WORKSHOP FOR STUDENTS (Tuesday,March 21)

SCIENTIFIC LITERACY

TASK 1 – Strctured abstracts

A structured abstract is an abstract with distinct, labeled sections (e.g., Introduction, Methods, Results, Discussion) for rapid comprehension.

Like any other scientific text it must use clear language, with a not too complex syntax and phrases ordered, the objective being that the information is not poorly interpreted: these texts should therefore be accurate. No ambiguous terms, no subjectivity, concrete information rather than opinions.

Example of a structured abstract for an experimental article:

Background: *Previous research with structured abstracts has taken place in mainly medical contexts. This research indicated that such abstracts are more informative, more readable, and more appreciated by readers than are traditional abstracts.*

Aim: *The purpose of this study was to test the hypothesis that structured abstracts might also be appropriate for a particular psychology journal.*

Method: *24 traditional abstracts from the Journal of Educational Psychology were re-written in a structured form. Measures of word length, information content and readability were made for both sets of abstracts, and 48 authors rated their clarity.*

Results: *The structured abstracts were significantly longer than the original ones, but they were also significantly more informative and readable, and judged significantly clearer by these academic authors.*

Conclusions: *These findings support the notion that structured abstracts could be profitably introduced into many journals.*

in http://www.unice.fr/sg/authors/abstracts.htm

1. Read the presumable article abstract attached to this task.

a) In your group, discuss about the following topics:
- Is the structure adequate? Give reasons.
- Does the message respect the syntax and the content of a scientific text? Give reasons.

b) Transform the given abstract in an correct structured abstract.

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TASK 2

"Association Between Apple Consumption and Physician Visits

Appealing the Conventional Wisdom That an Apple a Day Keeps tha Doctor Away"

- V Analysis - the conceptual domain and procedures

Notes: Students are given a V diagram explained, an empty V diagram and a sample article.

TASK 3

"Association Between Apple Consumption and Physician Visits

Appealing the Conventional Wisdom That an Apple a Day Keeps tha Doctor Away"

- V Analysis - the methodological domain

Notes: Students are given a V diagram explained, an empty V diagram and a sample article.

TASK 4

Analysing the structure of a complete article.

Plan B: "Association Between Apple Consumption and Physician Visits

Appealing the Conventional Wisdom That an Apple a Day Keeps tha Doctor Away"

- For each piece of the article given, identify the sections of the scientific article from which it belongs.
- Order the scrambled pieces of the article.

Students receive diferent parts (croped) of the article.

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Task 2 and 3 – V diagram explained

The Knowledge V or Gowins' Diagram

Conceptual Domain

Theory: The general principles guiding the inquiry that explain why event or object exhibit what is observed.

Principles: Statements of relationships between concepts that explain how events or objects can be expected to appear or behave.

Concepts: Perceived regularities in events or objects designated by a label.

Focus Questions:

Questions that serve to focus the inquiry about events and/or objects studied.

Methodological Domain

Value: Statements based on knowledge claims that declare the worth or value of the inquiry. Set of a new focus question unveiled by the inquiry.

Knowledge claims: Statements that answer the focus question(s) and are reasonable interpretations of the records and transformed records (or data) obtained.

