Promoting Teachers' Success in Their Induction Period

A Capacity Building in the Field of Higher Education (CBHE) project Erasmus+ Programme’s Key Action 2 – Cooperation for Innovation and the Exchange of Good Practices

Final external evaluation report

Dr. Barbara Rosenstein

October, 2019

Table of Contents

[Abbreviations 6](#_Toc21963078)

[General 6](#_Toc21963079)

[Partners 6](#_Toc21963080)

[Executive Summary 8](#_Toc21963081)

[Table 1 Summary of the Findings 8](#_Toc21963082)

[WP2 Development - Implementation: Curriculum, materials, tools & events 9](#_Toc21963083)

[Table 2 MITs Implemented by PROTEACH 9](#_Toc21963084)

[Table 3 Academic Courses Implemented by PROTEACH 10](#_Toc21963085)

[Impact 11](#_Toc21963086)

[Sustainability 11](#_Toc21963087)

[WP1 Preparation 11](#_Toc21963088)

[WP3 Quality Plan 12](#_Toc21963089)

[Relevance 12](#_Toc21963090)

[Effectiveness 12](#_Toc21963091)

[Efficiency 12](#_Toc21963092)

[Impact 13](#_Toc21963093)

[Sustainability 13](#_Toc21963094)

[WP 4 Dissemination and exploitation 13](#_Toc21963095)

[Relevance 13](#_Toc21963096)

[Effectiveness 13](#_Toc21963097)

[Efficiency 13](#_Toc21963098)

[Impact 14](#_Toc21963099)

[Sustainability 14](#_Toc21963100)

[WP5 Management 14](#_Toc21963101)

[Relevance 14](#_Toc21963102)

[Effectiveness 14](#_Toc21963103)

[Efficiency 15](#_Toc21963104)

[Impact 15](#_Toc21963105)

[Table 4 Numbers of participants in MITs over the three years of PROTEACH\* 15](#_Toc21963106)

[Sustainability 15](#_Toc21963107)

[Role of the European Partners 16](#_Toc21963108)

[Participant testimonials 16](#_Toc21963109)

[Learning 16](#_Toc21963110)

[Support 17](#_Toc21963111)

[Teachers’ voice 17](#_Toc21963112)

[Strengths of PROTEACH 17](#_Toc21963113)

[Weaknesses of PROTEACH 18](#_Toc21963114)

[ Satisfaction with the new program 18](https://d.docs.live.net/a970f8cfe49ff8b4/Proteach/Final%20Proteach%20External%20Evaluation%20Report%20October%202019.docx#_Toc21963115)

[ Use by beneficiaries of new knowledge, skills and attitudes 18](https://d.docs.live.net/a970f8cfe49ff8b4/Proteach/Final%20Proteach%20External%20Evaluation%20Report%20October%202019.docx#_Toc21963116)

[ The support of the organization (and change of the organization) 18](https://d.docs.live.net/a970f8cfe49ff8b4/Proteach/Final%20Proteach%20External%20Evaluation%20Report%20October%202019.docx#_Toc21963117)

[ Impact on, school and colleagues: 18](https://d.docs.live.net/a970f8cfe49ff8b4/Proteach/Final%20Proteach%20External%20Evaluation%20Report%20October%202019.docx#_Toc21963118)

[Conclusions 18](#_Toc21963119)

[1. Satisfaction with the new program 18](#_Toc21963120)

[2. Use by beneficiaries of new knowledge, skills and attitudes 18](#_Toc21963121)

[3. The support of the organization (and change of the organization) 18](#_Toc21963122)

[4. Impact on schools and colleagues 18](#_Toc21963123)

[*a.* *Too soon to know categorically, however there are positive indications.* 18](#_Toc21963124)

[5. Impact on learning, motivation, interest of pupils. 18](#_Toc21963125)

[Suggestions and further research 18](#_Toc21963126)

[Final External Evaluation Report 20](#_Toc21963127)

[Introduction 20](#_Toc21963128)

[External Evaluation 20](#_Toc21963129)

[Identity of the external evaluator 20](#_Toc21963130)

[Relevance 20](#_Toc21963131)

[Effectiveness 20](#_Toc21963132)

[Efficiency 20](#_Toc21963133)

[Impact 21](#_Toc21963134)

[Sustainability 21](#_Toc21963135)

[Methodology 21](#_Toc21963136)

[Feedback mechanisms in place 21](#_Toc21963137)

[Remedial actions taken if any 22](#_Toc21963138)

[Internal Evaluation by Participating Institutions 22](#_Toc21963139)

[Summary of Findings According to Work Packages 22](#_Toc21963140)

[WP1 Preparation 23](#_Toc21963141)

[WP2 Development Implementation: Models of communication; Implementation: Curriculum, materials, tools & events 24](#_Toc21963142)

[Table 2 MITs Implemented by PROTEACH 24](#_Toc21963143)

[Table 3 Progression of MITs during the three years of PROTEACH\* 25](#_Toc21963144)

[Table 4 Academic Courses developed by Protech 27](#_Toc21963145)

[WP3 Quality Plan 27](#_Toc21963146)

[WP4 Dissemination and Exploitation 28](#_Toc21963147)

[Table 5 Dissemination Activities of HEIs 30](#_Toc21963148)

[Findings in terms of Aims and Objectives 32](#_Toc21963149)

[Improving the quality of new school and kindergarten teachers 33](#_Toc21963150)

[Improving their induction process at the school 33](#_Toc21963151)

[Increasing the retention rate of school and kindergarten teachers in the profession 33](#_Toc21963152)

[Fostering beginning teachers’ initiatives in order to expand their impact in the classroom and in the educational organization 34](#_Toc21963153)

[Establishing collaboration among academic institutions, schools and the district and local authorities in order to promote the integration of the school and kindergarten teachers who are just starting out in Israel’s education system 34](#_Toc21963154)

[The MITs 34](#_Toc21963155)

[Table 5 Observation conducted by the External Evaluator 36](#_Toc21963156)

[Strengths and Weaknesses of PROTEACH 37](#_Toc21963157)

[Strengths 37](#_Toc21963158)

[Weaknesses 37](#_Toc21963159)

[Role of the European Partners 37](#_Toc21963160)

[Conclusions 38](#_Toc21963161)

[1. Satisfaction with the new program 39](#_Toc21963162)

[2. Use by beneficiaries of new knowledge, skills and attitudes 39](#_Toc21963163)

[3. The support of the organization (and change of the organization) 39](#_Toc21963164)

[4. Impact on schools and colleagues 39](#_Toc21963165)

[*a.* *Too soon to know categorically, however there are positive indications.* 39](#_Toc21963166)

