

HEJNY METHOD

Deserved joy of learning

1. Innovation in Project Idea – Novelty

Does the project embody a new social approach or offer new solutions?

Is the project about new ways of looking at a social problem?

The project uses lessons of mathematics to encourage development of people with critical thinking who are able to discuss factually, to cooperate and to help one another.

It projects phylogenesis of mathematics into an ontogenesis.

It puts more emphasis on moral values during the teaching lessons than on knowledge.

It converts a role of a teacher from a “wisdom transferer” into a facilitator and moderator. Thanks to changing of the approach in lessons of mathematics, it changes indirectly also teaching of other subjects by the same teacher.

Does the project address target groups that have previously received little attention?

The teachers have only few praxis in the preparation on university. They have also low salary. There is not any systematical methodical support for teachers in the Czech Republic.

2. Innovation in Accessing Target Groups – Involvement

What is the concrete and enduring use of the project for the target group?

Thanks to Hejny Method teachers change their educational style forever. The children are raised to mature people with logical and critical thinking.

Does the project further the potential of the target group?

How is the target group implicated in the project?

Teachers are trained on training, summer schools. They teach children meanwhile and they consult problems with lecturers. Teachers organise trainings for parents of their pupils on their schools. Sometimes children teaches their parents in these trainings. We organize few discussion fora (Facebook, Moodle), where teachers can mutually help each other. Children become advisors of their schoolmates during the lessons.

3. Innovation in the Realisation of the Project – Effectiveness

What effects – and on whom – of this social innovation can be observed?

Children has positive relation to math. They have more deep and long-life knowledge. They are able to solve nonstandard untypical problems. They are more self-contained. It increase text-

understanding. They are able to discuss factually. They are better in cooperation. Some of the teachers reports that in their class is notable better sickness rate than in other classes.

Does the project change with changing needs? For example as to the target group, the way of approaching the issue or a changing project environment?

Due to computerisation and internet people do not need as much encyclopedic knowledge than in the past and they do not need to do basic calculation so fast. And that is why the old role of the teachers as “mediator of wisdom” ends. This method offers to teachers new role - guide in the world of education.

Is there cooperation between different disciplines / competencies / professional groups?

In the development of the method are involved people with specialisation: theoretical didactics, practical teaching, psychology. It is influenced also by actors. There is a lot of use of dramatisation. ICT specialist are also involved.

4. Innovation in Public Perception – Serving as an Example

How is the project integrated into local and regional environments?

The textbooks are localized, as a matter of principle, in a regional environment where children grow up, but the principles and majority of the didactics settings are transferable in other regions, since they are universal (footsteps, cubic buildings). International partners then test individual elements of the method in their local environment.

Does the project foster dialogue / cooperation with other institutions / organisations?

Within the sub-project “peer to peer support”, we work on a model of effective sharing of a mutual training of teachers across schools.

Have other organisations, media, sponsors, politicians been made curious?

Specialist in other didactic areas are exploring how to apply the principles in their field (see for example an article regarding preparation of a new practice in teaching of Czech at the Charles university, Na Univerzitě Karlově se připravuje nové pojetí češtiny), media follow a development on a long-term basis (see a selection of media presentations at www.h-mat.cz/media), we are sponsored mainly by a foundation Depositum Bonum, Foundation of Karel Janeček, and by further private companies such as e.g. AVAST.

Almost every week we obtain a request whether we have some materials in their language or whether we are thinking about extending the method into their country.

In 2010, professor Hejny was awarded the 1st degree Medal of the Ministry of Education, Youth and Sports for extensive excellent educational activity. In 2012, he received the “MathProf ONE” award within the “Czech 100 Best” project. In 2013, he was given a special award within the “Making Math Fun” project.

Have new paths been taken in dealing with the “outside world”?

There are few organisations which would like to transform the method into an electronic version. For example, with an association Techsophia we are developing a game called Matemág (“Mathemagician”), see www.h-mat.cz/matemag, which was partially funded through a crowdfunding portal Hithit, see www.hithit.cz/matikadoruky.



EGYPTSKÉ DĚLENÍ CHLEBŮ I

Faraónovi písaři ve starověkém Egyptě často řešili úlohy jako rozdělit 2 chleby mezi 3 podřídné. Chleby byly kruhové a stejné. Bylo požadováno, aby:

- dělení bylo spravedlivé;
- a navíc každý dostal úplně stejné kusy.



„Já bych tu úlohu vyřešila tak, že bych oba chleby rozdělila na třetiny. Každý člověk dostane z každého chleba jednu třetinu. Takže dostane $\frac{1}{3} + \frac{1}{3}$, což jsou $\frac{2}{3}$ z chleba.“



1 Egyptským způsobem rozdělte:

- a) 2 chleby mezi 4 podřídné c) 4 chleby mezi 6 podřídných
b) 3 chleby mezi 4 podřídné d) 5 chlebů mezi 6 podřídných.

Kira na Ariana: „Podívej, ale ty tam máš dva řezy zbytečné. Stačí z každého chleba vykrojit třetinu. Ty vykrojené třetiny si vezmu, oranžovou část si vezmeš ty a hnědou si vezme Elmar. Já dostanu $\frac{1}{3} + \frac{1}{3}$ a každý z vás dostane $\frac{2}{3}$.“

Stačily mi jenom 4 řezy.“

Elmar: „No jo, ale nezachovala jsi druhou egyptskou podmínku!“
Kira (po chvíli): „Tak to udělám jinak. Oba chleby na půlku a jednu půlku na tři stejné části. Každý z nás dostane $\frac{1}{2} + \frac{1}{6}$ chleba. Zase mi stačily jenom 4 řezy.“



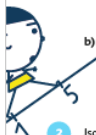
2 Egyptským způsobem rozdělte:

- a) 4 chleby mezi 7 podřídných c) 6 chlebů mezi 11 podřídných
b) 5 chlebů mezi 9 podřídných d) 7 chlebů mezi 13 podřídných.



1 Na číselné ose jsou vyznačeny dva body. Sestrojte na ní bod 0.

- a) c)
b) d)



2 Jsou více 3 „kilo-minuty“ nebo 2 dny?

- 3 Napište libovolné trojčíslo. Pak k němu připište totéž číslo ještě jednou, a tím dostanete číslo šesticiferné. Toto číslo vydělte 11. Výsledek vydělte 7. Tento výsledek vydělte 13. Elmar umí bez počítání říct, co vyjde. Jak a proč jeho kouzlo funguje?