Reality According to People
(A Seminar to Learn Academic Thinking)

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Abstract

Beginning their course of study at university confronts students with many challenges, such as to test theories concerning their plausibility and credibility. The internet, with its wide variety on information, complicates this survey process, while reports of "fake science" increase the uncertainty. In our seminar, we address this topic for first-semester students in Social Work Studies by asking the following questions: What is "reality"? How do we individually construct our world? How does communication between people with different experiences (hence realities) work? Based on sociological and psychological theories, students are asked to test their own perceptions of specific social questions (e.g. gender, demographic change, poverty), and in the process are confronted both with different perspectives on these topics and with the particular evolutionary history and effects.

Keywords: analytic thinking, academic thinking, epistemology

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Introduction

Beginning their course of study at university confronts students with many challenges, of which self-organized learning (in contrast to the organized learning at school) is just one. One big task in every study subject is the that of analyzing texts in order to interpret the sense behind them and to discuss the results of scientific research (Pitz-Klauser, 2019). The difficulties with, for example, checking theories concerning their plausibility and credibility are exemplified by the question a student asked after a session in Introductory Psychology: *"Thanks for this great summary of all those different learning theories. I think I understood all of them. But – which one is the true one?"*

This question was one of many which showed us the importance of showing students a way to get to a sense of the "truth" or "reality" in science. As a result, this became the major topic of our seminar "Reality according to People"—What is „true"? How do we individually construct our world? And how does communication between people with different experiences (hence different perceptions of reality) work?

The seminar takes place in the first semester in Social Work Studies. It is the fifth part of a module in which students are faced with four other lectures, all broaching the issues of the humanities and social sciences (e.g. educational science, health science, psychology, sociology). This fifth seminar is constructed in a team-teaching mode, giving teachers and students the possibility to approach the more theoretical contents of the other four lectures on a more practical level, and to see similarities and differences in the distinct sciences.

As for our own backgrounds as a psychologist and a sociologist, we based our seminar on sociological and psychological theories. Our purpose was to ask students to test their own perceptions of specific social questions (e.g. gender, demographic change,

poverty) and thus to confront them with different perspectives on these topics as well as with their particular evolutionary history and effects. This paper describes our seminar schedule, how it worked out in this spring semester, and our future plans to deepen this subject.

The Protestant University of Applied Sciences in Bochum

Our university in Bochum is one of the smaller universities in that area. There are about 2,400 students studying at this semi-private university, which is mostly funded by the Protestant church of North Rhine, Westphalia and Lippe, which is then reimbursed by the State of North Rhine-Westphalia. Most of the students at our university are enrolled in bachelor program in Social Work (around 1,300 all in all; 200 students enrolling new each semester), which is a study program of six semesters with one practical placement semester in the second year. As a university of applied sciences, it is not uncommon for our students to come from families with a non-academic background. Not all of our students have passed an A-level exam at school, but received the permission for further study required in Germany by completing a vocational training before starting their bachelor studies.

In the first semester students start with a propaedeutics module in which they are taught about techniques of academic work (e.g. how to write a paper, how to do

literature research) and about the basics of empirical research (quantitative and qualitative research methods). This module is capped after the second semester with a term paper. The other extensive module in the first semester, as already mentioned, is concerns humanities and social sciences. And of course there are other modules for the students to pass as well, e.g. an introduction to social work or to ethics.

The biggest task for us as teachers is to get to know the way students *think*—and getting along with their sometimes understandable need of "too-economic" thinking. This also includes to help the students understand the function of scientific language and thus communication in science (see e.g. Pitz-Klauser, 2019; Anselm & Werani, 2017; among others). The seminar "Reality according to People" has been constructed to provide a first step along this road.

"Reality according to People": The Seminar Schedule

The seminar started with the question "What is 'true, what is 'real'?" and gave a short first definition: "*A conviction shared by everybody has the quality of reality."(Aristotle—or somebody else?)* This definition already shows two things: First of all, "reality" is strongly connected to the people defining it. Second, sometimes you cannot be sure that what is supposed to be "real" is actually still real. We today cannot be sure that it was actually Aristotle who said this (it might have been also Thomas Aquinas or maybe even somebody else completely). But we don't have to go back to Aristotle to be confronted with the "truly real" problem. Already in 1984, just some years back, before the prominence gained by the Internet, the philosopher and sociologist Jean Baudrillard pronounced the „end of the world as we know it," emphasizing that reality is no longer what happens in the real world, but what is reproduced or simulated for our consumption. He called this the „murder of reality" (see Thorpe et al. 2016) and made the following points:

1. There is so much information in modern world—we cannot gather all of it and find out what actually happened.
2. Media simplify everything for u and decide what "really should be done." This reproduction of single pictures and stories results in us accepting this as "reality."