[5. Impact on learning, motivation, interest of pupils. 39](#_Toc21963167)

[Suggestions and further research 39](#_Toc21963168)

[References 40](#_Toc21963169)

[Appendix 41](#_Toc21963170)

[Representative testimonials 41](#_Toc21963171)

[Learning 41](#_Toc21963172)

[Working collaboratively 41](#_Toc21963173)

[Personal, emotional, social Support/ creating a safe space 43](#_Toc21963174)

[The group processes – creating a community of learners 44](#_Toc21963175)

[Summaries of consortium meeting feedback 45](#_Toc21963176)

[Introduction 45](#_Toc21963179)

[Methodology 45](#_Toc21963180)

[Findings 45](#_Toc21963181)

[Form 45](#_Toc21963182)

[Content 46](#_Toc21963183)

[Suggestions 48](#_Toc21963184)

[From Tallinn: 48](#_Toc21963185)

[From Exeter: 49](#_Toc21963186)

[From Salzburg: 50](#_Toc21963187)

[Conclusions 50](#_Toc21963188)

# Abbreviations

## General

|  |  |
| --- | --- |
| **BT**  | Beginning teachers |
| **EU** | European Union |
| **HEI**  | Higher Education Institutions |
| **LA**  | Local authorities |
| **MIT**  | Multiplayer Induction Team |
| **MoE**  | Ministry of Education |
| **OECD** | Organization for Economic Cooperation and Development |
| **PISGA**  |  Center for Teacher Development, Ministry of Education  |
| **PROTEACH** | Teachers' Success in Their Induction Period |
| **VaKE** | Values and Knowledge Education |
| **WP**  | Work Package |

## Partners

|  |  |
| --- | --- |
| BBC  |  Beit Berl college  |
| BU  |  University of Bucharest  |
| GACE  | Gordon Academic College  |
| Kaye  |  Kaye Academic College  |
| Mofet  | The Mofet Institute |
| PLUS  |  The University of Salzburg (Paris Lodron) |
| SAKH  |  The College of Sakhnin  |
| SMKB  |  Kibbutzim College |
| Talpiot  |  Talpiot Academic College  |
| TLU  |  Tallinn University  |
| UBEX  |  University of Exeter  |

# Executive Summary

The executive summary presents the key elements of the final evaluation report. Findings are based on progress, feedback reports, interviews and observations collected and analyzed by each participating institution, the internal evaluation report, the project reports and data collected through interviews, focus groups and observations by the external evaluator. Table 1 below summarizes the findings according to WPs: WP1 Preparation, Wp2 Development and Implementation, WP 3 Quality Plan, WP 4 Dissemination and exploitation, and WP5, Management.

### Table 1 Summary of the Findings

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
|  | **WP1** | **WP2** | **WP3** | **WP4** | **WP5** |
| **Relevance** | √ | √ | √ | √ | √ |
| **Effectiveness** | √ | √33 MITs450+ BTs, interns, participants + MoE and LA representatives, and others. | √ | √ | √ |
| Efficiency  | √  | √ - creating an MIT is time consuming and inherently inefficient | √  | √ | √- It takes time to set up a workable design. |
| **Impact** | √ | √ Changes in Attitudes, Practice, Knowledge | √ | √ RecognitionAdaptationExpansion | √ |
| **Sustainability** | √ | √New courses incorporated into college curriculum | √ | √ Further expansion of MITs | √ |

From the table above it is clear that PROTEACH successfully implemented the Project.

The project has successfully fulfilled its Work Packages (WPs). In terms of implementation more programs were implemented than in the original plan and a larger number of participants were involved. The assessment of the project by WPs follows in detail below.

## WP2 Development - Implementation: Curriculum, materials, tools & events

Relevance – High. Implementation of the models developed in the project has been most relevant to the participating schools, mentors, interns and new teachers.

Effectiveness – High. All MIT programs operated and expanded over the period of the project. In total thirty-three programs were implemented in schools and municipalities. Three models were developed: individual school, community-based or multi-school and municipality- based. The individual model operated in a single school and included new teachers, mentors, veteran teachers and other staff in the MIT activities. The multi-school model worked with several schools in the same area and included staff, new teachers and key stakeholders from all participating schools in the MIT activities as well as members of the community. The municipal-based model included an entire municipality involving key stakeholders at the municipal and national levels, new teachers, mentors and staff from participating schools. All models had the support of the MoE in some form or another. Table 2 below shows the model MIT, context and implementing HEI.

### Table MITs Implemented by PROTEACH

|  |  |  |
| --- | --- | --- |
| HEI | Target and Context | MIT model |
| Beit Berl College*(University of Exeter UBEX*) | HadassimElementary school, youth village.  | School |
| Dror Elementary School | School |
| Petach Tikva – Kindergartens | Municipality-based |
| Gordon Academic College | Tel Hai School Haifa Elementary School | School |
| The Reali Elementary School Ahuza branch, in Haifa, Private Elementary school | Community-based |
| Kaye Academic College*(UBEX, PLUS)* | Makif Vav, Beer Sheva, High School | School |
| El-Hozial School Incubator/MIT. Four schools participated in the MIT | Municipality-based |
| Locality based MIT – Lakiya, a Bedouin town in the Negev.  | Municipality-based |
| Kibbutzim College of Education (TLU)  | Kindergartens in Holon | Municipality-based |
| Gil High School and Yachdav Elementary School – Special Education | Multi-school |
| Holon Elementary | Multi-School |
| College of Sakhnin*(UBEX, PLUS)* | Elbashaer School, Sakhnin | Multi-school |
| Tamra | Multi-school |
| Arabah | Multi-school |
| Talpiot Academic College | Petach Tikva, 6 Religious schools  | Multi-school |
| Netanya – PISGA. Preschool as part of citywide MIT. | Municipality-based |

Once lessons were learned from the implementation of MITs in the first year, courses were developed to teach the principles of the program. These courses were incorporated into the Teacher Education curriculum at the colleges.

Efficiency- High. Efficiency is dependent upon cooperation of the participating partners. The programs worked most efficiently in schools where the principal gave strong support, the staff cooperated, an MIT coordinator was in place at the school and the local institutions were supportive. Once the MITs were firmly established courses were developed to train teachers in training according to the principles learned from the MIT experience. Table 1. below shows the HEI, the course and the target population of the course.

