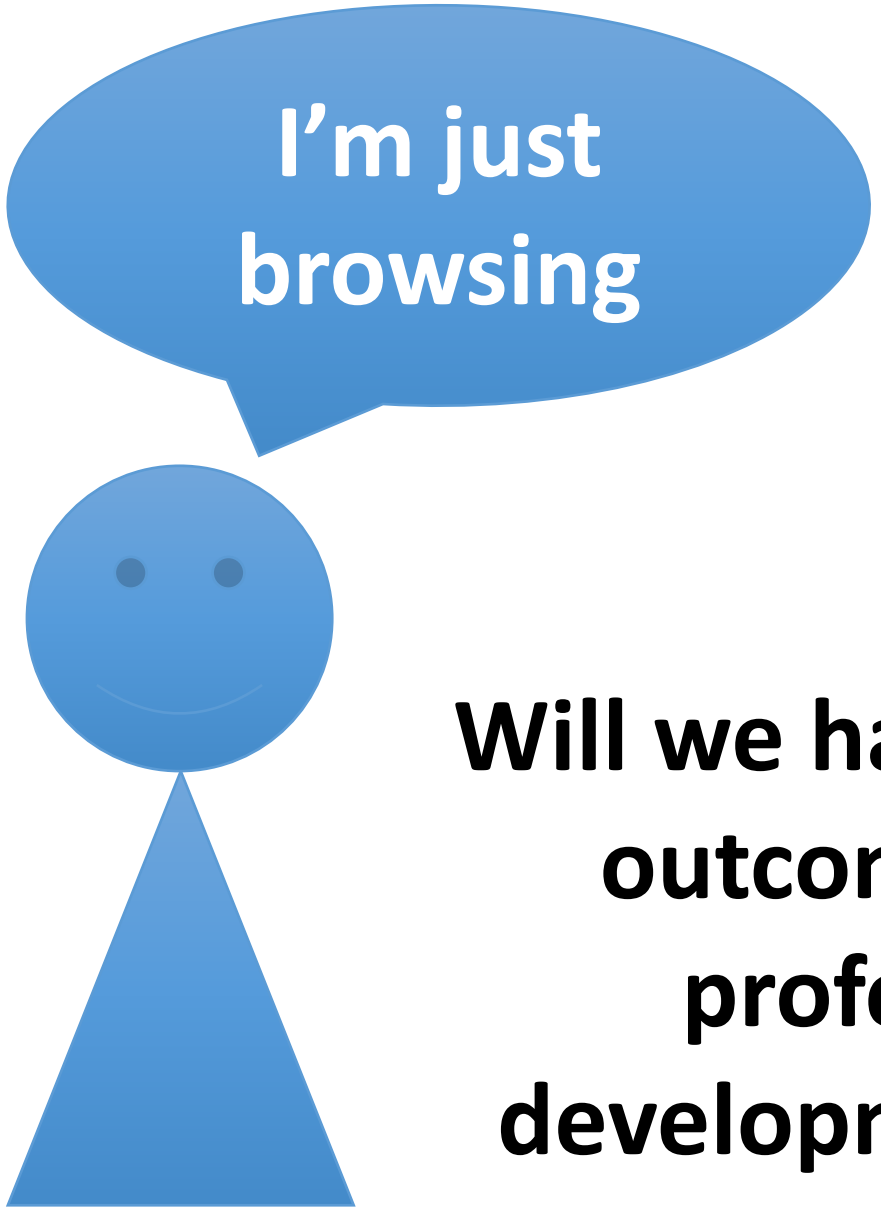
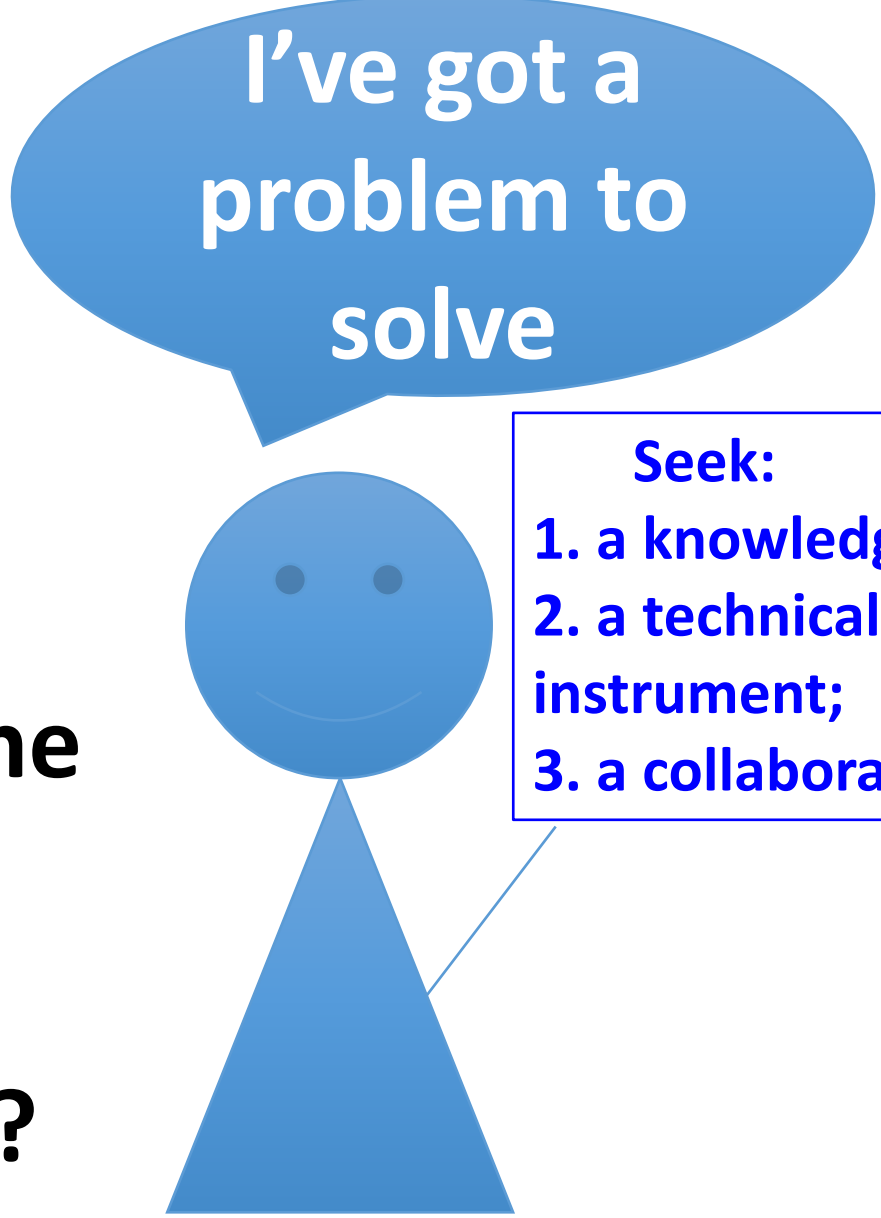
”Project-oriented form of teacher professional development for pre-service and in-service physics teachers“ (a.k.a. *“Professional Designing”* http://www.cognisity.how/2016/10/facilitating.html)





Will we have the same outcome after a professional development event?