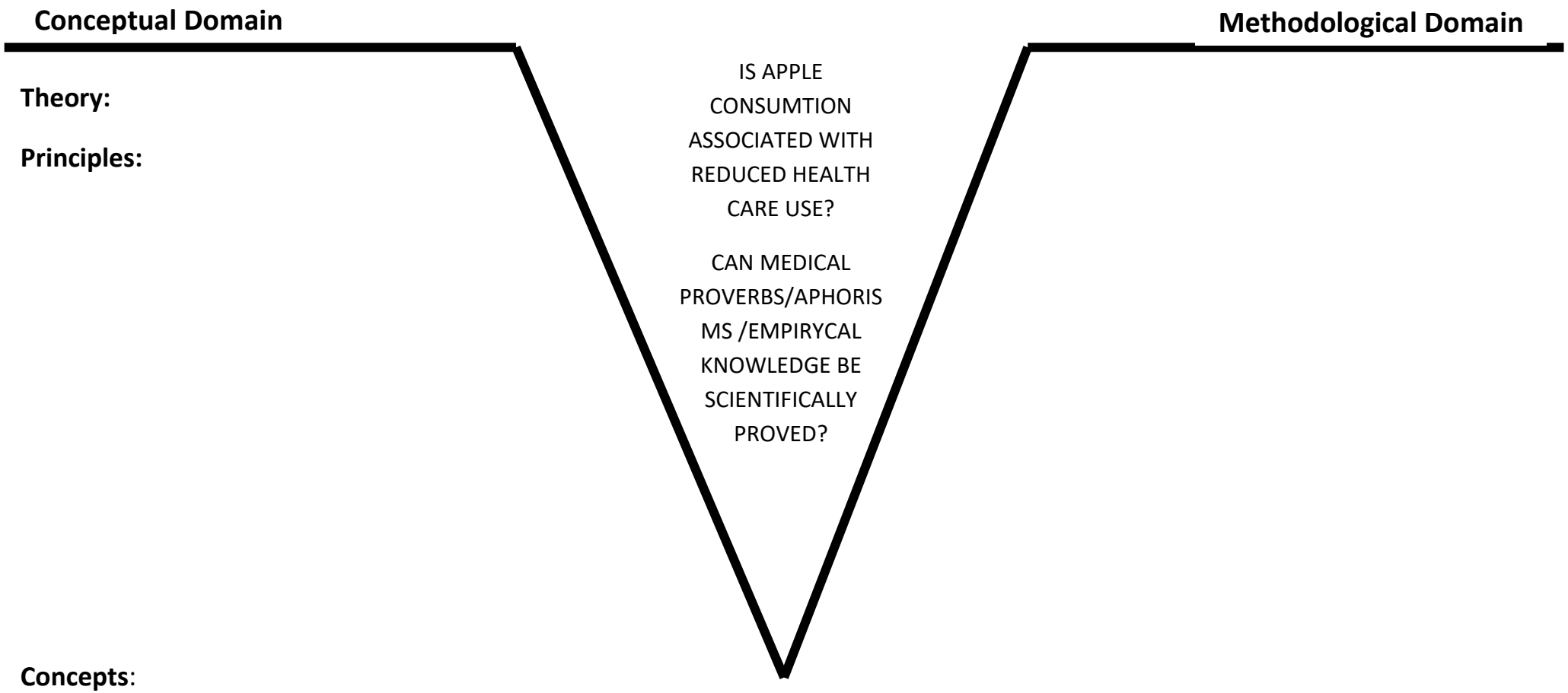
Transformations: Tables, graphs , concept maps, statistics or other forms of organization of records made.

Records: The observations made and recorded from the events/objects studied.