### Table 3 Academic Courses Implemented by PROTEACH

|  |  |
| --- | --- |
| Semester Courses and Modules | Year of studies |
| **Beit Berl College** | Development of personal and professional identity in teaching.  | J.H and high school heterogenous students |
| **Gordon College** | The Teacher as a researcher in the classroom. 4- week module emphasizing organizational and cultural components of the teacher's role, teachers' partnerships and participation in schools as a community of practice. | Third year students |
| **Kaye College** | From training to teaching: developing inner resources | Third year Special Education students |
| **Kibbutzim College** | From student-teachers to teachers: Integration into school as an organization | Mixed third year students |
| **Sakhnin College** | The school as a multicultural educational organization in the postmodern era | Third year students |
| **Talpiot College** | Aspects in work of a beginning teacher | Third year students |

Impact - Immediate impact is high. According to feedback from participating interns and new teachers, the program increased their motivation, decreased their fears, and eased their adjustment to teaching. Furthermore, each HEI developed and implemented a course based on the MIT philosophy incorporating the concept into its curriculum.

In many instances, new teacher- initiated activities influenced the teachers, students and schools in which they worked. Impact can be seen through the Guskey’s stages of teacher education (Guskey, 2002). The participants were satisfied, developed professionally and applied their new knowledge to their practice. Whether they achieved results among their pupils was not part of the QA plan and has not been measured.

Sustainability– Sustainability is promising because many of the learning materials and courses have been incorporated in the curriculum of the participating HEIs to be taught in the years to come post PROTEACH. Furthermore, the EU partners have begun to use some of the methods in their own teacher training programs.

A practical guideline for sustainability is the list of criteria for developing a MIT. These criteria appear in the box below

Criteria for successful MITs

1. Number of new teachers
2. Commitment of the principal
3. Culture of the school – motivation to work in partnership, orientation for collaboration
4. Hours to support teachers
5. Time for enrichment
6. Coordinator in the school
7. Mentors in the school

## WP1 Preparation

Relevance– High. The preparation of the program took into account the spectrum of induction and teacher training programs operating in each participating Higher Educational Institution (HEI). The Case Study report written by the Beit Berl team addresses the relevance of the project. *The significance of the school context, principal and staff in the adjustment of beginning teachers to their new career supports previous research focusing on the organizational aspect of beginning teacher induction (Borman & Dowling, 2008; Skaalvik & Skaalvik, 2010).*

Effectiveness – High. By taking into consideration the existing programs, each HEI developed a model that suited its context.

Efficiency- Efficiency is dependent upon cooperation from the schools, especially concerning the implementation of the developed models. Such cooperation was successful through a process of working together, making compromises and adaptations. Flexibility allowed each HEI to develop a MIT that suited its particular context.

Impact – Immediate impact has been high. All HEIs began the program on time and had up and running MITs in place by the second year of the project. In addition, all HEIs introduced courses or modules to courses based on the first-year experience that were incorporated into the Teacher Education curriculum.

Sustainability– The mechanisms established by the preparation phase have continued, adapted and supported the success of the project throughout.

## WP3 Quality Plan

Relevance – High. The quality plan was well conceived in that it allowed each HEI to conduct its own evaluation and then feed that evaluation into the overall evaluation. This enabled the HEIs to relate to the particular successes and challenges of the models they developed and implemented. Furthermore, the management team collected feedback after the international meetings. The responses were collected, analyzed and summarized by the external evaluator. The feedback comments received reflected the incorporation of lessons learned from the feedback into subsequent meetings. This is particularly true concerning length of the sessions, and allowing free time for reflection and discussions. (Summaries of consortium meeting feedback, May 2019. See appendix.)

Effectiveness – High. The fact that each HEI evaluated its own program allowed them to focus on specific points relevant to their format while collecting data relevant to the project as a whole.

Efficiency - Collecting evaluation materials from a number of informants is never efficient. Receiving reports and feedback was challenging since it required additional time and effort from teachers with full and intense schedules. However, a wealth of material has been collected from all the participating HEIs from all levels of the Project.

Impact – The impact of the quality plan has been to keep the participants on track through periodic feedback and exchanges of information. Programs have learned from each other and have made adjustments when necessary.

Sustainability – In addition to providing knowledge about the programs, the quality plan has produced an excellent resource to inform others about the topics of teacher induction in general, school-based induction programs, the role of mentors, the kinds of support needed for a successful induction program, giving voice to new teachers, new teachers’ sense of belonging, motivation, fears and competence.

## WP 4 Dissemination and exploitation

Relevance– High. Dissemination is an important indicator of the success of a project. PROTEACH is especially geared to dissemination because it is inherently inclusive and by definition cooperates with schools, communities, municipalities and the system as a whole.

Effectiveness – High. Dissemination has been carried out through several national and international conferences and meetings. The project website – [http://PROTEACH-project.org](http://proteach-project.org/) – was launched on time , as well as the dissemination plan [http://www.PROTEACH-project.org/taxonomy/term/8](http://www.proteach-project.org/taxonomy/term/8) . The project brochure is available in Hebrew and English in paper copies and through the website.

Efficiency-. High. Each HEI planned and implemented conferences and meetings for dissemination. Thus, the work was distributed among the teams. PROTEACH’s visibility, exploitation planning and rules concerning publicity, use of logos and the obligation to acknowledge EU funding in outgoing materials have been highlighted since the outset.

Impact – Potentially high. Indications point to the influence of the project on teacher induction through new courses and attitudes at the colleges and schools. It is too soon to discern the extent of the impact on retention; however, data collection mechanisms are in place to track teacher dropout rate.

Impact of PROTEACH

1. New courses based on the MIT approach have been incorporated in all six colleges.

1. A change in the profile of the pedagogical guide from the academia – from a person that teaches his pedagogical knowledge to novice teachers to one that coordinates the different players and spends more time in listening to BT voices.
2. More MITs are planned for next year. The numbers have been doubled.

Sustainability - Many of the MITs included policy makers from the beginning and this ensured interest and commitment to continuing the programs post PROTEACH. Many of the materials developed by PROTEACH programs have been incorporated into the curricula of the HEIs. The MoE has shown interest in supporting and expanding the programs and plans are underway for expanding the MIT models to other locales, for instance Tel Aviv, Ramat Gan, Bat Yam, Ksesifa, and others.

Furthermore, the program produced a list of criteria for a successful MIT program that will assist others to create their own MITs.

## WP5 Management

Relevance– High. Given the number of participating HEIs and European partners a management. style was designed to accommodate the many faceted nature of the project. For the most part, the project management structure envisioned in the application is implemented in practice in PROTEACH. This refers to the committees’ and WPs’ definitions, functions and leadership, the cooperation between two institutions - SMKB and the Mofet Institute – in the day-to-day management with separate but partially overlapping foci of responsibility (SMKB had responsibility for content, whereas Mofet took responsibility for the financial side).

