What is the idea of the IO? What are the goals of the IO?

Data related learning spaces are answering a specific and current need to practice data literacy education, they have to be adjusted to local conditions of the universities.

The aim of the intellectual output is to build prototypes for the Data Literacy learning spaces, these prototypes will consider the virtual components. These learning spaces can be used as part of different formal learning settings (e. g. certain educational formats like train-the-trainer-concepts) or for independent and self paced learning activities of the students.

How was the IO implemented?

Eight learning outcomes based on the Frameworks of Ridsdale and Schüller are formulated.

Learning outcomes are composed with the keywords (content and condition) and verbs from the pyramid of Miller and level two from Bloom to describe the behaviour (learning activity).

These three components will result in a performance that is measurable for a trainer as a result (see appendix for more info).

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Data Literacy in Context

LEARNING SPACE MANAGEMENT

IO 3

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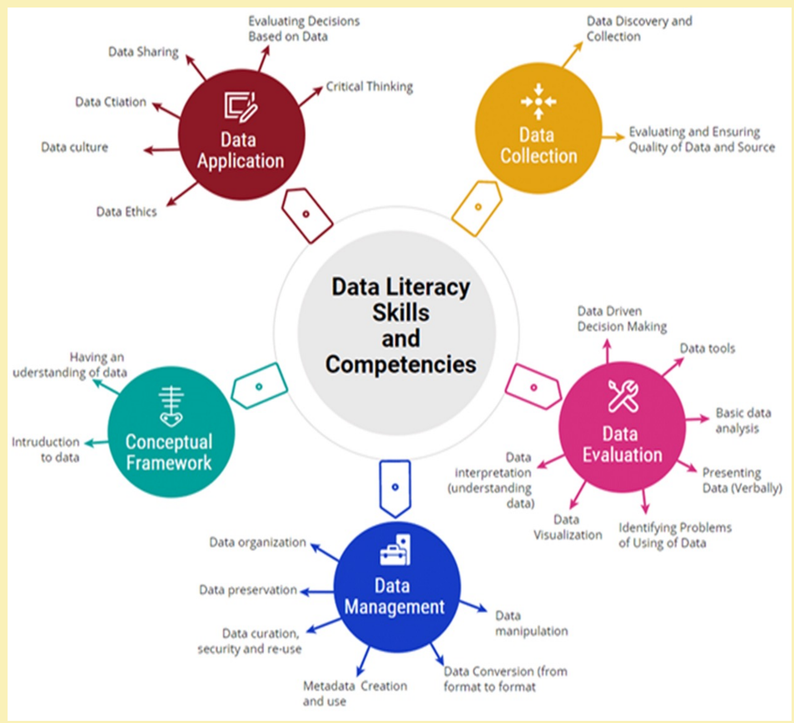
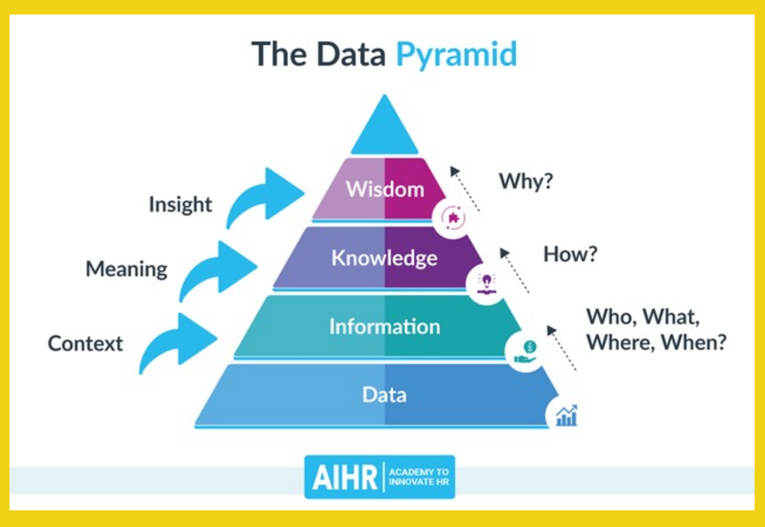
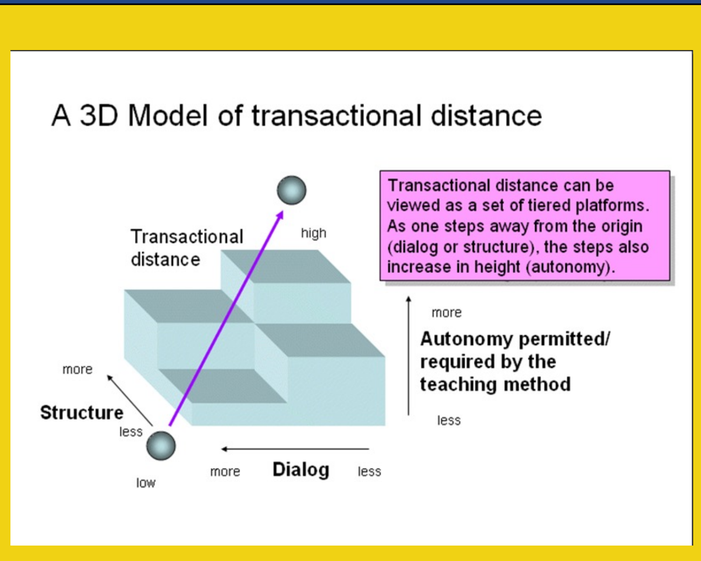
What are the results of the IO?