Seek:
1. a knowledge;
2. a technical instrument;
3. a collaborator

The teacher can take a passive position (“I am just looking for something new and interesting”). Or, the teacher can take an active position (“I have a problem and I need to find a means to solve it”)

The latter position significantly increases chances that after the event the teacher will be making some changes in his or her teaching practice. And that is what we all want from a professional development event.

The outcome and effectiveness of a teacher professional development event is viewed via changes in the teaching practice made by the participant (attendee) after the event, and focusing on making advancement in the teaching practice by solving specific problems and overcoming specific obstacles.

"When I started my career, I did not have a say in the menu of courses that my district taught. We logged into a training system and chose, based on what was being provided. The problem was that *none of the provided sessions applied to what I needed,* and when district requirements were that a certain number of hours be earned through in-district training, it meant that *a large majority of teachers were taking courses just to earn the hours*. That was more than 10 years ago, and sadly, in many school districts, this is still the case."

From a book by Rafranz Davis, "The Missing Voices in EdTech", 2015 (CORWIN)

Various researchers have been looking for methods to ensure that after attending a professional development workshop a teacher will bring into his or her practice new knowledge presented at the workshop. One of the practices which proved to be efficient is based on the activity theory, and called "Professional Designing".

Activity theory

Center for Activity Theory and Developmental Work Research

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The theoretical foundation of this branch of the research can be found in publications of G.P. Shchedrovitsky (1964, 1966, 1971, 1977, 1981), and his colleagues, such as N.G. Alekseev (1992) and followers such as A.P. Zinchenko (2014).

Lev Vygotsky

From Wikipedia, the free encyclopedia

Lev Semyonovich Vygotsky (Russian: Лев Семёнович Вы́готский or Выго́тский, born Лев Симхович Выгодский [Lev Simkhovich Vygodskiy], November 17 [O.S. November 5] 1896 – June 11, 1934) was a Soviet psychologist, the founder of a theory of human cultural and bio-social development commonly referred to as cultural-historical psychology, and leader of the Vygotsky Circle.

Vygotsky's main work was in developmental psychology, and he proposed a theory of the development of higher cognitive functions in children that saw reasoning as emerging through practical activity in a social environment. During the earlier period of his career he argued that the development of reasoning was mediated

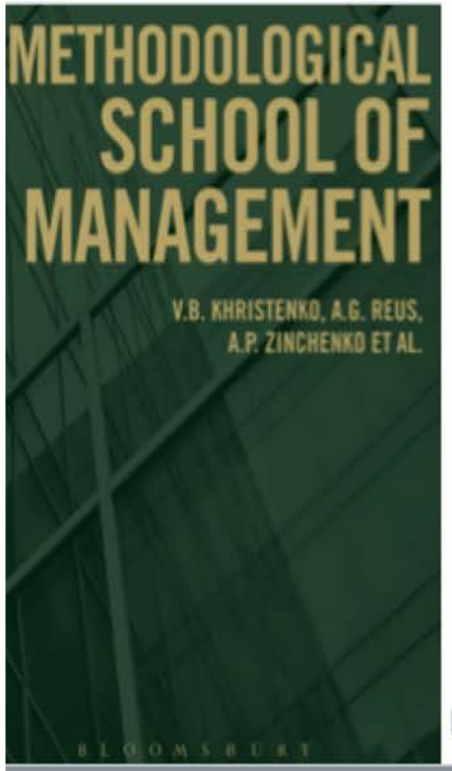
Lev Vygotsky

The Moscow Methodological Circle

Moscow Methodological Circle (MMC) is the philosophical and methodological intellectual and practical school established by Georgy Petrovich Shchedrovitsky (or, GP, as many of his pupils nicknamed him)

The Circle emerged in the early 1950s and took its final shape in 1954 in the course of the discussion on the issues of logic that was held at the Philosophy Department of the Moscow State University. It was first known as the Moscow Logical Circle (MLC). The founding fathers of the MLC were A. A. Zinoviev, G. P. Shchedrovitsky, B. A. Grushin and M. K. Mamardashvili.

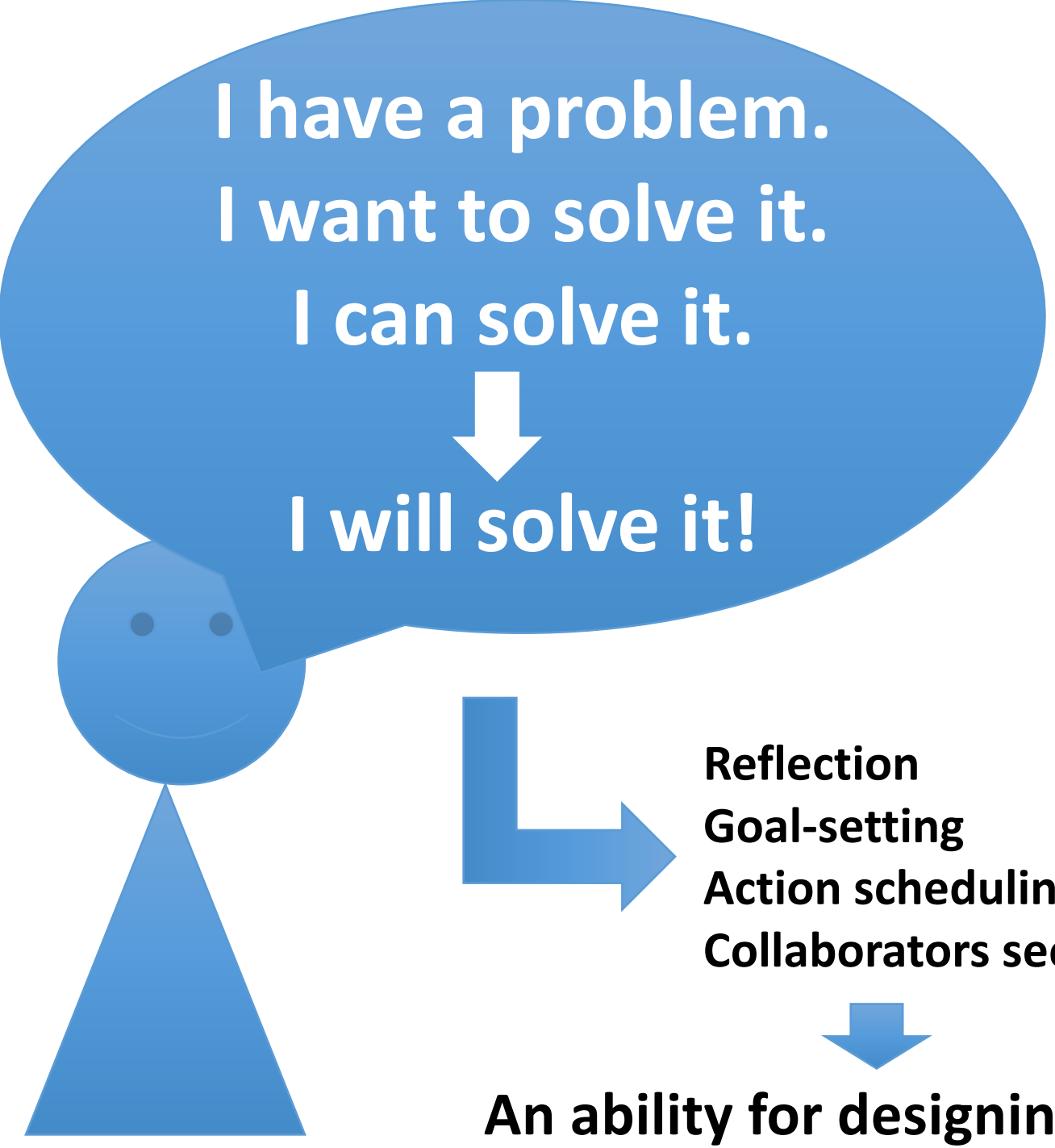
In the year of 1958, after the split-up with A. A. Zinoviev, G. P. Shchedrovitsky became the ideological and organisational leader of the Circle, and the Circle took the name of the Moscow Methodological Circle. Today GP's pupils established independent organisations proceeding with the intellectual traditions of the Circle, and the MMC took the form of a broader Methodological Movement.



