEXTS AND JOURNALS

Specific readings will be given each week up to Week 12 when project work starts. This will include two/three core readings as well as additional supplementary readings (see last section of this document) each week. In addition, the following books and journals are recommended as reference texts that students are encouraged to read and refer to throughout the module:


Students are also encouraged to review the AfricaLics knowledge bank – [www.africalics.org](http://www.africalics.org)
2. WEEK BY WEEK GUIDE OF STUDY

Each week students will conduct a variety of self-study exercises – usually around selected readings – and then attend a class that can either be run as part lecture/part tutorial or as 100% tutorial.

Each week’s recommended self-study exercises and class activities are outlined below, divided into four distinct parts of the module: introduction and theory, methods, industry-policy nexus and practice.

PART 1: AN INTRODUCTION TO INNOVATION AND DEVELOPMENT

WEEK 1

Introducing the relationship between innovation and development

Short description: This week students will become acquainted with the linkages between innovation and development.

Learning outcomes: This week students will work towards meeting the following module LOs:

- Gain knowledge and understanding of:
  - Innovation, entrepreneurship and development theories and concepts
  - the historical trends in academic thought and policy emphasis with regards the relationship between innovation and development (globally and regionally)

The development of the following cognitive skills:

- Engage critically with literature from innovation and development studies and be able to think using a more interdisciplinary perspective when solving problems

The development of the following practical academic skills:

- Assess the usefulness of case studies

Activities

The study will be split between the following activities:

Self-study prior to the class (6 hours):

1. Read the following texts:
   - Cozzens and Kaplinsky (2009), Chapter 3 of Lundvall et al. Handbook of Innovation Systems and Development… (core text)

2. Complete an introductory quiz (see Section 3)
3. Read and review a case study against the case study checklist [to be chosen by the class facilitator]

The class (2 hours)

4. First hour: Lecture or guided discussion
   - Introduction by the class facilitator to key concepts and the case study showing how innovation aids development and/or vice versa – this can be done as a lecture or through general discussion over the first hour of the class

5. Second hour: Tutorial
   - Discussion of students’ answers to the introductory quiz to address any initial queries re: basic definitions
   - A discussion on when innovation and development goals might not be aligned – encouraging students to think of and discuss examples.
   - A discussion of what students can expect from the rest of the module and any administrative/practical issues students might be experiencing
   - Study group formation – through these groups students work together and support each other through their study working up towards the ‘full-time’ group work in the last few teaching weeks.
   - Ensure students understand the activities that they will be carrying out in their study groups.
   - Agreement as to which study groups will prepare presentations for selected study weeks.

WEEK 2

Innovation and invention

Short description: This week students will interrogate the idea of innovation as something that is ‘introduced’ and/or ‘commercialised’ and not simply ‘new to the world’ as per inventions.

Learning outcomes: This week students will work towards meeting the following module LOs:

Gain knowledge and understanding of:

- Innovation, entrepreneurship and development theories and concepts
- the historical trends in academic thought and policy emphasis with regards the relationship between innovation and development (globally and regionally)

The development of the following practical academic skills:

- Assess the usefulness of case studies

Activities:

The study will be split between the following activities:

Self-study prior to the class (6 hours):
1. Read the following texts:

The class (2 hours):

2. First hour: Lecture or guided discussion
   - Introduction by the class facilitator to the case study and terms being considered – clarifying terms, discussing the changing views on invention

3. Second hour: Tutorial
   - A class discussion of the case study (Novy-Hildesley paper) – against the checklist to understand whether it is an example of successful innovation? What are the characteristics of successful innovation? Other examples of moving an invention to innovation?
   - Facilitator provides handout of Rothwell’s characteristics of successful innovation for use during discussion
   - Prepare students for debate next week

WEEK 3

**Innovation and entrepreneurship**

Short description: This week students will review their understanding of innovation to date and consider how it relates to the concept and practice of entrepreneurship.

Learning outcomes: This week students will work towards meeting the following module LOs:

  - Gain knowledge and understanding of:
    - Innovation, entrepreneurship and development theories and concepts
  - The development of the following cognitive skills:
    - Engage critically with literature from innovation and development studies and be able to think using a more interdisciplinary perspective when solving problems
    - Assess the application of innovation and entrepreneurship policy and practice in the promotion of social and economic development

**Activities**
The study will be split between the following activities:

**Self-study prior to the class (6 hours):**

1. Read the following texts:

2. Read the following case study and answer the following question in preparation for the class debate – who are the innovators and entrepreneurs in this story and why?

**The class (2 hours):**

3. First hour: Lecture or guided discussion
   - Introduction by the class facilitator to key terms and issues – introduce BoP, inclusive innovation argument, what are the differences and similarities between the different approaches – management vs. innovation based approaches?

4. Second hour: Tutorial
   - Class debate for and against the motion: Innovation is more essential for economic growth than entrepreneurship – see Section 4.
   - Ask students to review the following paper (after class) to assist in thinking about the differences between these theories and approaches: Foster, C. and Heeks, R. (2014) “Nurturing user–producer interaction: inclusive innovation flows in a low-income mobile phone market” *Innovation and Development* DOI: 10.1080/2157930X.2014.921353

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**WEEK 4**

**Models of innovation**

**Short description:** This week students will delve deeper into the study of innovation processes through the consideration of different innovation models. Specifically the idea that there is a need to consider innovation as more than a linear process (invention to production to use) to a more complex set of actions, and actors; the concept of systems of innovation.

**Learning outcomes:** This week students will work towards meeting the following module LOs:

- Gain knowledge and understanding of:
  - Innovation, entrepreneurship and development theories and concepts
• the historical trends in academic thought and policy emphasis with regards the relationship between innovation and development (globally and regionally)

The development of the following cognitive skills:

• Engage critically with literature from innovation and development studies and be able to think using a more interdisciplinary perspective when solving problems

Activities

The study will be split between the following activities:

Self-study prior to the class (6 hours):

1. Read the following texts:

2. Also read one of these case studies:

3. Study groups should choose one case study and prepare a presentation outlining the main issues raised from the readings (15 minutes in length max) considering how the main arguments and each case study fit with the figure below.