- Show Cases on each platform with
  - content
  - quiz
  - MOOC
  - mini college learning activity, and
- a report on how to design a platform.

What are ideas for future developments?





Open Access DaLiCo, scorm, interactive lessons, mini certification EU. Future proof platform web 3.0 Hybrid and e-learning (online is a challenge).
Teachers have to multitask, tech support is of essence!

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HOGESCHOOL UTRECHT UNIVERSITY OF APPLIED SCIENCES
UNIVERSITY of DEBRECEN
UNIVERSITAT POLITÈCNICA DE VALÈNCIA
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Appendix

Learning Space Canvas

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Project: | Project ID:

Projektmanager: | Version-Nr.:

Learner Segmentation
Who are the possible class of learners? What are their requirements? What will be their benefits? Do they have to acreditate it?

Learning process
What kind of learning activities take place? What kind of assessment is possible? How can formal learning be integrated? Do we address to different learning styles? Is it sustainable?

Data literacy competences
Which competences are addressed? Which knowledge levels are chosen? Classification according to "knowledge" "skills"" attitude" "behavior"?

Space & design
Is it virtual or physical? How is conceived/ designed? How can flexibility be integrated?
- Can we find different scenarios? How it is promoted and announced?

Data applications & Tools
Which specific applications are needed? How access to data is granted? How to practice a variety of tools? How security is preserved? How do we evaluate user itinerary?

Management
Which department is responsible? How performance and evaluation is measured? How are user demands collected?

Services & hardware
What kind of support structures exist? Which services are added? Which kinds of instruction materials are offered? Which hardware equipment is needed? How to integrate and adapt BYOD practices? Are they sustainable?

Stakeholders
Who are the Stakeholder? What are the stakeholders 'roles? What are teachers' role? What are possible learning products? How students are certified? How the learning space is certified? How can the contribution to SDG's be shown?

LMS for pilot implementation

edX

via MINT
videobasierte interaktive Vorkurse

canvas

Learning outcome to be used in a curriculum (see IO5)

1. You can describe and explain different types of data and what the implications of their measurement level (nominal-ordinal-ratio) is for the use of descriptive (uni versus multi-variable) statistics in a report (verbal or written) for non experts using data lifecycle (picture above).

2. Learners can analyze the quality of data sources by criteria as accessibility, relevance, and usability to identify appropriate data sources for their studies. Learners can develop and facilitate search strategies for data, they analyze data sets by exploring the data sets applying quality criteria. As result of this process learners choose and identify relevant data sets to integrate into their studies. Learners can provide statement of reasons for their selection on the basis of the quality criteria conveyed.

3. Learners identify the importance of data literacy and the utility of data for solving problems of different nature. Learners can inspect data sources and analyze the viability of the use of these data for tackle a proposed challenge, according to the quality of the data. They can also suggest different study designs for performing some analysis to extract knowledge from the data.

4. Learners can describe different types of data according to their origin and structure and the use of descriptive statistics and its implications. Learners can incorporate structured data in simple formats (csv) into a data software perform basic curation tasks and check the data quality, exposing eventual limitations.
Learners can provide and interpret some basic descriptive statistics and propose the use of some basic models, reporting this analysis for non-experts using data lifecycle.

5. You will feel confident in using data manipulation as a resource to answer questions and identify new ones, based on descriptive statistics and pattern recognition from a chart, infographics, demographic or audio/video data with their respective benefits or drawbacks to produce a data story.

6. You can give advice by interpreting the outcome analyse (e.g., in an article) from a dss data support system to produce a prescriptive statement in a context for a specific target group like in health or public domain.

7. You can preform a basic (critical) analysis on a research questions based on a limited number of theories on ethics to adjust/change the start (research question-hypothesis) of (open or not) a data research using formal EU guidelines for quotation and publishing like validation and reliability in a chosen magazine, data set or open public (social) media in order to produce a presentation (oral or written) or organize a workshop for a specific target group.

8. You will feel confident in handling different types and amounts of data, you understand the importance of data and data sharing, you can create your own data management method, you can create your own data management plan.