



POLICY FOR EDUCATING TEACHERS AND THE ESTABLISHMENT OF AN INSTITUTE FOR ADVANCED TEACHING

Preliminary Working Paper

THE NEED

In order to expand the circle of excellence in the fields of mathematics and physics in Israel, and to help many students who are ready for this challenge to succeed in their studies, there is a need for **high-quality teaching**. This teaching must believe in the students; provide an individual response adapted to their capabilities, difficulties, thought process, and pace of learning; and provide them with constructive and reinforcing feedback.

BACKGROUND

Countries around the world that are successful in education invest mainly in teachers and in educating teachers. This focus comes after attempts to create change solely through making adjustments to the system surrounding the classrooms, and follows numerous studies which show that the quality of teaching is the most influential factor in the classroom when it comes to affecting student achievement.

This direction is not only about financial investment in teachers, but also about changing the face of the teaching profession. Key education systems have managed to transform the teaching profession from an “assembly line” into a clinical field of expertise, and bring the “teaching of material” to teaching that focuses on the student’s learning.

Clinical professions have a strong appeal and are characterized by commitment, defining objectives, an individual plan, diagnosis, monitoring, and feedback. Clinicians work together to develop professionalism from the inside, as part of a professional community, through mutual consultation, sharing, group learning, practical specialization, and professional supervision and coaching.

High-quality teaching, including the above-mentioned features, is a key component for all subjects and at all stages of education. However, in mathematics and science it plays a particularly important role, since these are fields whose study demands training, practice, and perseverance, combined with a high level of understanding, in-depth study, and application.

These are abstract subjects that are perceived as difficult both for learners and for teachers, in which knowledge and skills are developed simultaneously. As a result differences between students in terms of knowledge, difficulties, way of thinking, and pace are particularly evident in these fields. The teacher’s ability to encourage many of the students, alongside learning, perseverance, and success, constitutes a unique task.

THE PROFESSIONAL COMMUNITY

The main framework in which clinical professions are developed and perfected is the professional community. This contrasts with “industrial” professions, in which professional knowledge is imported and imposed from the outside in the form of guidelines, procedures, training manuals, and in-service training.

The professional community is based on the assumption that the relevant knowledge lies in the practical experiences of professionals in the field. Accordingly, this experience should be documented, analyzed, and transformed into shared knowledge. The community is the intimate space in which professionals share and analyze their activities, discuss dilemmas, and receive feedback as part of a cycle of constant improvement.

In the educational field, a professional community is defined by its focus on the student's learning and on adapting teaching to the individual student's abilities, difficulties, thought process, and pace of progress. On a profound level, the members of the community perceive themselves as jointly responsible for the learning progress of the students taught by all the participants in the community.

In order to open the classroom door and bring the students' learning for discussion in the community, the students' work is documented, diagnostic findings are processed, and the course of the lesson is recorded. Peer observations and pedagogical supervision are part of the routine work of the community.

The teachers' professional community is a platform that works on a systematic and ongoing basis as an integral component in the working routine. This enables the teachers to learn together through action, to improve their skills, and to build their professionalism together and from the inside.

THE CURRENT REALITY

The usual form of professional development for teachers in the Israeli education system is through lectures, courses, in-service training, and workshops run by external experts. In recent years, however, and particularly in the field of mathematics and sciences, teacher communities have begun to develop and operate. Hundreds of teachers around Israel are now active in these communities, employing diverse operating models. There are regional communities supervised by an academic or other body, as well as citywide or school communities, some of which operate independently.

The cumulative experience in the work of these communities suggests that many teachers are voting with their feet. They come to the communities regularly, and report that they find them to be a unique, intimate, authentic, and professional environment for development.

However, the communities have not yet set down firm roots, for three main reasons:

- A. The communities have not yet fully integrated tools and methods for the documentation, diagnosis, and adaptation of learning and teaching enabling them to engage in focused and systemic discussion of students' learning. **Development** takes place separately in various organizations, is at varying stages of progress, and only enters the communities slowly.
- B. The **operation** of the communities is still based on the localized allocation of training days by the Ministry of Education and on philanthropic grants, which are inevitably short term. No permanent frameworks have been determined for funding the participating teachers, lead teachers, and a supporting/supervising body.
- C. Policy has yet to be developed enabling the **formalization** of the communities' activities in the education system as an integral part of routine work. Structural changes to teachers' work as part of salary agreements and central policy did not take the communities' work into account.

THE FUTURE PICTURE

Learning and action by mathematics and science teachers in high schools will be intertwined in order to improve the individual response provided for every student. This connection will be

developed through professional communities of teachers in which action fuels learning and learning improves action.

Within the school community, teachers will maintain a routine of learning during the course of action, the supervision of new teachers by veterans, and the provision of feedback. In the regional community, teachers will engage in in-depth discussion of common problems, be exposed to various solutions, and share their practical experience with their peers.

In order to develop, grow, facilitate, and formalize the activities of professional communities of teachers in the fields of mathematics and science, and to make these communities a vital and central component in the work culture of the teaching profession, a partnership will be established including the Ministry of Education, a leading educational body, and a philanthropic foundation.

The Ministry of Education will:

- Define policy for the professional development of teachers, including a role and function for communities and for pedagogic supervision
- Regulate the ongoing activities of the communities within the working routine of teachers and in the system
- Finance the activities of the communities and pedagogic supervision on an ongoing and permanent basis (facilitators, participants, and the supervisory body)
- Budget the activities of an Institute for Advanced Teaching on a permanent basis

The educational body will:

- Establish and operate the Institute for Advanced Teaching, which will serve as a professional home for “master teachers” who lead professional communities, collate expertise and development in the fields of high-quality teaching and communities, and serve as the executive body responsible for growing and supervising communities around Israel.

The philanthropic foundation will:

- Fund the establishment and development of the Institute for Advanced Teaching during its first five years

THE NEXT STEP

A joint team will be established within the Mofet Institute to formulate a plan for each of the milestones and the connection between them: policies, resources, arrangements, professional infrastructure, and legal structure. The team will appoint a coordinator and an academic advisor and will submit its recommendations by January 1, 2017.

The team’s concluding report will include the following sections:

1. The formulation of a recommended policy outline for learning by mathematics and science teachers in high schools, based on professional communities and instructional coaching.
2. A profiling of the resources needed to implement the policy on a systemic and full basis, including indication of sources and the manner of their operation.

3. A definition of the necessary arrangements and regulation for the activation of regional and school-based teacher communities, including the adjustment of working procedures in the system.
4. Planning the content, functions, target audiences, authorities, and responsibilities of the Institute for Advanced Teaching, including the scope of activities and resources.
5. Preparing a legal structure for the relationship between the partners reflecting the necessary commitments, expectations, and work processes.