Effectiveness – High. Activities in the coordination/management area have been intensive, successful and accomplished as planned, covering all envisioned tasks dealing with the day-to-day management and coordination, issuing and implementing procedures, monitoring progress, ensuring visibility, maintaining the link with the Project Officer, identifying and solving problems, and more.

Efficiency- The work entailed a constant connection of the coordinator with the partners for the purpose of explaining and training them in matters of financial management and reporting and using special tools. Managerial procedures were gradually adopted since the outset, but remained flexible according to the varying needs of the partners. This possibility of “democratizing” many decisions at project level critically depends on the commitment and collaborative spirit of all project teams, which fortunately have been demonstrated throughout the project. Such a management style while not the most efficient is the most effective in this case.

Impact – High. It is clear from the thorough and even higher than expected implementation of the project that the management has had an impact. The task of coordinating such a diverse group of participants was challenging, yet successful. Partners learned from each other and shared their experiences in formal and informal settings. The number of MITs and participants increased with every year of the Project. Table 2. below shows this development.

### Table 4 Numbers of participants in MITs over the three years of PROTEACH\*

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| HEI | 2017 | 2018 | 2019 | Total |
| Beit Berl College | 17 | 37 | 89 |  |
| Gordon College | 0 | 14 | 21 |  |
| Kibbutzim College | 26 | 46 | 12 |  |
| Sakhnin College | 0 | 25 | 23 |  |
| Kaye | 17 | 42 | 88 |  |
| Talpiot | 0 | 11 | 38 |  |
| Adjusted total excluding BTs who were in the program 2 years - 49 | **455** |

\*From an excel file of BTs Identity Numbers collected for retention follow-up

Sustainability – Potentially high. The management has created a viable project in which each partner has had autonomy to build and expand its programs. The fact that each HEI is expanding the MIT programs either within schools, locally or regionally is proof of sustainability of the program. The expansion of the MITs and the continuation of those in place will be funded by the MoE or local authorities. Thus, sustainability is ensured. It is worth mentioning, however, that sustainability is also dependent upon resources, funding and unfortunately, politics.

# Role of the European Partners

The European Partners played a significant role in the development of materials and in productive discussions of teacher induction methods and systems. They attended conferences in Israel and hosted conferences in their home base including workshops in their special fields of expertise.

They also learned from the implementation of the project in Israel and adopted and adapted the principles to their own teaching. The participation was characterized by the following.

* Participation in developing materials for evaluation,
* Reviewing syllabi of MIT courses.
* Workshops on mentors (TLU), VaKE (PLLUS), induction programs, in country and in Israel
* Site visits – in country and in Israel, including visits to schools,
* Visits by BTs to schools abroad
* Sharing of tools and strategies (UBEX, PLUS)
* Cooperation on research, writing and publication.
* Adopting and adapting MIT principles to their own work.

# Participant testimonials

Representative comments by new teachers, school participants and others follow. The statements are organized according to subject. These comments testify to the impact PROTEACH has had on the schools, colleges and new teachers.

## Learning

We have more knowledge about how the city operates and how to get answers to questions than veteran teachers have because of the MIT. Kindergarten teachers in Holon

The program is very good and helps the new teachers learn about how to integrate into the school, get along with the other teachers and deal with the class. The meetings with all the others are important because they can share experiences and tips and tools. He thinks it will lower teacher drop out. Mentor, Lakyia

The impact of the EU program - knowledge from partners gives practical suggestions. There is a dialog between them. Even more important is the dialog and connection among Israeli Colleges. They want to continue even without the EU. College president, Talpiot College.

## Support

New teachers who come to teach come straight into the system. There was no support beforehand. Now they have support. All the new teachers from all the colleges participate. Head of the Department of education at the Municipality of Lakiya.

When I started teaching, they threw me in the water and I learned how to swim. With the program, I can swim in an ocean. One “new” teacher who had taught for many years. Petach Tikva.

## Teachers’ voice

For two years we have been in the PROTEACH program and changed accordingly. A quality group has been formed that generates strength in the teachers’ room. The teacher has a voice and a framework. Principal Petach Tikva

It forces the principals to sit with the new teachers and generates an open dialog One of the mentors said if she had had such a program she would have stayed in teaching. New teacher, Petach Tikva.

These teachers’ voices attest to the success of the MITs. It is clear that the Project has very strong points and a few weak ones. These are listed below.

## Strengths of PROTEACH

Flexibility and responsiveness to needs as they arise.

High level of cooperation and exchange of ideas among partners.

Development of excellent MIT models taught with innovative methodologies.

Spectrum of experience with school-based teacher training programs.

Development of different models according to the context.

Building on what exists.

Development of courses to be incorporated in Teacher Education programs.

## Weaknesses of PROTEACH

Time pressure, too much paper work in reporting.

Time and patience needed to build a MIT.

Dwindling response level of feedback forms, connected to the first weakness of too much reporting.,

# Conclusions

Reactions from beneficiaries (teachers / educators etc.):

Confirmed through quantitative and qualitative measures

## Satisfaction with the new program

## Use by beneficiaries of new knowledge, skills and attitudes

## The support of the organization (and change of the organization)

Too soon to know categorically.

## Impact on, school and colleagues:

Impact on learning, motivation, interest of pupils.

Too soon to know categorically.

All of the WPs of Protech meet the criteria of relevance, effectiveness and efficiency. The above participant testimonies concerning learning outcomes indicate impact in the short run, which definitely point to potential impact and sustainability.

The strengths of the program as listed above will help ensure sustainability. Hopefully the weaknesses will be remedied through implementation based on the experience of these three years.

Impact and sustainability are more difficult to assess at this point given that the project has not operated for a 5-year period. Thus, only the following trends based on Guskey (2002) can be indicated and confirmed through quantitative and qualitative measures. The first three stages have been successfully attained. It is too early to categorically confirm success in the last two.

## Satisfaction with the new program

## Use by beneficiaries of new knowledge, skills and attitudes

## The support of the organization (and change of the organization)

## Impact on schools and colleagues

## *Too soon to know categorically, however there are positive indications.*

## Impact on learning, motivation, interest of pupils.

* 1. *Too soon to know categorically.*

# Suggestions and further research

At this point the only suggestions the external evaluation can make are to keep up the good work, disseminate the approach and materials developed by PROTEACH to ensure impact and sustainability. The data point to the need for further research concerning the role of mentors in the induction process.

Final External Evaluation Report

# Introduction

This final report is the culmination of the on-going external evaluation of PROTEACH and is based on data collected and analyzed by both the internal evaluators at each participating institution and the external evaluator. It begins with a description of the Q&A component of PROTEACH and continues with a section devoted to the assessment of the WPs according to the criteria of relevance, effectiveness, efficiency, impact and sustainability. The objectives of PROTEACH with evaluative comments are presented in the next section. A discussion of the Multiplayer induction teams (MITs) follows. The report concludes with insights drawn from the evaluation and suggestions for the future.