Shchedrovitskiy Georgiy Petrovich (1929-1994) - Russian philosopher and psychologist. Studied the problems of interrelations between Pedagogy, Logic, Sociology and Psychology. Researched intellectual activity, methods of solving mathematical problems by children, the place of play activity in children's communities. Proposed the idea of conceptual-genetic logic. In 1980s developed, in collaboration with his students and followers, participatory planning games combining the characteristics of training and business games with intellectual methodological discourse.

Professional Designing helps to ignite and maintain a process of transformative development of an individual or an institutional educational practice.

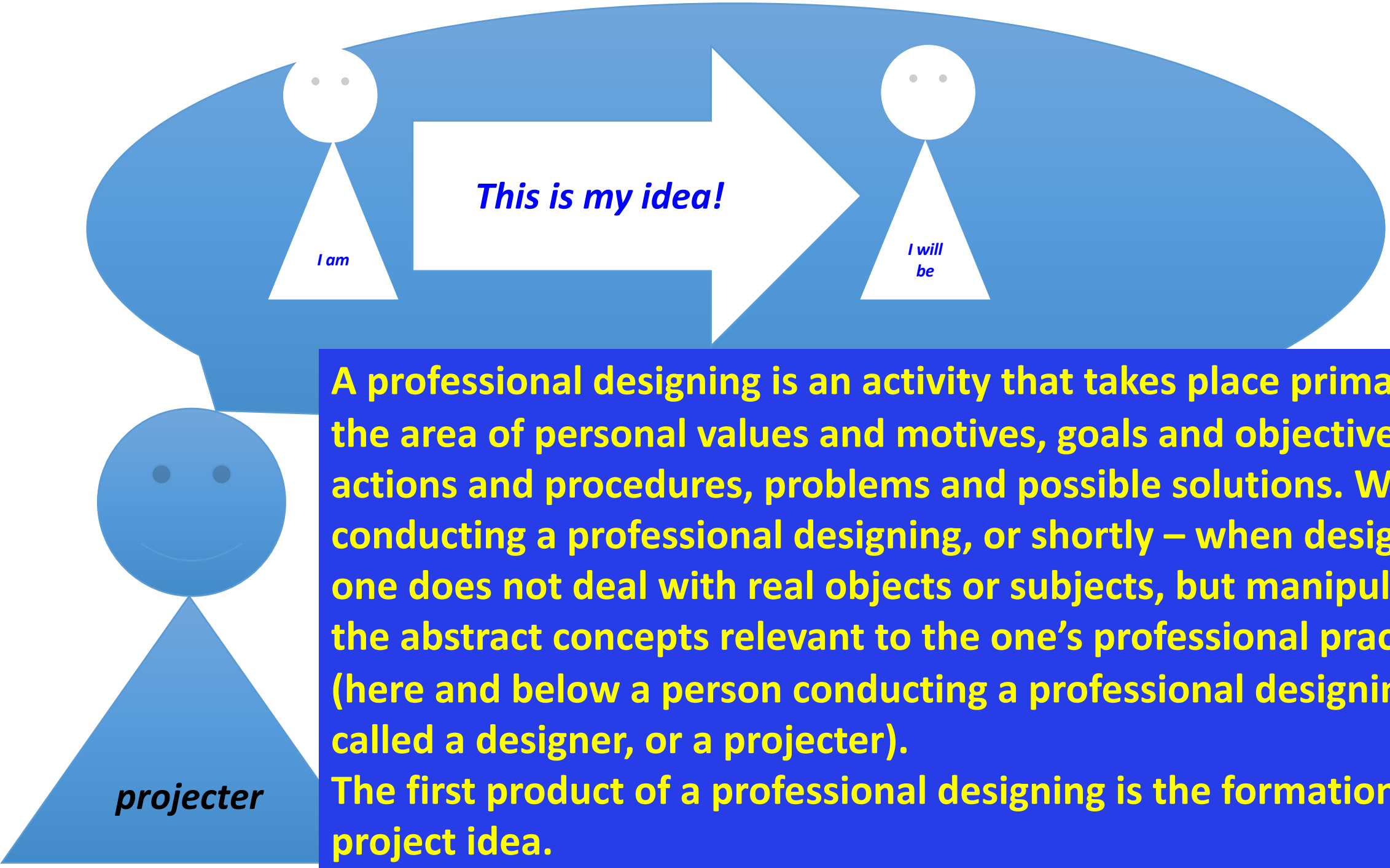
By a definition: Professional Designing is an intellectual activity resulting in: (a) constructing an image of the ideal/perfect professional situation (whatever it might mean for a given person), and (b) planning activities aimed at the transformation of the actual professional situation making it closer to the ideal one; the material result of a professional designing is a project. http://www.teachology.xyz/pd.htm



In order to transform his or her professional situation, teachers (a) must be willing to change their own practices, and (b) must be able to make the change. This means that professional skills, abilities, competencies of a teacher should include not only specific subject-related skills or teaching-related personal qualities, but also “meta-skills”, allowing to manage processes of idealization (i.e. drawing mental images), reflection, goal-setting, action scheduling, and so on, which are required for transforming a human practice. A combination of such skills forms the ability for designing the own teaching practice.