Task 2 – Empty V diagram

Association Between Apple Consumption and Physician Visits

Appealing the Conventional Wisdom That an Apple a Day

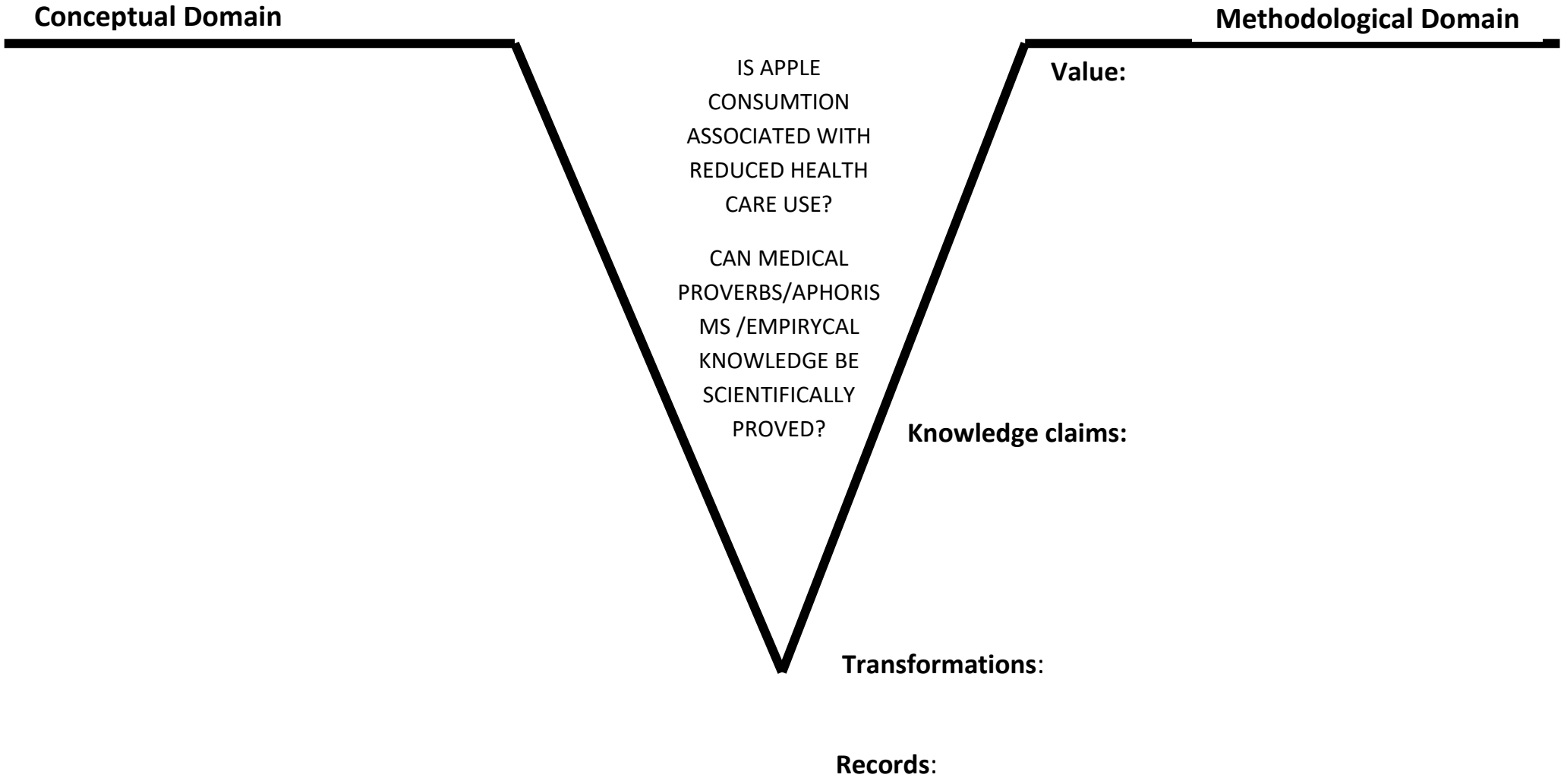


Events and/or Objects:

Association Between Apple Consumption and Physician Visits

Task 3 – Empty V diagram

Appealing the Conventional Wisdom That an Apple a Day



Association Between Apple Consumption and Physician Visits

Task 2 and 3 – Correction proposal

Appealing the Conventional Wisdom That an Apple a Day Keeps the Doctor Away

IS APPLE CONSUMTION ASSOCIATED WITH REDUCED HEALTH CARE USE?

CAN MEDICAL PROVERBS/APHORISMS /EMPIRYCAL KNOWLEDGE BE SCIENTIFICALLY PROVED?

Conceptual Domain

Theory: Health and Nutrition

Principles:

• Balanced, adequate and varied diet contributes to a healthy life (common sense)

• Healthy individuals require less health care services.

• Apples are rich in fiber, essential vitamins and minerals, and flavonoids.

• The consumption of fiber, essential vitamins and mineral, and flavonoids have beneficial effects in the prevention of cancer and other health conditions.

Concepts: Health, nutrition, health care, fiber, vitamin, mineral salts, flavonoids, essential nutrients, fruit (apple) consumption, cancer, health conditions.

Methodological Domain

Value: This work is one of the firsts scientific investigations of popular aphorisms. It can provide evidence supporting the wisdom of our predecessors increasing the possibility of ones following and profiting from it.

Can other aphorisms like — "Early to bed and early to rise, makes man healthy, wealthy, and wise"—provide evidence for improving population health and reducing health care expenditures in the future?

Knowledge claims: Evidence does not support that an apple a day keeps the doctor away; however, the small fraction of US adults who eat an apple a day do appear to use fewer prescription medications. This work demonstrated that there is scientific truth the medical proverb "One apple a day keeps the doctor away".

Transformations: Table (page 779), Graphics: fig.1,2,3,4.

Records:

• less than 9% of the sample are apple eaters

• Apple eaters had highly education attainment, higher probability to be part of a racial or ethnic minority and less probability to smoke.

• Crude analysis: apple eaters less likely to doctors' visits (39% vs 33,9%) and to avoid medical prescriptions(47,7 vs 41,8%)

• Adjusted analysis: no significant differences in doctor visits; apple eaters marginally more successful in avoiding prescription.

Events and/or Objects:

US population who answered NHANES survey (2007-2010)

- Comparison of adult apple eaters (eating at least 1 raw apple/ day vs. Non-apple eaters based on self-reported use of selected health care services and in person interviews.
- Crude and adjusted analysis based on sociodemo-graphic and health care related characteristics were conducted (using Stata, version 13.1)