## External Evaluation

### Identity of the external evaluator

The external evaluator is Dr. Barbara Rosenstein, an independent, freelance evaluator with 35 years of experience as an evaluator of innumerable projects, lecturer on the subject of evaluation at Ben Gurion University and other institutions, and author of many articles concerning methodology, theory, and practice of evaluation. Dr. Rosenstein focuses on the five OECD criteria of evaluation: relevance, effectiveness, efficiency, sustainability and perspectives of impact. Including learning and new knowledge generated by a project being evaluated. These criteria are detailed below.

Relevance - Are we doing the right thing at the right time? How important ae the principles of PROTEACH to local and national requirements and priorities? To beginning teachers, trainers and veteran teachers?

Effectiveness - Are the objectives of PROTEACH being achieved? How big is the effectiveness or impact of the project compared to the objectives planned (Comparison: result – planning)? Including why paying attention to unintended outcomes?

Efficiency - Are the objectives being achieved economically by PROTEACH? How big is the efficiency or utilisation ratio of the resources used (Comparison: resources applied – results)? It is crucial to factor into the cost of interventions the hidden costs of social and environmental impacts. Often, and particularly in this Project, development and implementation are time-consuming due to the dependence on cooperation and collaboration of key players. Enlisting such commitment demands a high level of persistence, patience and persuasiveness. Assessment of efficiency should take this factor into consideration.

Impact - Does PROTEACH contribute to reaching higher level development objectives (preferably, overall objectives)? What is the impact or effect of PROTEACH in proportion to the overall situation of the target group or those impacted? It is important to note that causality is difficult to attribute to one factor when dealing with a complex project such as PROTEACH. Rather, contributing factors often combine to build impact. Thus, contribution theory (Mayne, 2011) is more appropriate to assess impact in PROTEACH.

Sustainability Are the positive effects or impacts sustainable? How is the sustainability or permanence of PROTEACH and its effects to be assessed? Strengthening methods to capture synergies between interventions, and taking a systemic perspective of sets of interventions, contribution theory is useful in assessing sustainability as well as impact. Taken together these dimensions of sustainability – economic, fiscal, environmental, and social – are complex. However, it is important to mention that resources, funding and politics influence the sustainability of any program.

## Methodology

The report is based on a mixed methods approach which incorporates analysis of documentation, surveys, interviews, observations, email communications and site visits. Triangulation of existing and new data provides the rigor to support evidence-based conclusions. The PROTEACH Project concerns learning and the development of strategies to promote the positive absorption of novice teacher into the school system. As such, the 5 stages of teacher training suggested by Guskey (2000) are relevant and will be used as a guide: satisfaction, learning, change in practice in the classroom, changes in teacher beliefs and attitudes and changes in student learning outcomes (Guskey, 2002).

## Feedback mechanisms in place

In general, feedback is collected by the internal evaluator at each institution (HEI) through feedback forms distributed via Google forms, telephone interviews and participation in PROTEACH activities. HEI reflective tasks also provide data and feedback. Furthermore, the external evaluator has collected additional feedback through interviews, focus groups and observations with all levels of stakeholders.

The external evaluator visited five sites to observe programs and speak with program participants at all levels of the program (teacher trainees, first year teachers (interns), mentors, teachers and other stakeholders (school principals, coordinators, policy makers, etc.). See Table 3, p. 22.

The management team collected feedback after the international meetings. The responses were collected, analyzed and summarized by the external evaluator. The following conclusions were drawn:

*It is noteworthy that the comments reflect the incorporation of lessons learned from the feedback into subsequent meetings. This is particularly true concerning length of the sessions, and allowing free time for reflection and discussions (see last comment). However, school visits and meetings with policy makers were not included in the subsequent meetings.*

*The results of the meetings are impressive and not included in these feedback surveys. For example, participants from Israeli and European Partners joined research groups to carry on working together and will produce their research in articles and/or a project book at the final phase of the project. The current work on these tasks bears witness to the participants’ commitment to these research goals.* (*Summaries of consortium meeting feedback*, May 2019. See appendix.)

## Remedial actions taken if any

Regarding National and International meetings, slight adjustments to format were made in response to feedback especially with allowing more time for discussing PROTEACH issues and reducing time of presentations.

## Internal Evaluation by Participating Institutions

The internal evaluators collected, preliminarily analyzed and supplied the data and was consistent with the evaluation plan. These internal evaluations fed into the external evaluation with important information concerning the progress and outcomes of the Project. Particularly significant documents include the final evaluation report written by the evaluation team, the Case Study Report written by the Beit Berl team and the project summaries summited by each institution.

# Summary of Findings According to Work Packages

This section will focus on the following questions: Have the WPs been carried out as planned? Have they fulfilled the criteria of relevance, effectiveness, efficiency, impact and sustainability?

The relevance of the project as a whole can be found in the Case Study Report conducted by the participants at Beit Berl College.

*Current study results highlight the significance of the school context, principal and staff in the adjustment of beginning teachers to their new career. This notion supports previous research focusing on the organizational aspect of beginning teacher induction (Borman & Dowling, 2008; Skaalvik & Skaalvik, 2010).* *…. according to the research participants, the MIT groups allow not only to better adjust to the teaching practice and the school environment, but also functions as an efficient platform for expressing beginning teachers' exceptional voices, ideas and initiatives. The participants perceived of the MIT as an opportunity not only to be supported by the organization but also to be a contributing resource to the school.*

*This way of self-learning systems in school can establish an organizational culture of ideas sharing and initiatives leading to organizational growth.* (Research Report, Ben Ori, Marom Ludmir, Miro, Cohen, Beit Berl Academic College, p. 41).

This statement supports and confirms the relevance of the project as a whole. A discussion of each work package will refer to relevance as well. Evaluation according to the Q A criteria based on the internal evaluation, documentation, final reports, observations, interviews, focus groups and participation by the external evaluator follows.

### WP1 Preparation

Relevance – High. The preparation of the program took into account the spectrum of induction and teacher training programs operating in each participating Higher Educational Institutions (HEI). Thus, each college incorporated the MIT project within the context of its own programs, making the program relevant and complementary to the existing frameworks.

Effectiveness – High. By taking into consideration the existing programs, each HEI developed a model that suited the context. Rather than negating the working frameworks, they built upon them to make strong PROTEACH programs. The Israeli partners had varying experience with the concept: 3 colleges were familiar with it and 3 were not. So, during the preparation phase they learned from each other as well as from their learning trips to the EU partners.