![Diagram of Mode 1 and Mode 2]

The class (2 hours):

4. First hour: Lecture or guided discussion
   • Clarification of key terms and further issues
5. Second hour: Tutorial
   • Student presentation and Q&A
   • Discussion of the two case studies (agriculture and health) and the changes in models of innovation that have taken place – to what extent can you think of other examples? Where might linear innovation models still hold sway and why?

PART 2: METHODS FOR ANALYZING THE RELATIONSHIP BETWEEN INNOVATION AND DEVELOPMENT

WEEK 5

Innovation and development data analysis

Short description: Students will be introduced to different ways of looking at data – both quantitative and qualitative relating to innovation and development in this week’s study. They will consider the value of data to assist in understanding poverty, social and economic development.

Learning outcomes: This week students will work towards meeting the following module LOs:

- Gain knowledge and understanding of:
  1. the historical trends in academic thought and policy emphasis with regards the relationship between innovation and development (globally and regionally)

- The development of the following cognitive skills:
  • Assess the application of innovation and entrepreneurship policy and practice in the promotion of social and economic development

- The development of the following practical academic skills:
  • Analysis of simple data tables from websites such as the World Bank, UN statistics, African STI Observatory etc.

Activities

The study will be split between the following activities:

Self-study prior to the class (6 hours):

1. Read the following texts:
   • Lorentzen, J. (2011) Food on the table and disease at the door: insights from low-income countries and regions for measuring innovation Innovation and Development Vol. 1(1)
The class (2 hours):

2. First hour: Lecture or guided discussion
   - Clarification of key terms and further issues by class facilitator – quantitative vs. qualitative data, core indicators for poverty and innovation

3. Second hour: Tutorial
   - Discussion around the following question: What are the pros and cons of using data to measure and evaluate innovation and development?
   - Conduct a class activity asking students to review data – see Section 4

WEEK 6

Stakeholder analysis

Short description: Students will be introduced to the role of stakeholders in innovation (not just entrepreneurs but throughout the value chain) and how to consider who the relevant stakeholders are through the conduct of stakeholder analysis.

Learning outcomes: This week students will work towards meeting the following module LOs:

The development of the following cognitive skills:

- the historical trends in academic thought and policy emphasis with regards the relationship between innovation and development (globally and regionally)
- issues effecting innovation and development specifically in key economic sectors for the region/country

The development of the following practical academic skills:

- Conduct a stakeholder analysis
- Assess the usefulness of case studies

Activities

The study will be split between the following activities:

Self-study prior to the class (6 hours):
1. Read the following texts:

  
  NB: this is not about stakeholder analysis in an innovation context but in a (health) policy context. It is useful because it gives a background to the history of stakeholder analysis in policy and development studies.


2. Read the following case study, review using the case study checklist to prepare for group work in class:


The class (2 hours):

3. First hour: Lecture or guided discussion

   - Clarification of key terms and further issues by class facilitator – stakeholder analysis, process of the analysis, pros and cons vs. other approaches

4. Second hour: Tutorial

   - Conduct class activity (crude stakeholder analysis) in groups – see Section 4
   - Hold class discussion on progress of study groups in identifying a problem area for group work

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**WEEK 7**

**Identifying a ‘System of Innovation’**

**Short description:** Students will consider how a system of innovation can be defined and delineated at different levels (national, regional, sectoral, global)

**Learning outcomes:** This week students will work towards meeting the following module LOs:

- Gain knowledge and understanding of:
  - the historical trends in academic thought and policy emphasis with regards the relationship between innovation and development (globally and regionally)
  - issues effecting innovation and development specifically in key economic sectors for the region/country

- The development of the following cognitive skills:
  - Assess the application of policy and practice of innovation and entrepreneurship in the promotion of social and economic development of the country
The development of the following practical academic skills:

- Conduct a review of a system of innovation
- Conduct an academic social science based literature review in the area of innovation and development

**Activities**

The study will be split between the following activities:

**Self-study prior to the class (6 hours):**

1. Read the following texts:

   NB: this is a long document. This will also be an exercise in 'skim reading’. It is recommended that students only spent one hour reading this document.

2. Complete the Activity Sheet – See Section 3 – comparing different depictions of innovation systems – this includes each student developing a diagram of the innovation system of their choice for presentation during the class.

**The class (2 hours):**

3. First hour: Lecture or guided discussion
   - Clarification of key terms and further issues by class facilitator – link between stakeholder analysis and innovation systems evaluation (introduce idea of innovation brokers and intermediary organisations)

4. Second hour: Tutorial
   - Conduct class activity (review individual diagrams and the related SWOTs) – see Section 3 and 4 below

**PART 3: THE INNOVATION, INDUSTRY AND POLICY NEXUS: CURRENT POLICY DEBATES**

**WEEK 8**

**The macro environment I: governance and policy**

Short description: Students will be introduced to changes in thinking around governance (from government) and the implications of this for policy making. They will also consider the role of policy in making innovation and development objectives match up.
Learning outcomes: This week students will work towards meeting the following module LOs:

Gain knowledge and understanding of:

2. Innovation, entrepreneurship and development theories and concepts

3. the historical trends in academic thought and policy emphasis with regards the relationship between innovation and development (globally and regionally)

The development of the following cognitive skills:

- Engage critically with literature from innovation and development studies and be able to think using a more interdisciplinary perspective when solving problems

- Assess the application of innovation and entrepreneurship policy and practice in the promotion of social and economic development

Activities

The study will be split between the following activities:

Self-study prior to the class (6 hours):

1. Read the following texts:

The class (2 hours):

2. First hour: Lecture or guided discussion
   - Clarification of key terms and further issues by class facilitator: government vs. governance; NPM, policy definitions, who ‘does’ policy etc.? Who the main actors are involved in policy within a system of innovation etc.?

3. Second hour: Tutorial
   - Class discussion on the following questions: What is the relationship between governance and policy? At what levels does policy take place? How do the papers use the term ‘integrated policy’ in different ways and what are the implications on being able to meet opposing policy objectives?
   - Point students to literature on policy process but note that this is not possible to cover here specifically due to time constraints – some basic texts provided in Section 6 (Supplementary reading).
   - Prepare students for next week’s class debate
WEEK 9

The macro environment II: Intellectual Property Rights (IPRs) and trade regulations

Short description: Students will consider one element of policy in depth this week, namely the role and function of IPRs and trade regulations.

