Course syllabus

Knowledge and Knowledge Creation


Dr. Rebecca F. I. Moody
1. Overview of the seminar

The seminar ‘Knowledge creation and virtual knowledge will consist of 12 lectures which are distributed over 4 parts. These lectures are not stand alone and in the content of these lectures it will be assumed that students are familiar with knowledge and concepts dealt with in previous lectures.

The first part will deal with the exploration of the field of knowledge creation and virtual knowledge, the goal of this part is to gain understanding of the scientific field, its relation to other fields and specifically the relation to policy. A state of the art will be given to explain contemporary theories dealing with knowledge creation and virtual knowledge. The combination of these three lectures will provide students with the skills and knowledge they need to be able to interpret the next parts of the seminar.

The second part will be the ‘body’ of the seminar, this part will deal with three topics. Firstly it will deal with knowledge creation and distribution, both in terms of social knowledge as well as information systems knowledge. The second part will deal with data itself, this includes types of data such as visual data and textual data and their impact on society and policy, as well as the contemporary discussion on big data and open data. The third part will deal with restrictions, while in this seminar a lot of emphasis will be placed on the possibilities of knowledge creation in the virtual world and the impact of technology, it is also important to discuss downfalls and restrictions, these restrictions will not only be characterized as technical but also interpretational, institutional and political.

The third part of the seminar will deal with the policy making practice concerning virtual knowledge and knowledge creation. While at that point students are familiar with all relevant theories on virtual knowledge and knowledge creation the link to practice needs to be made. In this part the question relating to how to use this learned knowledge in the policy making practice becomes important. Attention will be given to forecasting (what if there is no knowledge?) and backcasting (how do we evaluate the use of knowledge?) and the creation and evaluation on strategic advice for public bodies.

The final part of the seminar aims to take a step back and evaluate the entire course in a broader perspective by linking it to other academic skills and topics such as philosophy of science, philosophy of technology, network governance, complexity.

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After the seminar students will be able to:

- Exploration of the field
  - Introduction
  - Policy perspectives
  - State of the art

- Knowledge creation and distribution
  - Information systems
  - Social media
  - Distribution dynamics

- Data
  - Data styles
  - Big data, open data

- Restrictions
  - Restrictions

- Knowledge creation in practice
  - Fore- and backcasting
  - Strategic advice

- Academia: Round up
• Identify relevant theories important to the concept of knowledge creation and virtual knowledge. And link these theories and concepts to the policy process and science of technology.
• Relate knowledge creation and virtual knowledge to broader perspectives in the field of public policy making, society, philosophy of science and technology.
• Understand the way knowledge is created and distributed in the context of public policy making by the use of different technologies.
• Evaluate impact and effects of creation and distribution of virtual knowledge on the policy making process by different types of data and their related fields.
• Evaluate and create forecasting and backcasting policy plans relating to knowledge creation and virtual knowledge.
• Evaluate and create strategic advice in to public bodies in the field of knowledge creation and virtual knowledge.
2. Seminar requirements

While attendance to lectures is not mandatory the seminar will use a didactical ‘flipping the classroom’ approach. This didactical concept contrasts to regular lectures. In conventional lectures the lecturer explains and distributes information and students at home, through literature, find a more in-depth understanding of the seminar material. In the ‘flipping the class room’ approach students at home do the required reading and in the lecture the depth will be found and provided.

The direct consequence of this approach is that firstly students are expected to have read the literature before coming to the lecture, which is necessary in order to become able to go a step further than the literature, in the lecture itself. Secondly this implies that students actively participate in the lectures in order to rise above the provided material and gain in-depth understanding. As will be shown in section 4 the lectures will not take a conventional lecture form but will require active participation. Thirdly it is important for students to realize that the lectures are not stand alone, each lecture is a follow up of previous lectures and therefore it is assumed that students are familiar with the information and skills learned in the previous lectures.

The seminar will be graded with a paper which will, as does the course, will be divided in several sub sections. (see section 3.)
3. Final paper

The seminar will be graded with a final paper. This paper will consist of three parts.

The first part takes the form of a deductive research. In this students will choose two concepts relating to knowledge creation and research how these concepts have influenced knowledge creation in a chosen case. Examples for this question would be:

- What is the influence of analytical transparency and autonomy on knowledge creation in the case of prevention of live stock diseases in Germany?
- What is the influence of interpretational power and common knowledge on knowledge creation in the case of integration of ethnic minorities in Munich?

Students will develop a theoretical framework, conceptual model and relevant methodology in order to answer the research question and will themselves find the empirical data necessary to do an analysis, this part of the paper will end with a conclusion which answers the research question.

