Mathe Connect

Integrating socially relevant topics into mathematics education

BG|BRG VILLACH ST. MARTIN

UNIVERSITÄT KLAGENFURT

Lilly Santner, Carolina Siller, Sebastian Wolf

oead sparkling science

Overview

- General information about the project
- Project team
- Aim of the project
- Research questions
- Course of the project
- Survey instruments development – public & schools
- Data collection
- Data analysis
- Stay connected

General information about the project

- Sparkling Science Project
- Students are Citizen Scientists
- Students are part of the research process

  →Planning the survey instruments
  →Data collection using the created survey instruments
  →Data analysis

- Students research topics that they would like to deal with in maths lessons

The project team

Postdoc.-Ass. Mag. Dr. Daniela Steflitsch

Sandra Friederike Wieser, MEd

Mag. Katrin Kanatschnig, MEd

Univ.-Prof. Dr. David Kollosche

Ass.-Prof. Dipl.-Math. Dr. Robin Göllner

Dr. Pete Wright

Students from classes 7a and 6a from the **BG BRG St. Martin**

Aim of the project

Learning environments for mathematic lessons are developed for the **lower and upper classes** that authentically address **overarching topics** and are orientated towards the **interests of the students**.

Research questions

- **•Which interdisciplinary, socially relevant topics students of different school levels consider interesting and relevant for integration into mathematics lessons, how this can best be as-sessed across school levels, how these topics can be linked to appropriate mathematical con-tent (= task creation) and what feedback on created tasks students and teachers give?**

- • What challenges and learnings do students have when they work on a research project?

- • Which methods or instruments do students choose to identify students' interests?

Course of the Project

Phase 1

Identification of topics that students find interesting for math classes

Phase 2

Creation of learning environments based on the research results

Phase 3

Evaluation of developed materials by teachers and students

Survey instruments development - Public

Considerations

- Variety of opinions
- What information do we want? (Personal data)
- Providing input to encourage participants
- Avoid limiting ideas
- Consider time span

Results

- Two polls with and without mathematical context
- QR-codes, stickers, flyers

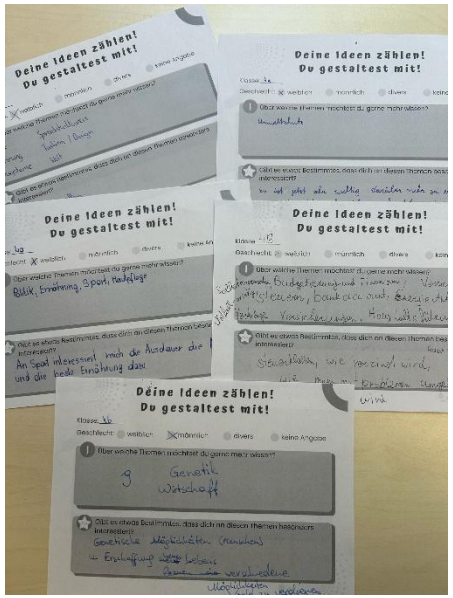
Survey instruments development - Schools

Considerations

- Need for a uniform system
- Developing innovative model
- Stay realistic

Results

- Questionnaires
- “future boxes”



Data collection – future boxes & group discussions

Future Boxes

- Consideration
  - project presentation
  - introduction/distribution of questionnaire
- Results
  - diverse answers
  - different ages – different interests
- Challenges & learnings
  - valuable insights

Group Discussions

- Consideration
  - small groups then class debate
  - popular topics from questionnaire
- Results
  - dependent on groups
- Challenges & learnings
  - starting a group discussion

Data collection – stickers, flyers & interviews

Flyers + stickers

- Consideration
  - distribution
- Results
  - first method ineffective
- Challenges & learnings
  - address people directly
  - visibility

Interviews

- Consideration
  - University of Klagenfurt
- Results
  - honest perspectives
- Challenges & learnings
  - different age groups – different approaches

Data analysis

- Consideration
  - divide data amongst members
  - create main overview
  - four key questions for extraction of information
- Results
  - Excel spreadsheet
  - presented to the whole team on April 30th

- **9 main categories**
  - Finances
  - Politics
  - Interpersonal/Intrapersonal
  - Technology
  - Society
  - Health
  - History

Want to stay connected with us?

Instagram

MATHECONNECT

Questionnaire

Thank you for your attention!

If you have any questions, do not hesitate to ask.

BG|BRG VILLACH
ST. MARTIN

UNIVERSITÄT KLAGENFURT

BG|BRG VILLACH
ST. MARTIN