Learning outcomes: This week students will work towards meeting the following module LOs:

Gain knowledge and understanding of:

4. Innovation, entrepreneurship and development theories and concepts

5. the historical trends in academic thought and policy emphasis with regards the relationship between innovation and development (globally and regionally)

ii. The development of the following cognitive skills:

- Engage critically with literature from innovation and development studies and be able to think using a more interdisciplinary perspective when solving problems

- Assess the application of policy and practice of innovation and entrepreneurship in the promotion of social and economic development of the country

Activities

The study will be split between the following activities:

Self-study prior to the class (6 hours):

1. Read the following texts:


2. Read the following news articles and prepare for the class debate:


   - [http://www.reuters.com/article/2014/01/17/us-safrica-pharma-idUSBREA0G0N720140117](http://www.reuters.com/article/2014/01/17/us-safrica-pharma-idUSBREA0G0N720140117)

The class (2 hours):

3. First hour: Lecture or guided discussion

   - Clarification of key terms and further issues by class facilitator.

4. Second hour: Tutorial

   - Class debate for and against the motion: IPRs are good for the economy and for health.
WEEK 10

The meso environment: networking and partnerships

Short description: Following on from previous introductions to the importance of different types of relationships – networks, clusters, partnerships – in promoting innovation, this week will ask students to think about this in relation to policy development and social and economic development goals.

Learning outcomes: This week students will work towards meeting the following module LOs:

- Gain knowledge and understanding of:
  2. Innovation, entrepreneurship and development theories and concepts
  3. the historical trends in academic thought and policy emphasis with regards the relationship between innovation and development (globally and regionally)

The development of the following cognitive skills:

- Engage critically with literature from innovation and development studies and be able to think using a more interdisciplinary perspective when solving problems
- Assess the application of policy and practice of innovation and entrepreneurship in the promotion of social and economic development of the country

The development of the following practical academic skills:

- Conduct an academic social science based literature review in the area of innovation and development

Activities

This week students will conduct an activity that provides a ‘trial run’/ introduction to their group work in weeks 12 – 14/15.

The study will be split between the following activities:

Self-study prior to the class (6 hours):

1. Read the following text that provide an introduction to underlying theory for meso level interactions:

2. Students work in their study groups. Each group to choose a case study from this list to study over the course of this week and prepare a presentation for the class:
   - Product development partnerships in health
     Kale, D, Hanlin, R, Chataway, J (2013) ‘New drugs and health technologies for low income populations: Will the private sector meet the needs of low income populations in developing countries?’, Innovation and Development 3 (1) 121-137
   - Grassroots innovation movements in energy

- **Clusters in agriculture**


In developing your presentation each group must:

- Read their selected paper and then conduct a wider literature search (starting with the supplementary reading) to gain more detail on the idea of meso-level interactions and each case study (product development partnerships/ grassroots innovation networks / clusters) as the best routes to innovation in each sector
- Identify the main elements of the PDP/ network/ cluster – actors (stakeholder analysis) and the system in which it operates (innovation system)
- Conduct a SWOT to consider what works and what doesn’t
- Develop 2/3 implications for policy and practice as a result of your findings
- Prepare a short presentation on your study and findings – 15 minutes only for each group

**The class (2 hours):**

3. First hour: Lecture or guided discussion
   - Class facilitator outlines main issues, clarifications on terms etc.

4. Second hour: Tutorial
   - Presentations by each group with Q&A
   - Reflections by study groups on lessons learnt in preparation for group work starting week 12.

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**WEEK 11**

**The micro environment: the reflexive practitioner**

Short description: This week students will be asked to consider their own role in innovation and development and how they influence and are influenced by the meso and macro environment around them.

Learning outcomes: This week students will work towards meeting the following module LOs:

The development of the following cognitive skills:

- Engage critically with literature from innovation and development studies and be able to think using a more interdisciplinary perspective when solving problems

The development of the following professional skills:

- Reflect critically on their role as an innovation and development practitioner

**Activities:**

The study will be split between the following activities:
Self-study prior to the class (6 hours):

1. Read the following texts:
   - “Measuring the Social Value of Innovation: A Link in the University Technology Transfer and Entrepreneurship Equation” Special issue of Advances in the study of Entrepreneurship, innovation and Economic Growth, Vol. 12 – read as a minimum the introductory article.

The class (2 hours):

2. First hour: Lecture or guided discussion
   - Clarification of key terms and further issues by class facilitator, notably: the differences between reflexivity and reflectivity; the commonalities and differences between ideas of change agents, social entrepreneurs, policy entrepreneurs etc., social vs. private value creation, innovation for social inclusion.

2 Second hour: Tutorial
   - General discussion and Q&A

PART 4: THE PRACTITIONER PERSPECTIVE: PROJECT WORK

WEEK 12

Group Work I

Short description: Over the next 3 or 4 weeks students will work in groups to consider all that they have learnt, as reflexive practitioners, and apply it to an innovation and development problem they have identified affecting a key priority area for the country. They will conduct a review of the problem, write a report and presentation outlining their work and recommendations. They will also present this work.