The second part of the paper will deal with the evaluation of policy in the chosen case. Students will find a policy document and evaluate this on the basis of the theories of back and forecasting and will conclude with a conclusion on whether this policy document fits these theories.

The final part of the paper will be a strategic advise written for the same organization to which the policy document form the second part belongs.

Grading of the paper will be done as follows:

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<tr>
<th>Component</th>
<th>Percentage</th>
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<tr>
<td>Research</td>
<td>60%</td>
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<tr>
<td>Evaluation of policy</td>
<td>20%</td>
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<tr>
<td>Strategic advice</td>
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The final deadline for the paper will be July 18th, however it is possible for students to obtain feedback during the writing process, dates for these feedback moments are as follows:

<table>
<thead>
<tr>
<th>Component</th>
<th>Date</th>
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<tr>
<td>Choice of empirical case</td>
<td>April 27th</td>
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<tr>
<td>Research paper feedback moment 1</td>
<td>May 18th</td>
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<tr>
<td>Research paper feedback moment 2</td>
<td>June 15th</td>
</tr>
<tr>
<td>Evaluation of policy and strategic advise feedback moment</td>
<td>July 1st</td>
</tr>
<tr>
<td>Final paper</td>
<td>July 30th</td>
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As can be seen in section 5, detailed information on the final paper will be provided for during lectures.
4. Literature

Books


Articles

  To be found at:

## 1. Introduction

**15-04-2015**

### Overview

In this lecture the topic of virtual knowledge and knowledge creation will be introduced and the structure of the seminar as well as the final paper will be explained.

### Goals

- Understanding the broad concepts of virtual knowledge and knowledge creation
- Understanding the impact of virtual knowledge and knowledge creation for the policy making process
- Outlining the structure of the course and the requirements.

### Contents

#### Virtual knowledge and knowledge creation

In this first lecture the concepts of virtual knowledge and knowledge creation will be explained, definitions and concepts such as knowledge, data and information will be outlined. The relation to the policy process and knowledge infrastructures will be elaborated on. This part of the lecture will be the basis of the lectures to come.

#### Structure of the seminar

The structure of the seminar will be explained as well as the requirements for passing, there will be room for questions.

### Literature

## 2. Policy perspectives on knowledge

### 22-04-2015

#### Overview

In this lecture different perspectives and paradigms on the policy process will be coupled with the concept of knowledge creation and virtual knowledge in order to give students a broad overview of different theories in public policy making and the status of knowledge within these theories and perspectives.

#### Goals

- Understanding the different types of perspectives on public policy making
- Understanding this difference in relation to the status of knowledge
- Being able to evaluate policy programs on the basis of these perspectives in terms of knowledge

#### Contents

**Perspectives on policy making and knowledge**

In this part of the lecture an overview will be given of the four different perspectives on policy making (rational, political, institutional, cultural) and the status of knowledge within these perspectives will be critically looked at, through deepening the scope and looking at underlying assumptions of knowledge, knowledge creation and technology.

**Evaluation of policy perspectives**

In the lecture students will be asked to critically reflect on a policy program (given to them in advance) and evaluate according to which perspective policy assumptions relating to knowledge within this program are made. Students will become aware of the different types of assumptions in policy programs and will interactively discover the different policy perspectives embedded in the policy program.

#### Literature

3. State of the art

29-04-2015

Overview

While at this point students have an understanding of the concept of virtual knowledge and knowledge creation and the policy process it becomes important to link these concepts to theories in the field. A state of the art will be provided dealing with the large number of theories surrounding the core concepts of the topic.

Goals

- Identifying relevant theories leaning into the topic
- Understanding the relation of these theories to one another as well as to knowledge
- Understanding the dynamic between the technical, political, institutional and social dimension in these theories.

Contents

Feedback choice of empirical case

In this lecture feedback will be given on the topic students have chosen for their final paper, we will discuss possibilities and threats within the chosen topic. This will allow students to be sure on their topic to prevent potential problems later on in the process.

State of the art

This part of the lecture will be a more conventional lecture in which theories on transparency, autonomy, accountability, privacy, power in technology and institutional design will be linked to knowledge and knowledge creation. The purpose of this part of the lecture is to guide students through the very large bodies of knowledge surrounding the concept of knowledge and account for students being able to maintain to rise above individual theories and see the concept of knowledge and knowledge creation as a whole, in its context.