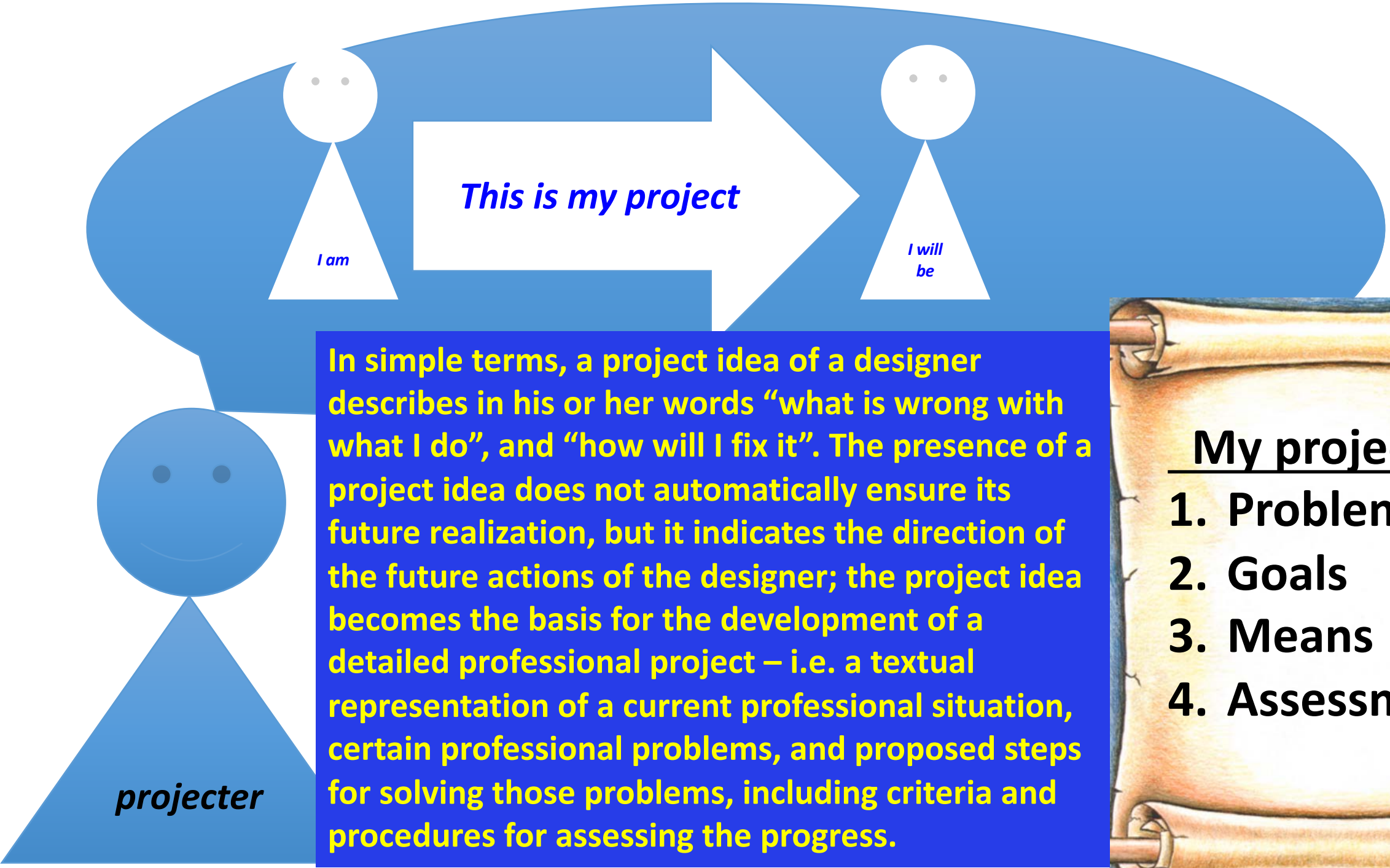
Reflection
Goal-setting
Action scheduling
Collaborators seeking

An ability for designing the own teaching practice



A professional designing is an activity that takes place primarily in the area of personal values and motives, goals and objectives, actions and procedures, problems and possible solutions. When conducting a professional designing, or shortly – when designing, one does not deal with real objects or subjects, but manipulate with the abstract concepts relevant to the one's professional practice (here and below a person conducting a professional designing is called a designer, or a projecter).

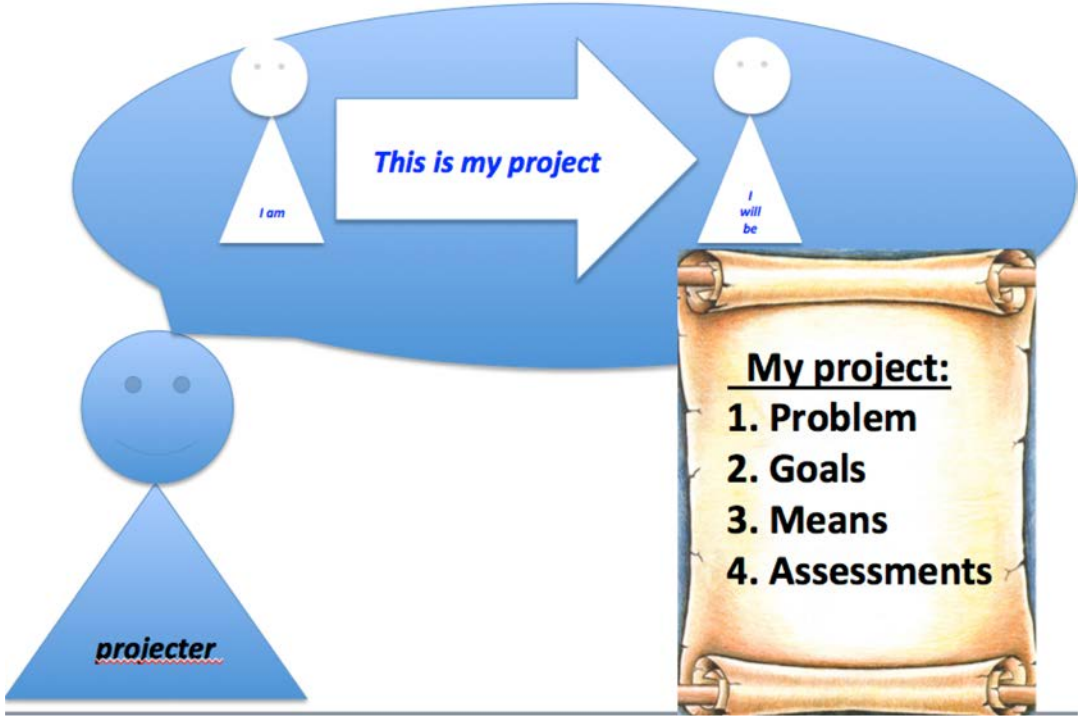
The first product of a professional designing is the formation of a project idea.



In simple terms, a project idea of a designer describes in his or her words “what is wrong with what I do”, and “how will I fix it”. The presence of a project idea does not automatically ensure its future realization, but it indicates the direction of the future actions of the designer; the project idea becomes the basis for the development of a detailed professional project – i.e. a textual representation of a current professional situation, certain professional problems, and proposed steps for solving those problems, including criteria and procedures for assessing the progress.

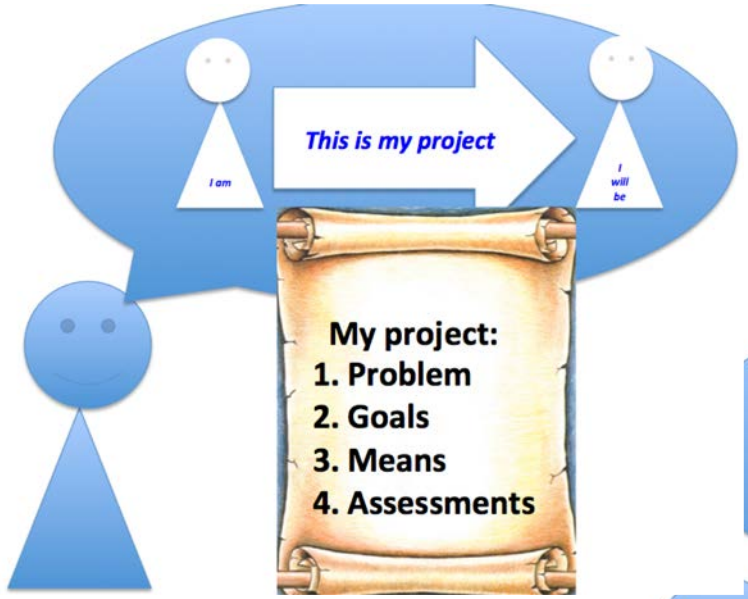
I've got a problem to solve.