Learning outcomes: During these weeks students will work towards meeting the following module LOs:

The development of the following cognitive skills:

- Engage critically with literature from innovation and development studies and be able to think using a more interdisciplinary perspective when solving problems

- Assess the application of policy and practice of innovation and entrepreneurship in the promotion of social and economic development of the country

The development of the following practical academic skills:
• Analysis of simple data tables from websites such as the World Bank, UN statistics, African STI Observatory etc
• Design and write up of case studies
• Conduct a stakeholder analysis
• Ability to conduct a review of a system of innovation
• Conduct an academic social science based literature review in the area of innovation and development
• Carry out research, data analysis and present findings in a concise and comprehensive report [for project assessed modules only]

The development of the following professional skills:
• Reflect critically on their role as an innovation and development practitioner

Activities
The study will be split between the following activities:

Recommended self-study prior to/ after the class (7 hours):
1. Each study group conducts an initial review of the chosen sector and identified ‘innovation and development’ problem agreed on earlier in the module. This should include sharing out tasks in order to conduct a literature review of current theories and ideas on each element of the identified problem
2. Each student writes up 500 words on their particular area of review the literature review
3. Identify what method(s) of analysis of the problem they will undertake (data analysis, case study, stakeholder analysis, review/ identification of the innovation system)

The class (1 hour):
3 First hour: Tutorial
• Outline the tasks and timings of the activities they must complete over the next 3/4 weeks
• Answer any initial questions
• Each group discusses progress with literature review
• Discussion of research methods to be used by each study group

WEEK 13 (AND 14)

Group Work II
Short description: Students continue to work in groups to review a problem identified.
Learning outcomes: During these weeks students will continue to work towards meeting the module LOs outlined in Week 12

Activities
The study will be split between the following activities:
Recommended self-study prior to/after the class (7 hours):

1. Each group conducts their analysis
2. Each student writes up an element of the data collection and analysis (250 words minimum each)

The class (1 hour):

4 First hour: Tutorial
   • Discuss progress with data collection and analysis
   • Discuss problems faced and solutions found with support from the class facilitator

WEEK 14 OR 15

Group Work III

Short description: Students continue to work in groups to review a problem identified.

Learning outcomes: During these weeks students will continue to work towards meeting the module LOs outlined in Week 12

Activities

The study will be split between the following activities:

Recommended self-study prior to/after the class (7 hours):

1. Each group reviews and write up their results from data analysis
2. Each student writes up an element of the results (minimum 500 words on their particular area of results)
3. Group decision on how to present their work in a report and presentation.
4. Development of both the report and the presentation (with labeling of each person’s contributions)

The class (2 hours):

5 First hour: Presentations
   • Each study group presents their work to the facilitator and two/three invited faculty and/or industry stakeholders – each group has 15/20 minutes to present their report

6 Second hour: Tutorial
   • Q&A
   • Discuss process, lessons learnt
   • Take home points from the module:
     o Remember the context in which you are working especially the social and not just the business needs and impact;
     o Enable and practice ‘using, doing and interacting’;
     o Relationships and institutions matter.
PART 5: ASSESSMENT

The last two weeks of the module are dedicated to student preparation and conduct of final assessment activities. Further details of continuous assessment and specifics of assessment methods (final project report and/or specimen exam paper) are covered in Section 5 below.

WEEK 15 - 16 OR 16 - 17

Assessment period

Short description: Over two weeks students prepare their for their final assessment activity. This will either entail an exam in the second week or the submission of the project report (taking into account comments and feedback received from the presentation session).
3. EXAMPLES OF POSSIBLE STUDENT HANOUTS

For some weeks it is recommended that students’ are given activities to conduct during their self-study time and/or at the end of class to provide them with additional learning material. Outlined here are examples of the type of activity handouts and/or additional learning material that can be provided for each relevant week.

WEEK 1

There are two handouts that it is recommended to give to students to complete and/or use in the coming weeks. These are an introductory quiz and a checklist for reviewing case studies.

INTRODUCTORY QUIZ

It is recommended that students complete this quiz before starting any reading or study for this module and then return to their answers on completion of the module/ perhaps even answering the quiz a second time around to gain a sense of how much they have learnt and how far they have developed their understanding of key issues.

There are no right and wrong answers to this quiz. This is an exercise in formative assessment and self reflection only.

Terminology

1. What do you understand the term ‘innovation’ to mean?
2. What do you understand the term ‘development’ to mean?
3. What examples of both can you think of?
4. Do you think innovation can aid development? Why?
5. Do you think that development can aid innovation efforts? Why?

What do you expect to achieve from taking this module in terms of:

1. Learning and knowledge
2. Practical skills
3. Other
CASE STUDY CHECKLIST

This is initially used in Week 1 but it is recommended students refer to this in Weeks 2, 3, 4, 6, 10 and during group work. This checklist is adapted from material used in an Open University masters' module on international development (TU871)

Case studies are used in a number of disciplines to provide working examples that enable you to consider the linkage between theory and practice. Case studies allow us to assess the value and limitations of theories and concepts. Reviewing multiple case studies, or the same case study at different times/places provides a means of considering similarities and differences. Most notably, case studies allow you to consider why something happens and how something happens – to get to grips with the underlying issues and activities or circumstances that occur.

It is important to remember that the way you review and consider a case study isn’t however going to be the same as someone else. Case studies are seen through the eyes of individuals, each who have their own perspectives as a result of different worldviews and experiences.

At the same time, case studies are only as good as the information that is provided in them. So case studies might be missing information, there might be ambiguous or unreliable information included or it might be written from a particular perspective. Finally, conducting rigorous case study research is time consuming – they require in-depth data collection usually over a long period of time to fully understand all of the underlying context.

That being said, case studies are a valuable part of the qualitative researchers’ toolkit. For more in-depth details on case studies look at Yin, R. (1984; 2009) Case Studies Research: Design and Method by Sage Publications. Taking into consideration their pros and cons mentioned above, it is important to consider the following checklist of questions when reviewing a case study:

1. Is the case study telling a story or multiple stories? What are these stories?
2. Who are the visible and invisible actors in the story? What perspectives are being heard and left out in the story?
3. In what context in the story taking place? Are there organizational and institutional power relationships visible in the story? What are the constraints and enabling factors for actors and activities in the story?
4. Does the case study fit the argument that you are trying to make when taking all of the above into account?
5. Is there any evidence missing in the story or is the case study thoroughly covered to meet your needs?
GROUP WORK GUIDELINES

This module places a strong emphasis on group work. In order to help you work in groups, particularly, if this is one of the first times you have studied in a collaborative arrangement before, here are some tips on how to effectively work in a group and get the most out of group working:

1. Getting started
   - Start with introductions
   - Start by finding out what everyone wants to get out of the module – find common ground
   - Start by finding out who has what skills – you will need to each play a role and should maximize on each persons’ attributes.
   - Agree on roles for each team member. It is good to have at least one team leader and a recorder (someone who takes notes) and one rapporteur. Consider rotating these roles so everyone gets a chance to hold these roles.
   - Start by developing a timetable/ schedule for your activities

2. Effective communication
   - It is important to ensure everyone has a voice and each voice can be heard – consider agreeing on a system for discussion (e.g. each person gets a minute/ two minutes to share their ideas before a general discussion takes place)
   - That said, its also important to make sure that discussion isn’t dominated by one person or one topic or you won’t be able to complete your tasks effectively – again an agreement on the discussion system or process should help here.
   - Agree on a system for making decisions – voting by consensus or majority for example.