Literature

Knowledge creation and distribution I: information systems

Overview

In this lecture will elaborate on knowledge and knowledge creation through an information systems approach, key concepts here are the different types of transparency but also the power of the designer and the autonomy of the policy maker in knowledge questions relating to information systems.

Goals

- Understanding the information systems approach in terms of knowledge and knowledge creation
- Obtaining insight how relevant concepts such as transparency and autonomy fall within the information systems approach
- Understanding and applying different perspectives on policy in terms of knowledge and knowledge creation to the information systems approach, recognizing the scope of the approach

Contents

Information systems

An overview will be given of the information systems approach in which it will become clear what they are, what they can do and what they can potentially be used for. This will then be coupled with the already learned concepts of knowledge and knowledge creation

Into the field

While the information system approach is a very broad one dealing with all four perspectives on policies discussed in earlier lectures it becomes important to teach students how to deal with these different dimensions. A case will be presented and students will be asked in the lecture to find the different perspectives on policy within one case dealing with information systems.

Literature

# Knowledge creation and distribution II: Social media

## Overview

Where the concept of common knowledge is discussed in previous lectures it becomes important to make this more concrete, therefore the topic of knowledge and knowledge creation will be dealt with in this lecture in relation to social media. It must be noted that this lecture will deal with the creation part of knowledge and not the distribution part, while that will be dealt with in the next lecture.

## Goals

- Understanding and conceptualizing functions and powers of new media
- Being able to identify knowledge creation in new media and the power of knowledge and status
- Preparing for the inherent crux between creation and distribution of knowledge

## Contents

### Powers of media

Before starting with knowledge and knowledge creation it is necessary to look at new media in general order to become able to conceptualize and understand the topic itself. Therefore the concept of new media and knowledge will be related to the three powers attributed to media.

### Content study

After addressing the general attributes it is important to understand the creation of knowledge through new media, issues such as fragmentation are very important in this regard. Topics as common knowledge but also dissident voices will be dealt with.

### Debate

In the lecture students will be asked to actively participate also in order to prepare for the next lecture. The topic of debate will be whether new media creates knowledge or only distributes existing knowledge. Active participation is expected.

## Literature

Knowledge creation and distribution III: distribution dynamics

20-05-2015

Overview

While we have spoken of creation of knowledge in relation to social media and information systems it is necessary to direct special attention to knowledge distribution while this is a different body of knowledge.

Goals

- Receive feedback on the research paper in order to continue according to plan
- Understand and identify the two different steps of distribution dynamics
- Being able to apply concepts relating to distribution dynamics in specific cases
- Understanding the interaction dynamics after distribution in terms of different types of knowledge.

Contents

Feedback paper

While students have handed in their research paper they will receive feedback on their efforts in order to make sure they are moving into the right direction.

Distribution dynamics

The dynamics of distribution will be discussed in the, in literature accepted, two steps: the actual infrastructure on the one hand and framing and interaction on the other. It will be explained that concepts of autonomy, anticipated action and fragmentation are key to understanding the infrastructures as well as media power. Additionally the process of distribution in terms of interaction for both information systems and new media will be explained.

Literature

Data I: Data styles

27-05-2015

Overview

While we have looked at creation and distribution in the previous lectures, this lecture will not focus on how to create or distribute knowledge but will focus on the influence of the data itself, its form and its style.

Goals

- Gaining a general understanding on theories on the influence of data on knowledge creation
- Identifying different types of data and understanding their influence on knowledge creation
- Identifying different styles of data and understanding their influence on knowledge creation

Contents

The influence of data

While at this points students should have gained insight that data does not necessarily lead to knowledge or knowledge creation, it is time to deepen this idea. General theories on the role of data will be explained.

Types of data

Different types of data, such as large amounts, the source of the data as well as the status of the date will be discussed and linked to their influence on knowledge creation and distribution on the basis of the perspectives on policy as discussed in previous lectures.

Styles of data

Not only the type of the data but also the style of the data is important in the type of influence on knowledge creation and policy it can exert. The difference between different styles of data (visual, sound, text etc) will be explained.

Literature

# Data II: Big data and open data

## Overview

This lecture is the follow up from the previous lecture, while both big data and open data can be considered a 'data type'. Because the topic of big and open data is very relevant and current a lecture will be dedicated to this.

## Goals

- Understanding big data and the relevant theories surrounding the topic
- Understanding the difference between open data and big data and the relevant discussion underlying it.

## Contents

### Big data as a type of data

Dynamics of big data, both in terms of information systems, DMS and social media will be discussed and relevant theories on big data will explained, this will be done according to the lines of the perspectives of policy and knowledge creation.