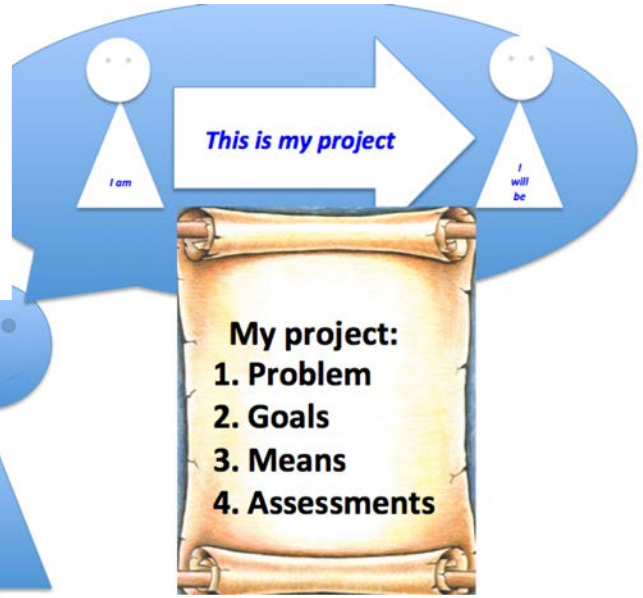
Welcome to our Professional Designing Workshop!

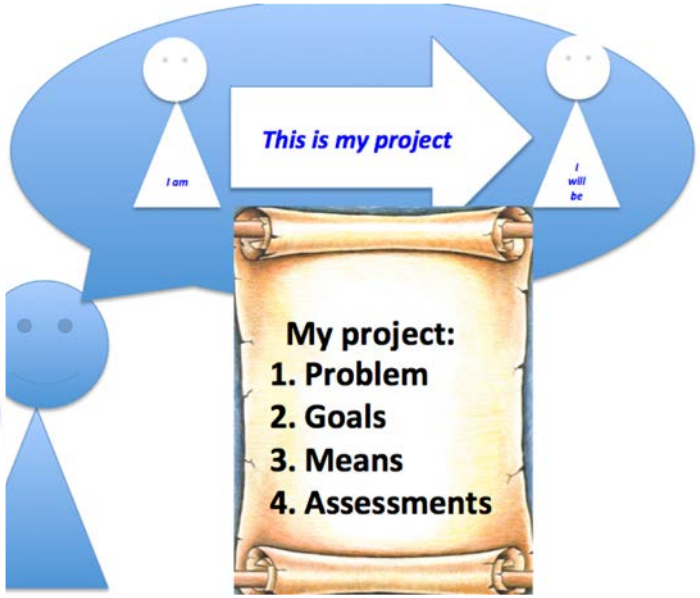


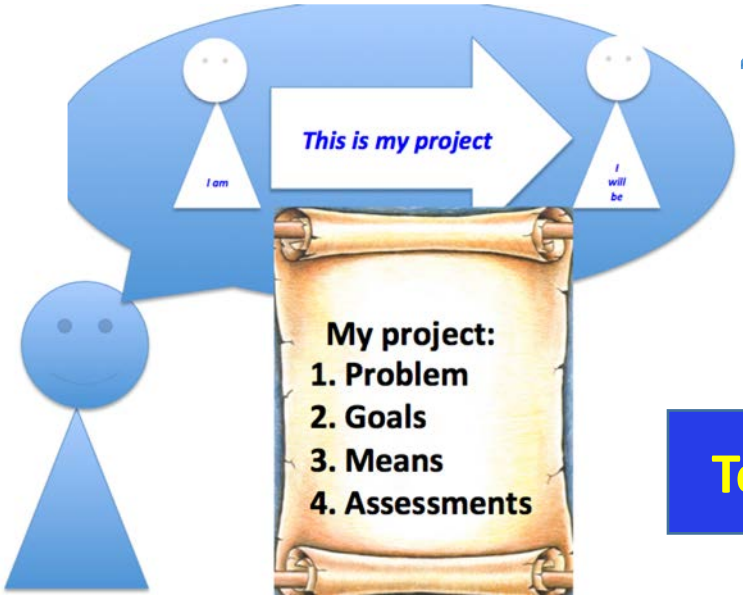
The most important product of a professional designing is a personal professional project, the existence of which significantly increases chance for a teacher implementing in the future practice knowledge presented during a workshop.

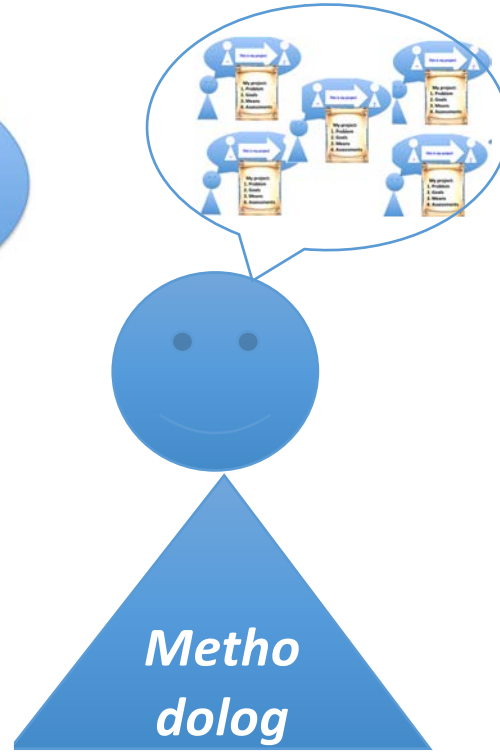
Activity-Organizing Workshop (AOW)