3. Common obstacles and overcoming them
   - Free-riding – if tasks are not equally divided and clearly agreed on, often there are group members who can appear to not ‘pull their weight’ and complete tasks allocated to them. Regular progress meetings can help overcome this.
   - Little progress – sometimes you will get stuck and don’t seem to be making progress. Don’t be afraid to take a break and do something different to clear everyone’s heads. Also, doing a group activity (a game of football for example) can also help build team cohesion, a lack of which can also be a possible reason for a lack of progress
   - Disputes – debates can become heated in group work and arguments arise. Its important to try and get the discussion to move past the area of disagreement. Move onto another topic and come back to the issue at a later date once everyone has had time to reflect on an issue.

For further information on how to work in groups, you can also look at:

http://www.studyguide.aau.dk/aalborg-pbl-model/group-work-at-aalborg-university/

http://isites.harvard.edu/fs/html/icb.topic58474/wigintro.html

http://www.reading.ac.uk/internal/studyadvice/StudyResources/Seminars/sta-groupwork.aspx
WEEK 2

Students are introduced to Rothwell’s work on innovation in Week 2. Rothwell developed a set of eight characteristics to describe “successful innovation”. These are outlined below and are provided as supplementary learning material.

ROTHWELL’S CHARACTERISTICS OF SUCCESSFUL INNOVATION

- Knowing how to get and where to get knowledge from or an appreciation of the importance of communication. This includes both within a firm and networking between firms
- Acknowledging that innovation is a task for all departments and individuals within a company
- The importance of project management; effective planning and resource allocation as per objectives
- Efficient and high quality production systems
- An emphasis on the market and user needs
- A good ‘after sales service’ such as the ability to provide spares or customer service support
- The importance of key individuals such as product champions or ‘technological gatekeepers’. These are individuals who keep an idea in the spotlight (they ‘champion’ it) until someone else in the company takes an interest in it or those that act as access points for key knowledge and technology needed to develop a new product or process
- High quality management and an emphasis on the importance of developing human capital or skilled and energised staff.

WEEK 7

To get students to think diagrammatically about systems of innovation and what their different components look like, students are asked in Week 7 to complete an activity sheet that provides examples of different diagrammatic representations of systems of innovation and to then draw their own.

SYSTEMS OF INNOVATION ACTIVITY SHEET

1. Review the following diagrammatic pictures of different innovation systems. What are the similarities and differences between them? (30 minutes)

   Figure 1
   
   ![Diagram 1]
   
   Source: [http://www.scotland.gov.uk/Publications/2006/01/18151934/3](http://www.scotland.gov.uk/Publications/2006/01/18151934/3)

   Figure 2
   
   ![Diagram 2]
   
   Source: Mytelka (2008)

2. Think of an innovation system that you have knowledge of/ have studied in this module so far. Conduct a brief internet search to get a better understanding of the system components. (1 hour)

3. Diagrammatically draw your understanding of your chosen innovation system. (30 minutes)
4. Conduct a brief SWOT analysis of the system you have mapped out. (1 hour)

5. Put the diagram of your innovation system and the SWOT table into two powerpoint slides to use during a 5 minute presentation to your class members at the start of your tutorial class. (30 minutes)

**Notes on conducting an internet search and literature review**

Today it is rare to only search for material when doing academic research at a library or rather physically sat at a library relying on the books that the library has to offer. Increasingly, and more normally, any literature review and initial search of material for a piece of work starts from a search of the internet. There are three main elements to this search process:

1. Define your search terms
2. Conduct a general search
3. Conduct an academic literature search
4. Collate your material into an annotated bibliography

Once this is done, the next step is to write your literature review. This goes beyond being an annotated bibliography to become a narrative text that outlines you main literatures that you are using as the basis for your argument (either to provide a conceptual framework or because you will be using an element of theory as your underlying hypothesis that you will test). It should also provide a rationale for your choice of literatures and set up the rest of your study (the latter is particularly important if the literature review is only one part of a bigger document).

As a result the main sections of a literature review are:

1. An introduction – outlining the objective of the literature review and the main issues discussed in the review
2. A background or rationale section – outlining why you have chosen the objective introduced in the introduction within a context of current academic or policy debates
3. Sections reviewing the different literature(s) – one section for each of the literatures that you are reviewing (what are the main arguments in this literature that are relevant to your research, any opposition to these arguments and then a discussion of why you still think they are valid for your study)
4. A conclusion section – a summary section recapping the main points and issues raised by the literature and which outline your next steps i.e. a conceptual framework and/or how this will help you conduct the next stage of your research activities.

**Notes on doing a SWOT analysis**

A SWOT analysis is where you consider the Strengths, Weaknesses or and Opportunities and Threats for your research issue or a case study being investigated. The first two are issues that are internal to your research issue/ case study. Opportunities and Threats are those that are external to your research issue or case study. This method of brainstorming/ evaluation became popular within businesses and has been increasingly adopted by businesses in planning their activities. While originally developed for firms to evaluate their own situation within the market place, this method of analysis is useful more generally in understanding the internal and external context in which a research issue or case study is situated.

To conduct a SWOT analysis, complete the following table for your research issue or case study:

---

29
<table>
<thead>
<tr>
<th>Strengths</th>
<th>Opportunities</th>
</tr>
</thead>
<tbody>
<tr>
<td>List the (internal) capabilities or assets which are key to the success of the research issue/ case study:</td>
<td>List the (external) prospects that the research issue/ case study could/ should build on to be more successful:</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Weaknesses</th>
<th>Threats</th>
</tr>
</thead>
<tbody>
<tr>
<td>List the (internal) liabilities or problem areas that hinder success of the research issue/ case study:</td>
<td>List the (external) pressures that are likely to or have started to undermine the research issue/ case study:</td>
</tr>
</tbody>
</table>
This module works using a PBL influenced pedagogy and learning methodology. It therefore requires a different teaching format from the more familiar ‘chalk and talk’ approach. As such, these notes are provided to assist the staff teaching on this module to get the most out of students – and develop their own teaching experience – through working as class facilitators. At the same time, these notes are designed to help teaching staff on this module can make sure they enable students to meet the learning outcomes of the module.