Efficiency-Efficiency is dependent upon cooperation from the schools, especially the school implementation of the developed models. Such cooperation is created through a process of working together, making compromises and adaptations. It takes time and effort. Efficiency is not an appropriate criterion in these cases. Persistence might be a more suitable quality in the development of the program.

Impact – Immediate impact has been high. All HEIs began the program on time and had up and running MITs in place by the second year of the project. A firm groundwork and infrastructure have been created with cooperating schools and communities.The results of the first-year experience fed into the course development and implementation in the second year.

Sustainability – The mechanisms established by the preparation phase have continued, adapted and supported the success of the project throughout.

### WP2 Development Implementation: Models of communication; Implementation: Curriculum, materials, tools & events

Relevance– High. Evidence from the interviews with all level stakeholders confirms that implementation of the models developed in the project has been most relevant to the participating schools, mentors, interns and new teachers.

Effectiveness – High. All MIT programs operated and expanded over the period of the project. In total of thirty-three programs were implemented in schools and municipalities. Three models were developed: individual school, schools in a community (multi-school), and municipality based. Table 2 below shows the HEI, target population of the MIT, type of MIT and the participants besides interns and BT. Underneath the HEI name is the name of the EU partner with which the College had a special academic relationship.

### Table MITs Implemented by PROTEACH

|  |  |  |
| --- | --- | --- |
| HEI | Target and Context | MIT model |
| Beit Berl College*(University of Exeter UBEX*) | HadassimElementary school, youth village.  | School |
| Dror Elementary School | School |
| Petach Tikva – Kindergartens | Municipality-based |
| Gordon Academic College | Tel Hai School Haifa Elementary School | School |
| The Reali Elementary School Ahuza branch, in Haifa, Private Elementary school | Community-based |
| Kaye Academic College*(UBEX, PLUS)* | Makif Vav, Beer Sheva, High School | School |
| El-Hozial School Incubator/MIT. Four schools participated in the MIT | Municipality-based |
| Locality based MIT – Lakiya, a Bedouin town in the Negev.  | Municipality-based |
| Kibbutzim College of Education (TLU)  | Kindergartens in Holon | Municipality-based |
| Gil High School and Yachdav Elementary School – Special Education | Multi-school |
| Holon Elementary | Multi-School |
| College of Sakhnin*(UBEX, PLUS)* | Elbashaer School, Sakhnin | Multi-school |
| Tamra | Multi-school |
| Arabah | Multi-school |
| Talpiot Academic College | Petach Tikva, 6 religious schools  | Multi-school |
| Netanya – PISGA. Preschool as part of citywide MIT. | Municipality-based |

The number of MITs expanded over the three-year period of the project. In the first year, there were 3 MITs with 60 BT participants, in the second year, there were 11 MITs with 175 BT participants, and in the third year a total of 271 BT participants. Approximately 50 of these participants were in the program for 2 years, beginning as interns and then continuing in their first year of teaching. This progression is illustrated in Table 3 below.

### Table Progression of MITs during the three years of PROTEACH\*

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| HEI | 2017 | 2018 | 2019 | Total |
| Beit Berl College | 17 | 37 | 89 |  |
| Gordon College | 0 | 14 | 21 |
| Kaye | 17 | 42 | 88 |
| Kibbutzim College | 26 | 46 | 12 |
| Sakhnin College | 0 | 25 | 23 |
| Talpiot | 0 | 11 | 38 |
| Adjusted total excluding BTs who were in the program 2 years – 49  | 453 |

**\*** From an excel file of BTs Identity Numbers collected for retention follow-up

Once lessons were learned from the implementation of MITs in the first year, courses were developed to teach the principles of the program. Table 4 on page 20 shows the HEI, the course or module, and the target population.

Efficiency - High. Efficiency is dependent upon cooperation of the participating schools. The programs worked most efficiently in schools where the principal gave strong support, the staff cooperated, a MIT coordinator was in place at the school and the local institutions were supportive**.** Executing the MIT model is based on partnerships that need innovative solutions. These partnerships, created in different contexts, are influenced by the different cultures (Orthodox Jews, Arabs, Bedouins, Secular Jews) and by the geographical location of the 6 colleges that span from the North to the South of Israel. All these components challenge the MIT model to expand from the concept of 1 MIT per school (as described in the proposal), to a multi-school MIT (in order to reach the minimum of 12 BT), and "urban MIT" – an MIT that is opened in one of the teachers' centers in the city. This diversity in the concept of MIT from MIT/school to multi-school MIT originated in the adjustment to the different conditions and is taken as an added value of the project and a sign of its ability to respond to the real needs of the field. However, once again it is not necessarily an efficient process and requires sensibility to context and persistence.

Impact – Immediate impact is high. According to feedback from participating interns and new teachers, the program increased their motivation, decreased their fears, and eased their adjustment to teaching. In many instances, new teacher- initiated activities influenced the teachers, students and schools in which they worked. Impact can be seen through Guskey’s stages of teacher education. The participants were satisfied, developed new attitudes towards teaching, developed professionally and applied their new knowledge to their practice. Whether they achieved results among their pupils was not part of the QA plan and has not been measured.

According to the internal evaluation report, the impact reached by the project so far shows its contribution to the three priorities mentioned in the project: proposal:

1. Improving quality of education and teaching by contributing to partnerships between academia and the public sector. The preliminary findings from interviewing school staff and academia show the wish of both to get to know the "other side". Especially school head masters and senior staff claim their need to align their work with what is done in the academia.

2. Improving management and operation of HEIs in relation to teacher education, in the way that the colleges gained better understanding of the situations that teachers meet in schools and aligned their training accordingly. One of the results of this improvement is the new courses started in all six colleges. Another consequence that came directly from the project is changing the profile of the pedagogical guide from the academia – from a person that teaches his pedagogical knowledge to novice teachers to one that coordinates the different players and spends more time in listening to BT voices.

3. Developing HE sector within society at large; this is also shown with the growing partnership amongst schools, academia, MoE and the societal needs of the local community (e.g. city, municipality and villages).

The findings of the internal evaluation team match the findings of the external evaluator. Observations, interviews and focus groups conducted by the external evaluator indicated the same results and trends.

Sustainability– High. Sustainability is promising because many of these learning materials and courses have been incorporated in the curriculum of the participating HEIs to be taught in the years to come post PROTEACH. Furthermore, some of the EU partners have begun to use some of the methods in their own institutions as well. Table 4 below shows the HEI, the course or module, and the target population.