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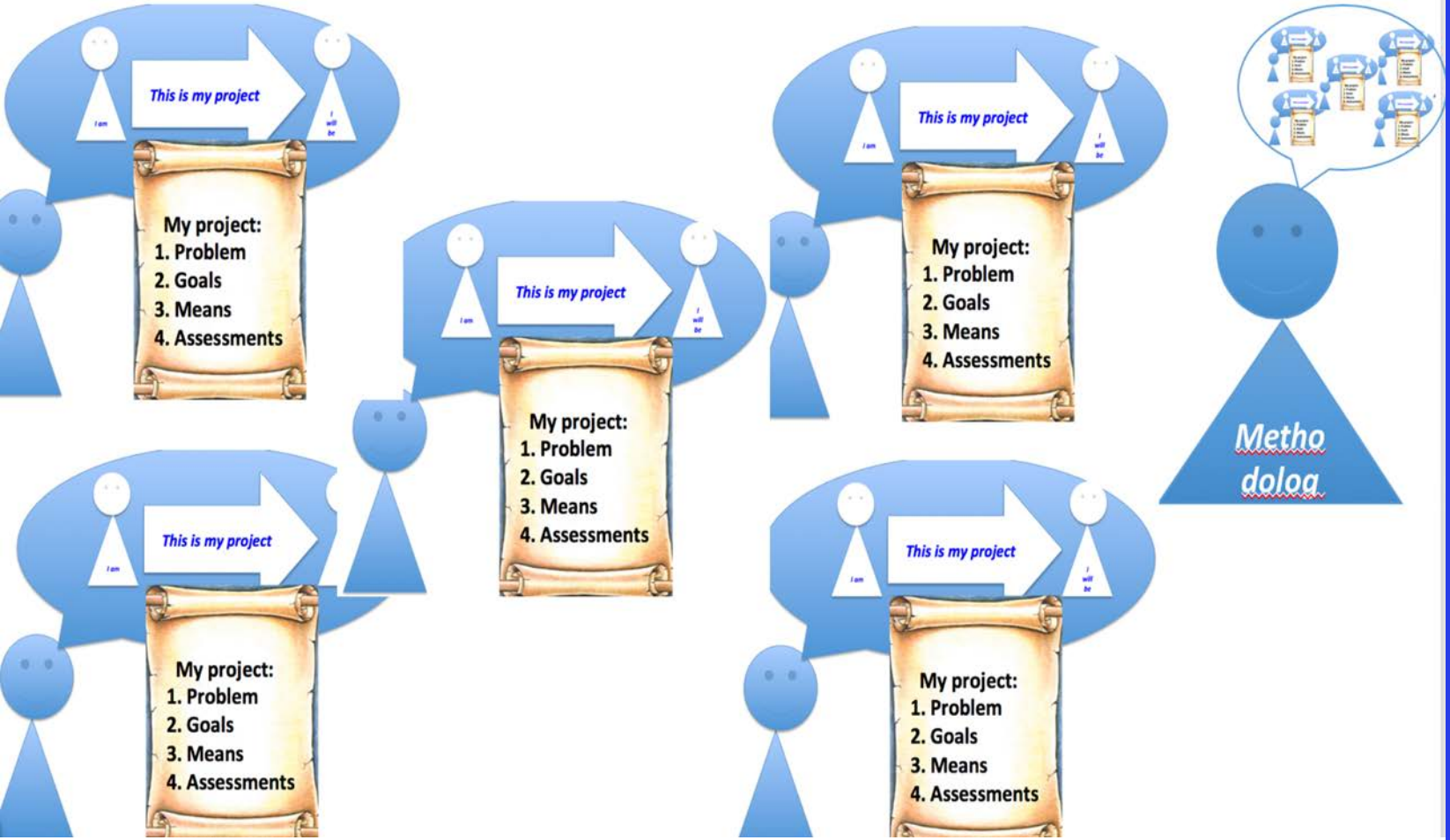
Activity-Organizing Workshop (AOW)

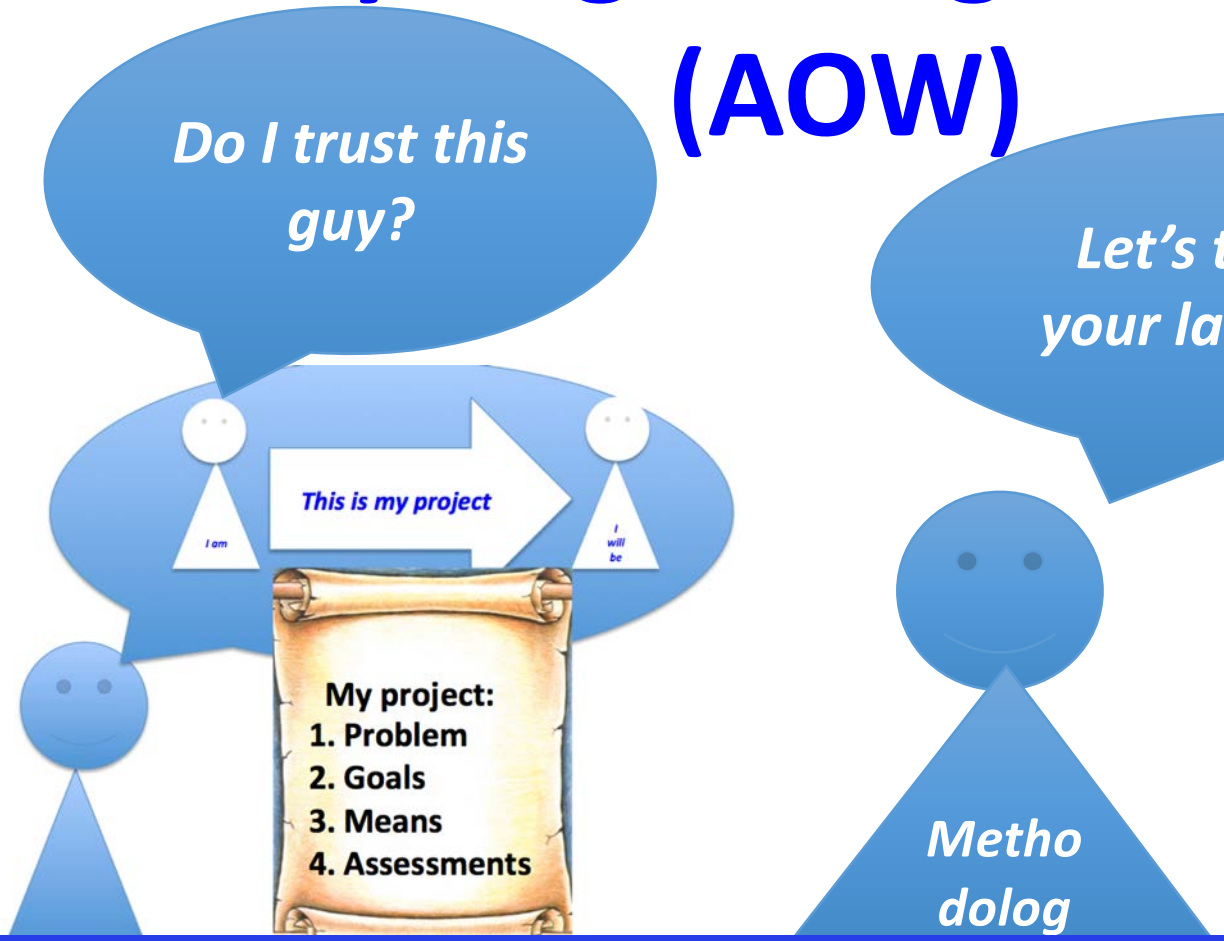


A professional designing – as a human activity – is essentially situational; its ultimate goal is to find mechanisms for self-transforming a concrete current professional situation of a projecter.

A projecter never works alone; there is always a set of active or potential collaborators (or competitors).

An effective form for coordinating professional goals and actions, based on the implementation of project-aimed activities, is the so-called "activity-organizing workshop". AOW participants usually represent coworkers from an institution or an institutional entity, or represent the same district.