1. Being a class facilitator

This module is based on the idea that students will actively learn. This means that they do a great deal of the active searching for knowledge. This means the role of the teacher changes from being one of ‘instruction’ to one of ‘support and facilitation’. Therefore more time each week is given to student ‘self-study’ than to class sessions. This means class sessions have to be well organized in order to ensure all points of clarification are made and that class facilitators can impart any information needed.

It is recommended that in addition to the face to face class time, class facilitators also make themselves available for one-to-one student counsel if needed maybe through an advertised one hour ‘office hours’ slot – where students can come and ask for clarification outside of the class if they need to. This will be particularly useful and necessary during the group work stage.

2. First hour of each class

Each week it is recommended that some time in spent during the class ensuring students gain the ‘basics’ i.e. understand the core concepts and definitions of those concepts being introduced each week and the differences between different concepts, theories and ideas.

The format for this part of the class can vary. Some facilitators will feel more comfortable giving this in a more traditional ‘lecture’ style format (with slides and/or handouts). Others will feel comfortable in running it more as a Q&A session with more interaction from the students. More often than not, a mix of these methods will be used depending on the content being discussed in a week and the student make up. In either situation, the key thing is to make sure students come away from the class, clearly understanding key concepts, theories and definitions being introduced for that particular week and as such the underlying ‘take home points’ as outlined below.

WEEKLY TAKE HOME POINTS

There is not specific narrative set out for each week in the outlines given. The way this narrative is developed and delivered will be determined by the individual class facilitators and the way the module has been contextualized to its surroundings in each academic and country setting.

That said, there are some core points which are the underlying assumptions behind the choice of the readings and suggested activities for each week and which can be articulated as recommended generic take home points for each week. These are set out below and should help provide class facilitators with ideas for developing lecture notes or guide discussion during the first hour of the class each week.
Part 1 – Introduction

These weeks introduce students to theory and the historical development of thinking and theory, with some reference to practice.

It is important for students to come away with an understanding that theory is constantly evolving, that it impacts and is impacted by practice and policy, and so shaped by history.

Week 1

The key ‘take home’ points for this week are:

1. Innovation and development are interrelated
2. The relationship between innovation and development has often been neglected in academic, policy and practitioner discourse
3. Case studies are useful and often used mechanisms to illustrate and investigate the relationship between innovation and development

In addition, in Week 1 students must be made aware of the overarching activities of the module, its aims and objectives. In particular, students should be made aware that they will be expected to have identified a problem issue that their group will focus on by Week 6 and their study group should have started background reading on their agreed issue before the commencement of ‘full time’ group work in Week 12 in order to be able to properly complete their group work in the allotted time.

Week 2

The key ‘take home’ points for this week are:

1. Innovation is often defined in purely economic terms as the commercialization of a new product or process. However, innovation is much more than this, especially in developing countries, incorporating business models and organizational activities as well as referring to these products/processes/models or activities that are new to a context, organization or the world with or without an element of commercialization.
2. Such a definition – a la Schumpeter – makes it difficult for there to be a distinction made between invention and innovation.
3. The distinction then comes in relation to the degree of ‘practice’ to turn something that is new to the world into something embedded into use.
4. This requires combinations of skills, knowledge and capabilities – the skills of an ‘entrepreneur’ to make this transition

Week 3

The key ‘take home’ points for this week are:

1. Innovation is often equated with entrepreneurship
2. They are in fact related but different concepts and activities – not every innovator is an entrepreneur and vice versa
3. Innovation is central to economic growth at a national level but it is also important as an activity at a range of different scales including at the community level.
4. As a result there is increasing recognition of the role of innovation in improving inclusivity and livelihoods; in poverty reduction. This has led to discussions with regards to the BoP, inclusive growth, inclusive innovation, pro-poor growth, pro-poor innovation etc.

Week 4

The key ‘take home’ points for this week are:
1. Traditionally innovation was seen as occurring through a linear model dominated by an understanding of innovation synonymous with R&D.
2. Increasing recognition that innovation takes place in a much more complex environment – with multiple actors (and actants) and locations. Leading to discussions of Mode 1 vs. Mode 2, from linear to systems thinking.
3. Relates to thinking around how learning and knowledge is shared, transferred and gained leading to the distinction between STI vs. DUI.
4. No obvious answer – some sectors still maintain Mode 1/ linear/ STI focus either implicitly or explicitly – despite attempts to, and arguments for, change. Introduce notions of path dependency and institutional isomorphism.

**Part 2 - methods**

These weeks introduce students to some of the methods they can use to review/ study innovation and development in order to become more reflexive practitioners and work to influence change.

It is important students come away with at least a basic understanding of how ‘to do’ each of these methods as well as the pros and cons of each method. But also understanding that these are only a small number of many other methods available.

**Week 5**

The key ‘take home’ points for this week are:

1. There are differences between quantitative and qualitative data with each having its place and time of use
2. Statistics are a useful means of quantifying progress and achievements but there are limits to these and issues regarding the current status of their development in Africa
3. As such there are recognised difficulties in collecting and maintaining databases of data on innovation and development in Africa but also in other parts of the world too
4. These problems notwithstanding, data (both quantitative and qualitative) can be used to help build a case to support an argument.

**Week 6**

The key ‘take home’ points for this week are:

1. The multiplicity of stakeholders involved in innovation and development and difficulties of ensuring all voices heard
2. The historical and theoretical underpinnings of stakeholder analysis
3. That there are other approaches that do similar things but in different ways and for different reasons e.g. PAR and related mechanisms, SSM etc.