### Table Academic Courses developed by Protech

|  |  |
| --- | --- |
| Semester Courses and Modules | Year of studies |
| **Beit Berl College** | Development of personal and professional identity in teaching.  | J.H and high school heterogenous students |
| **Gordon College** | The Teacher as a researcher in the classroom. 4- week module emphasizing organizational and cultural components of the teacher's role, teachers' partnerships and participation in schools as a community of practice. | Third year students |
| **Kaye College** | From training to teaching: developing inner resources. | Third year Special Education students |
| **Kibbutzim College** | From student-teachers to teachers: Integration into school as an organization. | Mixed third year students |
| **Sakhnin College** | The school as a multicultural educational organization in the postmodern era. | Third year students |
| **Talpiot College** | Aspects in work of a beginning teacher. | Third year students |

### WP3 Quality Plan

Relevance– High. The quality plan was well conceived in that it allowed each HEI to conduct its own evaluation and then feed that evaluation into the overall internal evaluation team. This enabled the HEIs to relate to the model and course they developed and implemented and the particular successes and challenges that needed to be addressed.

Effectiveness– High. The fact that each HEI evaluated its own program allowed them to focus on specific points relevant to their format while collecting data relevant to the project as a whole. All HEIs collected data from mentors, new teachers, interns and schools. Then this information was centralized through the evaluation team at Mofet. The Project Coordinators, SMKB and Mofet conducted interviews with policy makers at all levels. The result was a large amount of pertinent data, both quantitative and qualitative.

Efficiency *-* Collecting evaluation materials from a number of informants is never efficient. This project is no exception. However, a wealth of qualitative and quantitative data has been collected from all the participating HEIs. Much of it has been analyzed and fed back into the programs. The data is available for research, development and dissemination.

Impact – High. The impact of the quality plan has been to keep the participants on track through periodic feedback and exchange of information. Programs have learned from each other and have made adjustments when necessary.

Sustainability **–** High.In addition to providing knowledge about the programs, the quality plan has produced an excellent source of data to inform others about the topics of teacher induction in general, school-based induction programs, the role of mentors, the kinds of support needed for a successful induction program, giving voice to new teachers, new teachers’ sense of belonging, motivation, fears and competence.

### WP4 Dissemination and Exploitation

Relevance – High. Dissemination is an important indicator of the success of a project. PROTEACH is especially geared to dissemination because it is inherently inclusive and by definition cooperates with schools, communities, municipalities and the system as a whole. Work with an entire locality naturally includes dissemination throughout the locality itself and the surrounding areas.

Effectiveness – High. Dissemination has been carried out through several nationwide and international conferences and meetings. These conferences presented the MITs and their influence on the schools and education system. The conferences were attended by key policy makers as well as other educators locally, nationally and internationally. In addition, dissemination was carried out on the local level through the expansion of the number of participating partners.

The projects' website – [http://PROTEACH-project.org](http://proteach-project.org) – was launched on time , including the dissemination plan [http://www.PROTEACH-project.org/taxonomy/term/8](http://www.proteach-project.org/taxonomy/term/8) The project brochure is available in Hebrew and English in paper copies and through the website. The project teams were very active in dissemination activities, reporting 61 events in the first year of the project and 62 in the first half of the second year. BT forums exist in all 6 colleges participating in the project, and a common forum of all participating BTs in PROTEACH is under work, to be run through the projects' Facebook and website. Each HEI has implemented a course based on the Protech principles. These courses have been incorporated into the curriculum of the colleges.

The links with the Ministry of Education (MoE), the Academy-Classroom Partnership (ACP) launched by it, and the policy-makers of the Division for the Entrance to the Teaching Profession (DETP) engender support for the project in many of its activities. The links with MoE and its composing units, and their endorsement of the MIT concept, are strategic assets and a key factor in ensuring the sustainability of the MIT model**.**

Efficiency - High. Each HEI planned and implemented conferences and meetings for dissemination. Thus, the work was distributed among the teams. Project visibility, exploitation planning and rules concerning publicity, use of logos and the obligation to acknowledge EU funding in outgoing materials have been highlighted since the start. Updates and discussions on dissemination and exploitation issues, and the related subject of sustainability and ways to ensuring it, are standard items in all Project Management Board meetings, many regular team meetings in Israel, and other, special-purpose meetings (some of which featuring a “training” component on these matters). The “Accompanying/Advisory Board”, a forum of external stakeholders and policy makers meets twice a year with representatives of the partners’ teams and principals to discuss and give advice to the project to ensure its continued relevance and impact.

Impact – Potentially high. Indications point to the influence of the project in the induction of new teachers and that the resulting positive induction will affect retention rates. It is too soon to know. However, data collection mechanisms are in place to track the dropout rate amongst participants in the program and other new teachers who were not. The inclusion of MoE policy makers in the project facilitated dissemination. The projects' dissemination plan and dissemination activities carried out can be downloaded from [http://www.PROTEACH-project.org/node/231](http://www.proteach-project.org/node/231) . The list of dissemination events – all in Israel, the only Partner Country in PROTEACH – has grown steadily since the beginning of the project see reports here [http://www.PROTEACH-project.org/node/347](http://www.proteach-project.org/node/347) . The fact that the MIT matches the MoE’s programs and policies renders our dissemination activities a natural part of the day to day work in the project. Dissemination entails meetings with college teams involved in teacher training and induction as well as workshops, symposia and conferences routinely conducted by the colleges and the MoE. Moreover, the person responsible to induction at the MoE sees the MITs model as the next step to be taken by the Israeli policy for teacher training and induction – and therefore put a lot of efforts to expose the project at all events. Table 5 below shows the dissemination efforts and activities of each HEI.

### Table 5 Dissemination Activities of HEIs

|  |  |
| --- | --- |
| HEI | Activity |
| **Beit Berl College** | Meetings to establish new MIT programs in Kfar Saba, Petach Tikva and Raanana. Presentations at national and international conferences, compilation of case studies from Protech. |
| **Gordon College** | Conferences devoted to PROTEACH at the College, Seminars for Reali and Tel Hai schools and at the college. Exposure to the program has been crucial for recruitment and success. |
| **Kaye College** | Major international conferences held at the College. Meetings with key people in the Bedouin community to prepare programs and the MoE.A report on the PROTEACH event – Arabic News website – Panet. Launching the PROTEACH Project: http://www.knooznet.com/?app=article.show.33663A report on the PROTEACH event – Arabic News website. Local television news: <https://youtu.be/3bzSPB6WTM0>A report on the PROTEACH event – Arabic News website – Panet: ttp://m.panet.co.il/article/2612050 |
| **Kibbutzim College** | Meetings with different locale (Tel Aviv, Ramat Gan, Bat Yam) to initiate MITs in these cities. |
| **Sakhnin College** | Conferences for BT, mentors and induction staff. National and international conferences. Success followed a great deal of ground work introducing and implementing the program. |
| **Talpiot College** | Many meetings held with MoE and municipalities, conferences and workshops to create MITs and to expand to other localities. Success followed a great deal of ground work introducing and implementing the program. |

Sustainability– Many of the MITs included policy makers from the outset and this ensured interest and commitment to continuing the programs post PROTEACH. Many of the materials and 6 courses developed by PROTEACH programs have been incorporated into the curricula of the HEIs. The Ministry of Education has shown interest in supporting and expanding the programs and plans are underway for expanding the MIT models to other locales, for instance Tel Aviv, Ramat Gan, Bat Yam, Ksesifa, and others. Furthermore, accreditation has been given to mentors and new teachers for work done in the MIT.

