

DECISION-MAKING BASED ON CONFRONTING SCIENTIFIC POSITIONS

*Decision-making based on confronting scientific positions on the
example of food provision for the world*

Decision-making based on confronting scientific positions



Learning outcomes (I)

“Decision-making in food market”

- Different strategies for decision-making
- Understanding of decision-making process, i.e. steps needed to be carried out, evaluation of conditions, results, and consequences
- Examples of decision-making strategies connected with food-world
- Reflection on specific characteristics of decision-making strategies and their relation to mathematics and science education
- Beliefs on decision-making in relation to food market and their influence on human being
- Examples of own decision-making cases from everyday life connected with food consumption

Learning outcomes (II)

“Decision-making in food market”

- Skills to compare different ways of dealing with decision making. i.e. acting in the sense of active and critical citizenship versus ignoring evidence and following “leaders” on examples from food-world
- Reasons for including decision-making in science education
- Experience in decision making in classroom teaching: an example with food topic for use on secondary level
- Reflections on what students learn when dealing with such a task
- Readiness to include decision-making in day-to-day teaching
- First introduction into pedagogical concepts for dealing with topic decision making

Structure of the module

- Three sessions
 - **Introduction**
 - „warm-up“ activities
 - **Immersion**
 - context activities
 - „role play“ activities
 - **Application**
 - activities with practical orientation
 - „experimental“ activities including

Types of Activities

- Working with information sources
- Brainstorming and brain writing activities
- Story telling as support of communication
- Role playing as support of communication
- Practical (incl. experimental) activities as evidence based (science) communication

Structure of session I. – Introduction

- **Activity 1.1. Evocation**
 - „Free writing“ about phenomena „decision making“ based on pictures about food
 - To add „Title“ and „Short description“ to elected picture
- **Activity 1.2 Mapping the field of interest**
 - Brainstorming activity with central term “FOOD” or “FOOD CHOICE”
 - Clustering and concept mapping

Structure of session II. – Immersion

- **Activity 2.1. Decision making about food as multi context phenomenon**
 - Contexts related to phenomenon: Sensory assessment, Content assessment, Tradition in use, Advertising influence, Following the leaders, Packaging, Branding, Costs limits, Own beliefs about...
 - Application of „snow-ball“ method, using of cards („food cards“)

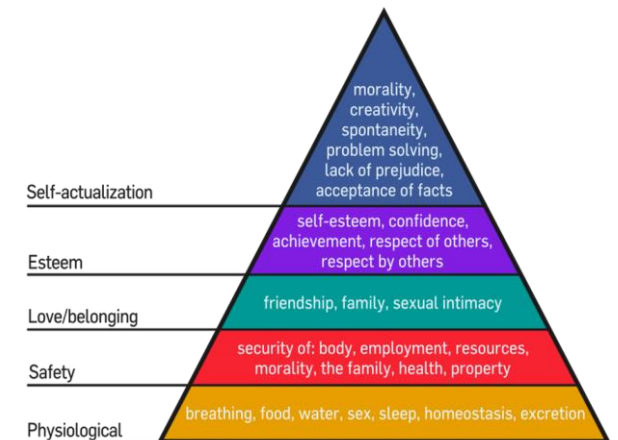
Structure of session II. – Immersion

- Activity 2.2. **My decision to buy a food**
- Theories behind of Buying Behavior
 - **Generic Theory of Buying Behavior**
 - the buyer will initiate research on products and pricing...
 - **Cultural Theory of Buying Behavior**
 - set of values and beliefs learned in the context of a community...
 - **Environmental Theory of Buying Behavior**
 - behavior based upon the situation...
 - **Internal Theory of Buying Behavior**
 - decision by kind of personality...
- Creation and application of questionnaire or interview (research questions, items, sample, data elaboration, publishing)



Structure of session II. – Immersion

- Activity 2.3 **Food market and food consumption** in different countries (regions, cultural customs, religions...)
 - Identification of natural (science elements) and social (cultural elements) and ecological (global ecological elements) contexts of the food market and food consumption
- Application of information sources analysis
- Inscenations, dramatization
- Exhibition of products, competition
- Cultural context (f2f or on-line)



Structure of session III. – Application

- Activity 3.1 **Decision making about food in numbers**
- Analysing of different „**numbers**“ **about decisions**
 - Food consumption in different part of the world (e.g. per country, per capita, per age group; consumption in household, numbers of production, numbers of waste etc.)
 - Calculation of different footprints connected with different products and activities (connected with comparison food needs in different part of the world)
 - Calculation of food consumption in different areas and what we can do with these calculations (calculations connected with food production, transport, consumption and waste)

Structure of session III. – Application

- Activity 3.2 **Decision making for food storage and transportation**
 - Storage (expiration, durability etc.) and transportation (distances, needs, „hidden bussiness“ etc.)
 - to prepare own product in form of
 - “mind map”
 - “flowchart”
 - “lab manual for model experiment”
 - and show and discuss it in classroom or in wider forum.

Structure of session III. – Application

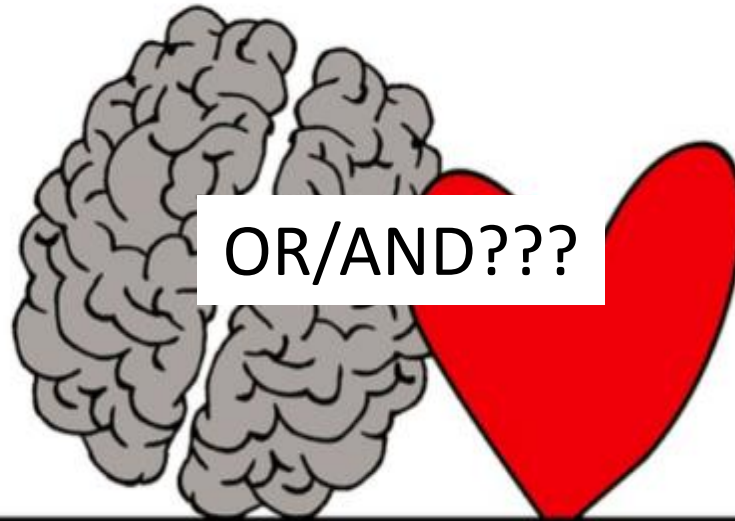
- **Activity 3.3 Decision making about food in confrontation of different contexts**
 - Preparation and consumption of food in history and in current situation and also in prognosis for the future in view of different cultures
 - Science context (contents, mechanical, physical, chemical and biological properties)
 - Social context (culture, history and nowadays and future, fair trade, solidarity etc.)
 - video “The Hidden Costs of Hamburgers”

Structure of session III. – Application

- Activity 3.4. **Decision making about food in simple science experiments**
 - To propose, to realise and to interpret experiments with food
 - **Food as multi component objects** (chemical content, physical properties, biological activity, paradoxes, coherency etc.)
 - **Food cleaning** (filtration, crystallization, destilation, etc.)
 - **Food conservation** (chemicals, procedures, etc.)
 - **Food as power of life** (energy consumption, energy production, energy conservation etc.)

Decision-making based on confronting scientific positions

Science



Society

THANK YOU FOR YOUR ATTENTION AND COOPERATION!