**Week 7**

The key ‘take home’ points for this week are:

1. Recognition that IS is both a ‘theory’ and a ‘method’.
2. There are increasing calls to identify and classify/ delineate systems of innovation to enable more appropriate/ effective policy making but there are problems one where the boundaries to systems are
3. The different types of IS/ different levels at which you can analyse IS
4. The differences between IS and other forms of systems analysis

**Part 3 – innovation, industry and policy nexus**

These weeks introduce students to trends in thinking at the macro, meso and micro levels. Students should come away understanding the differences between definitions of the macro, meso and micro.
Students need to be encouraged in these last weeks to read around the subjects being taught each week – to get them used to the idea of researching in preparation for group work but also as a way to keep the discussions up to date (some of this literature will date as discussions in these areas move forward all the time).

**Week 8**

The key ‘take home’ points for this week are:

1. That there has been a move from thinking in terms of ‘government’ to ‘governance’ – ‘from ‘rowing’ to ‘steering’ the boat’ to use terminology used to describe the changes and move towards NPM
2. That this takes different formats in different settings – NPM in governments but also to different organizational approaches in firms and businesses – wider socio-political, even philosophical debates have shifted blurring the lines between public and private responsibility that are less easily aligned with traditional political left-right viewpoints anymore
3. These changes have policy implications on who does and who is seen to need innovation hence the concern with inclusive innovation and questions of equity and equality in innovation processes as well as innovation’s outputs.
4. Which in turn influence how innovation policy is conceived and implemented.

**Week 9**

The key ‘take home’ points for this week are:

1. A specific sub-set of discussions around governance relates to IPRs and trade regulations
2. There are some sectors (health and agriculture and trade) where the debates are very publically discussed and the issues high profile
3. But the debates are core to many other areas of life with fundamental implications for innovation processes and its outputs more generally

**Week 10**

The key ‘take home’ points for this week are:

1. With the recognition that innovation is ultimately about knowledge and its accumulation, there is recognition that increasingly successful innovation requires (new) emphasis on the right collaborations and combinations of competences both within firms and across firms.
2. This has led to an increase in interest in literature a wider range of social science fields including economic sociology – notably ideas around the importance of concepts such as ‘embeddedness’, ‘institutions’ and ‘value creation’.
3. There are a variety of different forms of collaboration promoted including partnerships, networks, social movements, clusters, global value chains and commodity networks.

**Week 11**

The key ‘take home’ points for this week are:

1. A key element of ensuring innovation is inclusive and that the relationships between innovation and development are socially and economically optimal, is recognizing each and every person’s own place in the system of innovation and development – their own ability to influence change.
2. One way of recognizing this is to consider your own place in the world by thinking reflexively – and not just reflectively.

**Week 12 – 14/15**

In these weeks students need to take everything they have learnt in relation to the following in order to get the most out of their group work:
Group presentations (Weeks 4 and 10)

Group presentations are useful activities to conduct throughout the course of this module because they:

- Get students to interact with each other and work together – a core requirement for their group work activities in the latter weeks
- Spreads the workload providing students with the opportunity to engage with more literature and learning material than otherwise is possible
- Hear multiple perspectives encouraging peer-to-peer experience exchange providing a richer learning experience and more case study examples than are possible otherwise.

It is recommended that the students are given the following guidance at the beginning of the module to help them prepare for these presentations:

1. Each study group agrees on which presentations they would like to be involved in. Each student should be involved in at least one presentation and/or debate team with a minimum of 2, preferably 3, students in each group (depending on class size).
2. Students should share out the reading material and be responsible for writing a short review of each reading they are responsible for.
3. The students need to get together in advance of the class in which they will present and develop a 15 minute presentation (with or without powerpoint slides) outlining the main points of the readings they have each read.
4. If they have time/inclination, students should be encouraged to find additional information on the subject/introduce their own case studies to illustrate their points in their presentation.
5. On the day of the class in which they will present – each student in the group will present a portion of the presentation – sharing the burden of presenting and preparing.

Class debates (Weeks 3 and 9)

Two class debates are proposed to provide a different means for students to interact with materials and key questions posed by the module.
The debate teams need to be agreed on in advance – its recommended that these teams are agreed on in Week 1 of the module (when class presentation groups are also agreed on).

A debate team should be made up of a minimum of 3 people. There needs to be a ‘for’ motion debate team and an ‘against’ motion debate team. It is important students understand that they don’t need to agree with the side of the debate that they are arguing for – this is in fact a good learning experience if they aren’t!

Each team needs to prepare its arguments in advance of the debate. This means reading the material provided for each week and perhaps doing some additional literature/ internet search. It is recommended each team develops 2/3 arguments in favour of its position and thinks of 2/3 counter arguments the opposing team might use so that they can develop their responses.

In the debate itself, the remaining class members will act as the audience and the judges – with a straw poll taken at the end of the debate for and against the motions. The class facilitator will act as adjudicator in the debate (keeping time etc.)

The ‘for’ team opens the debate – each team member is given one minute each to present one element of their argument.

After these first three minutes are up, the ‘against’ team counters with their against arguments.

The debate then opens up and each team is given one minute to counter or ask for comment on a question by the other team. This continues for 10-20 minutes depending on the time available.

The teams are then given 2 minutes to confer and develop their closing arguments.

Each team gives its closing arguments starting with the ‘for’ motion team. Each team member is expected to give one closing argument (one minute each, total of three minutes).

The adjudicator then thanks the two debate teams and asks the audience to raise their hands either for or against the motion.

A general Q&A session is then held about the issues raised in the debate and subsequent result.

Case studies (Weeks 1, 2, 3, 4, 6, 10 and group work)

Case studies are provided to give students a way of getting ‘beyond the theory’ and experience the issues being studied in policy and practice.

It’s important students understand that they should review these case studies from the perspective of the issues being discussed each week but also critically in terms of the quality and value of the case study more generally – hence the checklist provided in Week 1.

The way the class facilitator uses the case studies will be dependent on the number of students in the class, their backgrounds and the context in which the module is being taught.

In many cases a case study has been suggested however, in Week 1, this is left open for the class facilitator. It is possible to swap out later case studies with those that are more appropriate if the class facilitator so wishes.