3. Things and situations in the physical world—in their unexplained and unpacked shape—are no longer accessible for us.
4. Thereby all complexity is lost.
5. Hence we live in a world of expanding information and decreasing meaning.

To give a practical example, our students were asked to read one of two articles (Hölig, 2017, or Schwartmann, 2017), both broaching on possible effects of propagating fake news via the Internet on future German elections. Both articles mentioned the so-called "Clintongate" episode during the US 2016 presidential elections as an example, but one of them did so to emphasize that there would not be any effect on elections outcome in Germany, while the other one came to just the opposite conclusion. The students hence were asked to express their opinion about the articles' argumentation. This was billed in as an example on how the same "fact" (here: "Clintongate") can be used for creating two different "realities."

Another example on how to create reality by combining "facts" with a certain argumentation line is shown in figures 1 and 2.

Fig. 1: an example: avoiding trash at the Protestant University of Applied Sciences

Fig. 2: „Each hour Germans use 320,000 coffee cups made out of cardboard. That‘s about 40,000 tons of trash each year.“

Figure 1 is a photo of an advertisement in our university's cafeteria, pointing to some of the most common unnecessary rubbish that every one of us is producing. In the ad there was a note of just how much trash is produced by those cardboard coffee cups (see fig. #2). The students' first research task hence was to find the reference for these numbers, and to list arguments for or against the reliability of the numbers.

This task was followed by these questions:

- ➢ "Which questions did you ask?"
- ➢ "How do these questions relate to academic thinking?"

Tab. 1: the seminar's schedule and contents (as realized in spring term 2019)

(1)	Introduction: topics and teams
(2)	Sociological and Psychological views on "reality“
(3)	External contributions: Astrophysics and Applied Computer

	Science
(4)	Reading and Discussion of a paper ("Why do the lambs remain silent?", Mausfeld 2015)
(5)	Students' Teamwork on and Presentation of self selected topics

Giving this as an introduction to our seminar, we showed the students our seminar schedule (see tab. 1) and asked them to split up in different small groups for their own research field.

The topics for the student teamwork were given by us (environmental pollution; criminal behavior of foreign people, of old people, of youth; drugs and addiction; gender pay gap; "this is how boys just are/ girls just are"; poverty in old age). We took care that these topics were not too politically biased, since we hoped that as a result of their research students find out by themselves that every topic has always to be reflected by the cultural, political and individual background of where and when it is being published and presented.

Out of the wide field of sociological and psychological theories, we concentrated in one session on construction theory (in sociology) and on systemic theory (in psychology—connecting to the sociology session one week earlier). The sociological view ("Construction Theory"; Berger & Luckmann 1966/ 2004) focused on how experience first forms individual knowledge, and then this in turn builds collective knowledge, which is then called "reality." Building on that for w psychological view, systemic theory was introduced, emphasizing that "reality never can be seen without its

observer" (von Schlippe & Schweitzer 2000, p.87), and giving hints on the Theory of Mind, concerning the construction of stereotypes and categorizations.

To detach the topic of reality and its uncertainty from the underlying allegation of uncertainty in social sciences, we also invited two scientists from the field of STEM science to attend our class. In one of those session, an astrophysicist (Julia Heuritsch, DZHW[1]) talked about "reality in astrophysics." The session concluded with the epistemic realization that one can only get small glimpses on reality, depending on what you are looking at at the very moment. In another session, an information scientist (Martin Hirsch, FH Dortmund[2]) gave some insights on how to easily alter reality in the media.

The article of Mausfeld (2015) was again an attempt to show the close connection between facts and argumentation line. The article deals with criticism of neo-liberalism and so-called "elite democracy," discussing current political development in the framework of historical and cultural developments and backgrounds. The students were asked to read the paper in advance of a session, so that the focus then could be on the discussion of this paper.

Meanwhile, during the whole semester, students worked in parallel with their teams and on their research project. For this, we provided them with draft questions and papers to guide their research. In the semester's last session, students then were asked to present their research results (see tab. 2 for the given structure on their presentations).