Activity-Organizing Workshop (AOW)



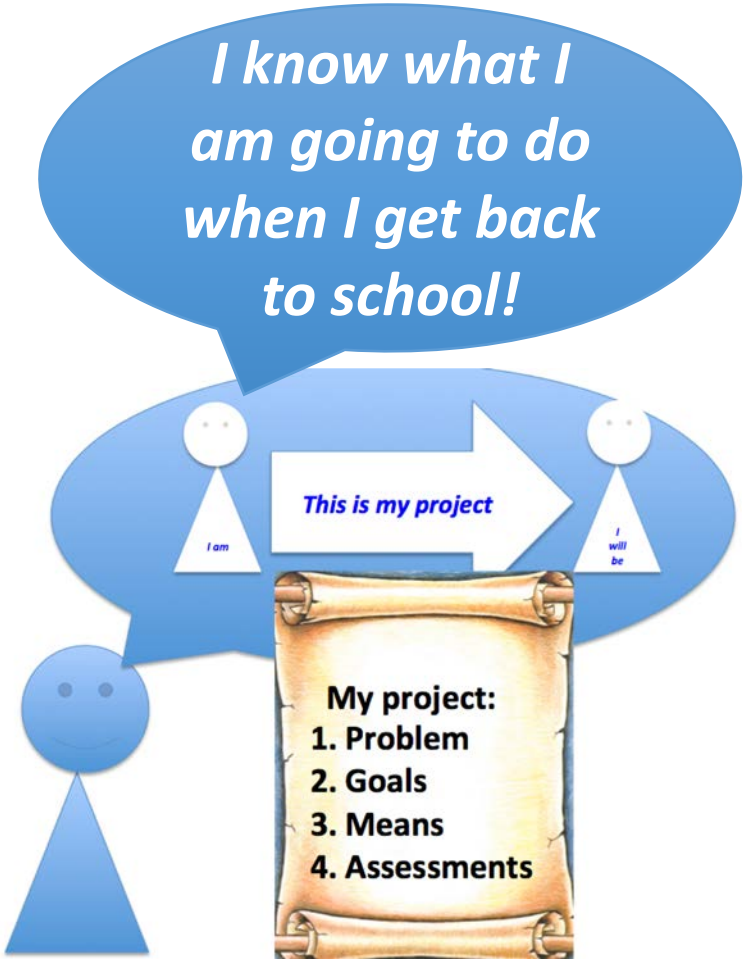
Communicating processes ignited during AOW and aimed at unveiling images, views, and opinions of participants about professional activities of themselves and others are complicated and sometimes emotional. That demands the involvement of an experienced moderator (a.k.a. a "methodolog", a.k.a. a "methodologist"; the former term is more broadly used in the context of AOW).

Guided by a methodolog, AOW participants become actively engaged into an individual professional designing. As the result of this work, the participants inevitably advance their ability to conduct a professional designing. The effectiveness of AOW strongly correlates with the experience of a methodolog moderating the event.

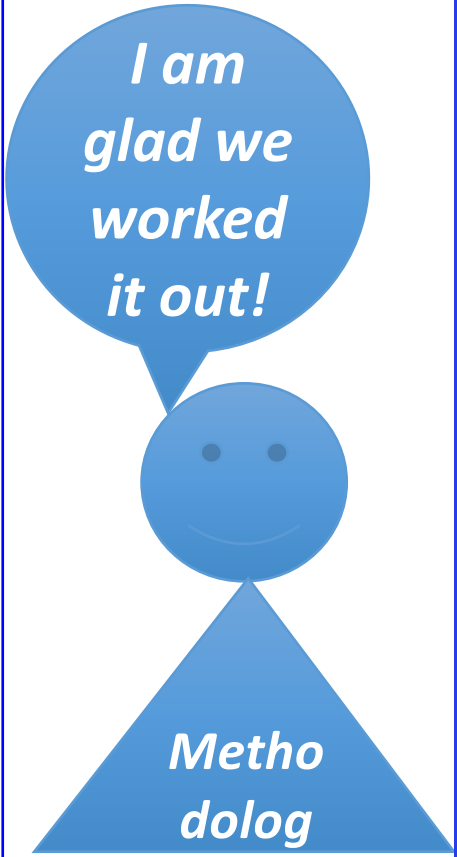
Activity-Organizing Workshop (AOW)

It is very important for the success of the whole event that participants would be willing to openly discuss their teaching experience (including such personal and usually internal matters as their values, moral limits, beliefs, life expectations, professional aptitudes, goals and actions). This conversation usually leads to an eventual realization of the existence of some gap/disconnect/incoherence between the results and the structure of actual teaching practice and the declared teaching goals and methods. When the existence of this gap is clearly presented to a participant, the so-called “problematic situation” has been reached.

Activity-Organizing Workshop (AOW)



Individual interviews, surveys, reflective feedback from teachers, observations of teachers' activities during events and while teaching students before and after events.



All precedents of AOW demonstrate that when teachers are immersed into a professional designing it positively affects their teaching practice in general and an ability to self-improve their teaching practice in particular. The conclusions on the effectiveness of the project-oriented methods of organizing teacher professional growth were made on the basis of individual interviews, surveys, and reflective feedback from teachers, and observations of teachers' activities during events and while teaching students before and after events.

Please, contact Dr. Valentin Voroshilov at teachology@teachology.xyz

Dr. Valentin Voroshilov

Teachology Consulting

Helping people with achieving their goals!

Teach0logy.xyz

617-657-9436

"Prof. Voroshilov, I'm at a loss for words to express my gratitude. In all of my years of school, from elementary, into high school, and through college, I have been blessed with top-notch teachers. But I'm pretty sure you take the cake. =>

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Areas of expertise:

A) administrative practices related to running a unit of an administrative structure, such as a department, or an institution, including but not limited to:

1. strategic and tactical planning
2. observing, guiding, coordinating, evaluating the performance of employees
3. analyzing individual reports, preparing and presenting cumulative
4. managing everyday workflow

B) consulting on developing teaching practices at different levels (individual teachers, teams of teachers, schools, school districts)

SELECTED CONFERENCES AND PUBLICATIONS

- "The excitation energy spectrum for a system with electron pairs tunneling in a two-leg ladder has a doping depended gap": http://www.teachology.xyz/vv16.pdf (Aug., 2016)

Presentation at 2016 PhysTech conference: http://www.teachology.xyz/pr16.htm

- Learning aides for students taking physics", Phys. Educ. 50 (2015) 694-698, http://stacks.iop.org/0031-9120/50/694 (October, 2015; an unedited version is free at http://www.teachology.xyz/lc.htm)
- Education reform needs a new paradigm" // http://www.teachology.xyz/np.thm (Sept. 2015)
- Math self-test for students planning on taking a physics course" // http://www.teachology.xyz/mst/mst.thml (Sept. 2015)
- What does "thinking as a physicist" mean?" // http://www.teachology.xyz/sp.htm (Mar. 2015)
- A Map of Operationally Connected Categories as an instrument for classifying physics problems and a basis for developing a novel tool for measuring learning outcomes in physics." // http://www.teachology.xyz/mocc.htm (Mar. 2015)
- Why have hundreds of millions of dollars been spent on developing the common core math standards if content-wise they are not much different from the ones they replace?" // http://www.teachology.xyz/3r.htm (Mar. 2015)
- Critical reading of "Making sense of confusion" by Eric Mazur et al." // http://www.teachology.xyz/msm.html (Mar. 2015)