The reason the first case study is left open is that it is important the students immediately get the opportunity to understand the relationship between innovation and development within a context in which they are familiar. While the creators of this module could hazard an intellectual guess as to what these contexts might be, this would not necessarily be correct. If in further doubt, please don’t hesitate to contact the module creators at secretariat@africalics.org with your specific query.
ACTIVITIES SPECIFIC TO A PARTICULAR WEEK

Week 1 – introductory quiz

This quiz – the suggested outline of which is given in Section 3 – should be discussed during the Week 1 class. The class facilitator can go through each question one by one and ask for reaction and comment, or the discussion can be incorporated into the general introduction/ clarification discussion.

Week 5 – data review exercise

This could be conducted as follows:

Preparation

1. Visit the World Bank indicators or UNDP Human Development Indicators website.
2. Compile from the data available a list of ten countries and their most recent data for the following indicators or similar:
   - GERD
   - GDP per capita
   - HDI
3. Develop two scatter diagrams with the data collected for a ‘hypothesis’ such as:
   - ‘Wealthier countries spend more money on R&D’
4. Print out copies of the data table and the scatter diagrams – one per student/ per pair of students

During the class

5. Ask students to review the data on the sheets (the data table and the scatter diagram)
6. Then discuss the following issues:
   - What would the combined spray diagrams suggest?
   - Consider issues of correlation and causality – scatter diagrams cannot show causality just correlation
   - Issues with each individual indicator – the pros and cons of different indicators for innovation and for development.

Week 6 – stakeholder analysis

To get students to practice doing a stakeholder analysis, it is suggested that students be asked to conduct a crude stakeholder analysis in the tutorial this week. This could be done as follows:

1. Divide the class into 3 groups or get students to work in their study groups. Allocate each of them a case study from the Daniel paper (bananas, coffee, diary)
2. Get students to spend 30 minutes conducting a very basic SHA– using a very basic version of that outlined in Vos and Achterkamp – on the case studies in the Daniel paper
3. Spend 15 – 20 minutes comparing and contrasting the resulting SHAs.

Week 7 – Innovation Systems activity

It is suggested that in Week 7 students complete an Innovation Systems Activity Sheet during their self-study, prior to the tutorial class. This activity – the suggested outline of which is given in Section 3 – should be discussed during the Week 7 class. The class facilitator can go through each element of the activity sheet one by one and ask for reaction and comment, or the discussion can be incorporated into the general introduction/ clarification discussion.

Weeks 12 – 14/15 – Group work

Detailed outline of this activity is given under each group work week of Section 2. The main elements of the group work are self-explanatory.
Students are expected to start working on their group work from the initial weeks of the module and have identified a problem area that they wish to address by Week 7.

How students identify these problem areas has been left open. It is recommended that class facilitators give students a steer on these – suggesting that they consider sectoral areas that are of national or regional interest (as per the EAC Industrialisation Policy 2012 for example). However, this choice might be made more restrictive dependent on the decisions of the wider faculty and teaching programme within which this module is located in each institution.

**ASSESSMENT**

This module has been developed on the assumption that the module learning will be assessed both through continuous assessment cards (60%) as well as through a final assessment (40%).

The detailed outline of this assessment is provided in Annex 4.

Class facilitators will need to ensure students are aware of their responsibilities with regards assessment at the beginning of the module and ensure students are provided details of all university regulations pertaining to assessment.
5. ASSESSMENT OPTIONS

This module is assessed through continuous and final assessment. The suggested assessment routes are outlined below.

CONTINUOUS ASSESSMENT (60%)

Three continuous assessment test (CAT) cards will be completed at the completion of Parts 1, 2 and 3 of the module:

1. Part 1 – Introduction
2. Part 2 – Methods
3. Part 3 – Innovation, industry and policy nexus

In addition, students will be assessed on their participation in group work:

1. Content contributed to final presentation
2. Final presentation delivery
3. Written report (1 page) detailing their learning from the group work – to be submitted on the day of the presentation.

FINAL ASSESSMENT (40%)

Final assessment can take two routes depending on local requirements and university regulations:

Project Assessment (40%)

1. Students are asked to turn in their project reports which will be divided into chapters – to define each student’s contribution.
2. Marks will be given for each individual contribution (30%) and for the total group effort (10%)

Exam assessment (40%)

1. Students undertake a 3 hour written exam that is divided into three sections:
2. Students answer 5/7 definitional questions (10%)
3. Students answer one methods question out of a choice of two (e.g. what are the pros and cons of qualitative and quantitative data for understanding the relationship between innovation and development?) (20%)
4. Students answer a theory, policy and practice question out of a choice of two relating to a specific learning outcome (e.g. how have attitudes to entrepreneurship changed over the past 100 years in relation to its ability to create inclusive innovation?)
6. SUPPLEMENTARY READING

In addition to core reading each week, the following additional and supplementary reading, for specific weeks, is provided for students and class facilitators who wish to read around the subject in more depth, during or after the module.

Week 3


Week 4


Week 5

Freeman, C. and Soete, L. (2007) Developing science, technology and innovation indicators: what we can learn from the past UNU-MERT Working Paper Series #2007-001

HDR 2001 – Making new technologies work for human development

Millennium Devt Project Report on Technology


Week 7


Week 8


Miao, J.T. (2014) Levels of Innovation Systems: competition or complementarity? The case of China -


Week 9
practice’, Int. J. Sustainable Development, Vol. 8, Nos. 1/2, pp.12–30


globalized world, Psychology Press

Week 10
Literature, Vol. 38 (2), pp. 595 – 613

economic development, Technological Forecasting and Social Change, Volume 74, Issue 9, November 2007, Pages
1834–1846

Hamel, G. (1991) “Competition for competence and inter-partner learning in international strategic alliances”
Strategic Management Journal Vol. 12 (s1), pp. 83 – 101


Pinedo, P (2006) The impact of stronger intellectual property rights on science and technology in developing
countries Research Policy, Vol. 35

Week 11


Sutz, J. (2003) Inequality and university research agendas in Latin America Science, Technology & Human Values,
2003


Multidisciplinary perspectives, Vol. 13(2), pp. 311 - 325


Other material potentially of interest

Freeman, C. and L. Soete (1997), The Economics of Industrial Innovation Third Ed. (London: Pinter)