Tab. 2: given structure for power point presentation and paper synopsis of students' research results

[1] Deutsches Zentrum für Hochschul- und Wissenschaftsforschung, Berlin [German Centre for University and Science Research]

[2] Fachhochschule Dortmund, Fachbereich Informatik [University of Applied Sciences in Dortmund, Department of Information Technology]

(1)	Formalities: title, topic; students' names; etc.
(2)	Leading question: introduction to topic—why this topic, what was the purpose?
(3)	First research results: What was found out after a "quick" research? Where did you look? Which questions followed this? What was the guideline for detailed research?
(4)	Detailed research results: What was found out after the detailed research? Where did you search? Which results underline your first research results, which ones stand in contrast to them? Why do you think this is so?
(5)	Summary and conclusion: What do you make out of it? What is the connection to this seminar?
(6)	References

The seminar then ended with a conclusion and a reference to the whole module's content.

"Reality according to People": The Reality…

The organization of seminars takes place months before the seminar itself begins. So when we planned this seminar about one year before it actually happened, we thought of a joined seminar with another university in another country, so that students could exchange experiences and discuss about their topics and different (international) reali-

ties. Unfortunately, due to full schedules on both sides and different term times, this did not work out as planned. So we had to keep on our own "German" reality and hope for the diverse students' backgrounds to make up for the missing international perspective in at least some aspects.

We of course had a certain purpose in mind when we organized and started the seminar. When the students were asked about their purpose in attending our seminar and what they expected to gain from it, these were some of their answers:

- *"To get some hints on how to discuss with right-wing extremists."*
- *"If someone's psychologically ill—how to tell them that their perception is wrong."*
- *"Why some people need drugs to get on with their lives."*
- *"How do you identify fake news? For example, on the Internet."*

These questions suggest that not only were students unaware of abstract theories on "reality building," but also that their interest in "science" and "scientific thinking" did not seem to be very pronounced at all. We hoped that this would change over the course.

How far away students actually were from any kind of "analytical thinking" was shown when confronted with the first research tasks on the coffee cups (see fig. 1 and 2 above): What did the students do? They asked Google online and were content with finding a reference there. It was then when we teachers pointed to questions such as "How many Germans are there, and how many cups does every German then use every hour?" or "How many cups are these per day, per week, per month, per year?" or "How much weight does one cardboard cup have?" that the students noticed that a quick Internet inquiry did not suffice to answer the question.

We began our seminar with about 50 students. All of them assigned themselves to the different small teams and topics. During the following weeks and with exam time coming up, however, there were fewer and fewer students attending the seminar. This is

a quite common problem not only at our university, but at others. It is also a problem suggesting that at least for some students the (most) important part of their study program is "to pass the exam" and not "to gain insights in certain subjects." Once they found out about the exam procedure, they economically altered their study schedule to adjust it to their other needs. In the end there were nine students attending the last session, presenting their research results on drugs and addiction; gender pay gap; „the way boys are / girls are…"; and protection of the environment, and engaging in lively discussions about those topics.

Asking the students what they took from the seminar for themselves, they gave the following feedback:

- *"I now know that there is a distinction between perception and reality."*
- *"I feel more sensitive about realities."*
- *"Too much academic-scientific working... Sometimes asking myself: Why am I sitting here?!*
- *"I now know that my reality is not everybody else's reality."*
- *"Until this last session I didn't know why we were supposed to do this presentation. Now I understand* [*the connection to the module assessment*]."

Comparing this to the expectations they expressed at the beginning of the seminar, it seems as if students now were sensitive about the aspects we wanted them to notice – which probably is as much as you can expect after the first semester.

Feedback from this term's module exams show that this reflection ("My reality is not everybody else's reality") only seems to work if this is explained to be the main purpose of a (methodological) seminar. It does not work if it is not explicitly the *main topic*, but just a *method* within a seminar otherwise related to for example a specific psychological or sociological topic as demographic change.

Conclusion and Plans for the Future

Not only for future seminars, but for the whole development on "teaching academic thinking." we plan to create some sort of "interdisciplinary toolbox" on how to help students learn academic/analytical thinking. So far we have established a small "think tank" with the two of us and some colleagues from other universities and with other academic backgrounds to help us exchange ideas on this topic. We intend for our "interdisciplinary toolbox" to be characterized by following aspects:

- ✓ applicable in any discipline,
- ✓ conveying critical thinking skills,
- ✓ science theory,
- ✓ statistics literacy, &
- ✓ deductive reasoning.

The purpose of our session at the 2019 IUT Conference and of this paper was and is to arouse interest among peer university teachers, getting into contact with them, and maybe working together on this subject of "teaching analytical thinking" within the future practical-scientific society. We look forward to exchanging and working with you.

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