### Open data as part of big data

Given the European Union directives and calls for transparency it is important to look at open data separately. Concepts as transparency and the different indexes will be discussed as well as its expected impact.

## Literature

Overview
While in this seminar a lot of theories have been discussed on how knowledge can be created by modern ICT techniques, it is also important to show the other side. While there is a lot of potential there are also a lot of downfalls. In this lecture an overview will be given of the opponents of the technology push approach, outlining problems and downfalls within knowledge creation by ICT.

Goals
- Understanding restrictions, fraud and misinterpretation in data management and knowledge creation
- Being able to oversee the most common instances and being able to find solutions for these instances
- Becoming aware of the debate between the technology push and the technology fall approach and finding one’s own position

Contents
Restrictions in core concepts
Restrictions and downfalls of the potential of ICT and data to create knowledge will be discussed according the lines of the core concepts as discussed in the ‘state of the art’. Fragmentation, autonomy, privacy, transparency risks, and risk avoidance will be key topics here. This will also be linked to the perspectives in policy approach.

Fraud and cheating
One of the largest and most well known restrictions of knowledge creation by technology is fraud or cheating with data. This topic deals with the power perspective and rational perspective of policy and will be outlined.

Interpretation issues
A final restriction deals with interpretation issues, often data is misinterpreted or miscalculated and the created knowledge by this data is wrong, especially in very complex information systems or in social media monitoring systems. An overview of these issues will be given.

Literature
# Knowledge creation in practice I: Fore and backcasting

17-06-2015

## Overview

While having arrived at the third part of the seminar: Knowledge creation in practice, the next two lectures will deal with the motto “what is knowledge without action?” The key theme in this lecture is how to deal with knowledge in the policy practice, and what it means for policy design.

## Goals

- Understanding how to deal with situations of a lot of knowledge and situations with no knowledge in the policy process and understanding downfalls of approaches for dealing with this.
- Understanding the role of knowledge and the status of knowledge in the policy design process
- Receiving feedback on papers so to stay on track
- Receiving extra explanation on part 2 of the paper so students are secure on what is expected of them

## Contents

### Forecasting and backcasting

In this lecture the role of knowledge in policy design is central. Leaning on the first two lectures of this course we will subdivide the lecture in two parts.

### Backcasting

Here we will discuss theories of evidence based policy, while evidence based policy and the theories standing behind this can only be done when there is a lot of knowledge available this can be regarded as backcasting and creating on the basis of evaluation.

### Forecasting

The extreme contrary of backcasting is forecasting in a situation in which there is no knowledge at all. Questions such as ‘unknown unknows’ will be discussed and linked to methodologies in policy design to deal with these.

### Feedback research paper

Students will receive feedback on their efforts on their research paper

### Extra explanation paper part 2

Extra explanation will be offered for the second part of the paper (policy evaluation) so students are aware of what is expected of them.

## Literature

### Knowledge creation in practice II: Strategic advise

24-06-2015

#### Overview

Having looked at how to deal with knowledge in policy design in the previous lecture, this lecture will be dedicated to actually doing it. Theories on how to deliver strategic advise to public bodies will be dealt with and this will prepare students on the last part of the paper.

#### Goals

- Understanding the components of strategic advise for public bodies
- Relating strategic advise specifically to questions of knowledge creation and distribution
- Receiving extra explanation of the final part of the paper

#### Contents

**Strategic advise in public bodies**

Theories on advise and consultancy in public bodies will be offered and discussed and the strategic component will be related to knowledge questions such as knowledge of commons, social media monitoring, agenda setting and dealing with insecurities and risks.

**Extra explanation paper part 3**

Here extra explanation will be given for the final part of the paper.

#### Literature

**Round up**

01-07-2015

**Overview**

The final lecture of this seminar will deal with a round up, offering students the possibility to rise above the learned material and doing so in an academic way while focusing on philosophy of technology and philosophy of science.

**Goals**

- Rising above the offered material and viewing knowledge and the policy process and looking at concepts in more philosophic manner
- Receiving feedback on paper part 2 and 3

**Contents**

**Round up**

In the round up students will be witness to a debate between Lasse Gerrits and Rebecca Moody. This debate will deal with the GIJOE motto “knowing is half the battle” Lasse will take the approach that ‘knowing’ has no influence on the public policy process and Rebecca Moody will take position that knowing is the entire battle in the public policy process. The debate will focus on questions of on philosophy of technology and philosophy of science. Students are asked to actively participate in the debate.

**Feedback paper part 2 and 3**

Students will receive feedback on their papers part 2 and 3.

**Literature**

None