Dr. Valentin Voroshilov

Professional experience and areas of expertise:

Teaching:

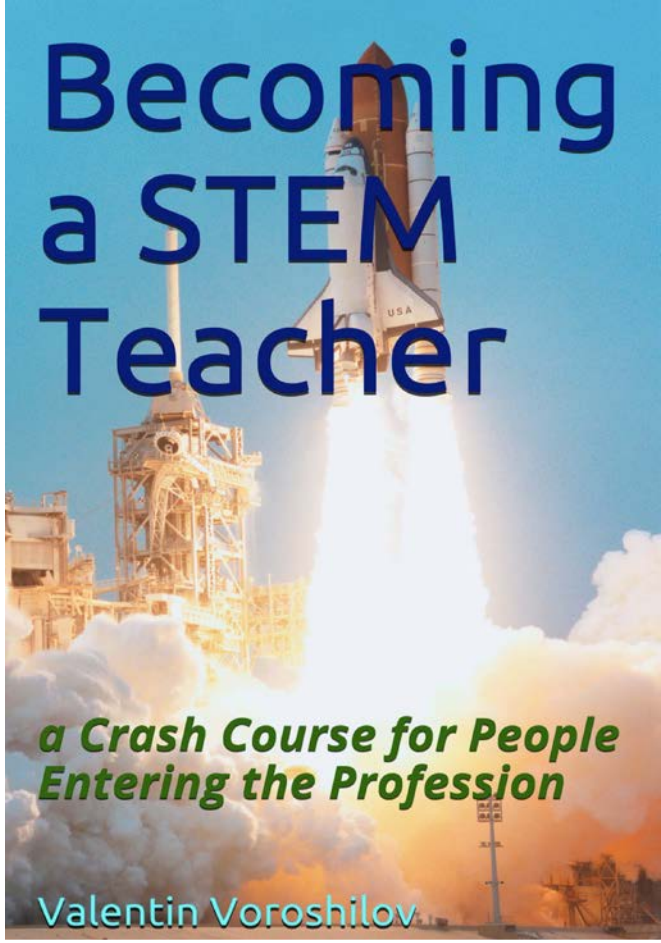
Algebra based physics
Calculus based physics
Physics for science teachers
Physics for students with learning disabilities

Algebra
Geometry
Trigonometry
Methods for teaching physics

Consulting:

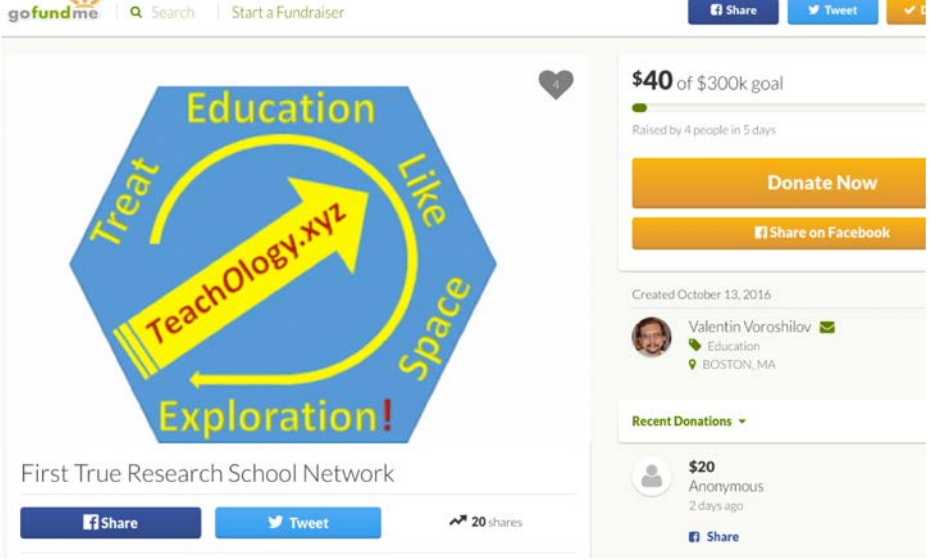
Individual teachers
School administrators
District administrators
School and district teams of educators

on strategies and tactics for advancing teaching practices and improving learning outcomes.



Teaching and researching on two continents.

Thank you!



https://www.gofundme.com/teachology

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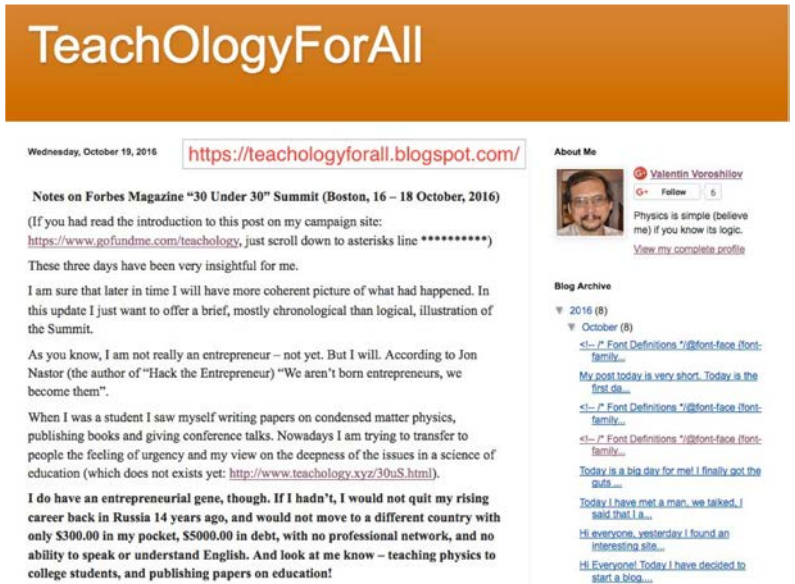

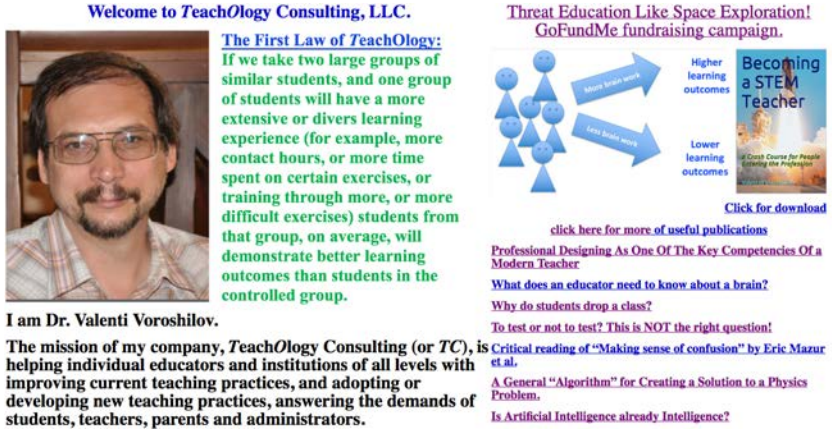

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