 Criteria for a successful MIT

1. Number of new teachers
2. Commitment of the principal
3. Culture of the school – motivation to work in partnership, orientation for collaboration
4. Hours to support teachers
5. Time for enrichment
6. Coordinator in the school
7. Mentors in the school

Another factor that promises sustainability is the list of criteria for a successful MIT drawn up by the MIT teams.

This list of criteria can help others who wish to establish MITs in their own schools, neighborhoods or cities.

#### WP5 Management

Relevance – High. Given the number of participating HEIs and European partners a management. style was designed to accommodate the many faceted nature of the project. For the most part, the project management structure envisioned in the application is implemented in practice in PROTEACH. This refers to the committees’ and WPs’ definitions, functions and leadership, the cooperation between two institutions – Kibbutzim College (coordinator) and the Mofet Institute – in the day-to-day management with separate but partially overlapping foci of responsibility. SMKB assumed responsibility for the content and Mofet, for the financial side and liaison with the Project Officer.

Effectiveness – High. According to the Interim Project Report, activities in the coordination/management area were intensive, successful and accomplished as planned, covering all envisioned tasks dealing with the day-to-day management and coordination, issuing and implementing procedures, monitoring progress, ensuring visibility, maintaining the link with the Project Officer, identifying and solving problems, etc.

Efficiency – According to the same report, the work entailed a constant connection of the coordinator with the partners for the purpose of explaining and training them in matters of financial management and reporting using (also) special tools. Standard (financial) management tasks – e.g. preparing the Partnership Agreement, receiving and distributing the first pre-financing, guiding the financial reporting work, etc. – have been led by the coordinator in an effective way, benefitting from the committed collaboration of all partners. Managerial procedures have been gradually adopted since the outset, but have not generally been given a formal, rigid formulation, rather they have remained flexible in line with the varying needs of the partners. This possibility of “democratizing” relatively many decisions at project level critically depends on the commitment and collaborative spirit of all project teams, which fortunately have been demonstrated throughout the project. Such a management style while not the most efficient is the most effective in this case.

Impact– High. It is clear from the thorough and even higher than expected implementation of the project that the management has had a impact. The task of coordinating such a diverse group of participants was challenging, yet successful. Partners learned from each other and shared their experiences in formal and informal settings.

Sustainability – Potentially high. The management has created a viable project in which each partner has had autonomy to build and expand its program. The fact that each HEI is expanding the MIT programs either within schools, locally or regionally is proof of the sustainability of the program. The expansion of the MITs and the continuation of those in place will be funded by the MoE or local authorities. Thus, sustainability is ensured. However, it is important to note that resources and politics have a direct impact on sustainability.

# Findings in terms of Aims and Objectives

The project has five main aims: (1) improving the quality of new school and kindergarten teachers; (2) improving their induction process at the school; (3) increasing the retention rate of school and kindergarten teachers in the profession; (4) fostering beginning teachers’ initiatives in order to expand their impact in the classroom and in the educational organization; (5) establishing collaboration among academic institutions, schools and the district and local authorities in order to promote the integration of the school and kindergarten teachers who are just starting out in Israel’s education system.

## Improving the quality of new school and kindergarten teachers

The relevance of this aim is clear. New teachers usually have difficulty in their first years of teaching and it is responsibility of the Academic College to train them in the best way possible. The problem lies in the adjustment to life in the school and kindergarten from life in the training program. PROTEACH addressed the challenge of moving from training to actual practice in the schools and kindergartens.

The indications are that the BTs who participated in the MITs were satisfied, gained new knowledge and initiated activities in the school and kindergarten. The evaluation did not compare these teachers with others who were not in the program. Therefore, a claim of improvement cannot be made.

It is too soon to attribute impact at the present time. There are indications of impact emerging from the interviews with program participants attesting to their motivation, sense of belonging, fears and competence. Further indications come from the requests for more programs from other schools. Many schools and municipalities have followed the development of the MITs and have started to develop their own.

The courses developed to include MIT principles have been incorporated into the curriculum of the Colleges. The continuation of these courses indicates sustainability of the models.

## Improving their induction process at the school

Evidence from interviews with principals, veteran teachers, school counsellors, inspectors and others points to the improvement in the induction process. Through the MIT, BTs are given the opportunity to hold open dialogs with the school administration and are encouraged to initiate activities and introduce innovations to the school and kindergarten. These factors increase their confidence and sense of belonging to the school or the community of kindergarten teachers.

Increasing the retention rate of school and kindergarten teachers in the profession

Increased retention rate cannot be assessed at this time because determining such impact requires at least five years from the intervention. However, a mechanism has been put into place to track all BTs including those who were in the MITs as well as their colleagues who were not. Thus, retention rates of each group will be documented and can be analysed in the future.

## Fostering beginning teachers’ initiatives in order to expand their impact in the classroom and in the educational organization

PROTEACH clearly encouraged BT to initiate activities during their first year in the school and kindergarten. Such initiatives have been documents in film, interviews and observations.

## Establishing collaboration among academic institutions, schools and the district and local authorities in order to promote the integration of the school and kindergarten teachers who are just starting out in Israel’s education system

This aim was overwhelmingly achieved. The number of participants among all stakeholders has been impressive. The MITs received support and participation from veteran teachers, mentors, school counsellors, therapist, psychologists, inspectors and local PISGA Centers. \*

\* PISGA is the Center for Teacher Development, Ministry of Education

# The MITs

The MITs are the heart of PROTEACH and as such they deserve a separate section in this report. The evaluation of the MITs is based on the triangulation of data collected by the internal institutions and external evaluator: the MIT syllabi, observations of meetings, and interviewed interns, first year teachers, mentors, school personnel and policy makers.

According to the Proposal, *PROTEACH relied on the lessons learned from the Israeli “Incubators” induction model and on the unique input of the European partners to formulate, elaborate and implement MIT, a more effective, holistic induction model. This model supports beginning teachers’ diverse needs and empowers them to become active players in their own induction process and in their schools.*

*The inclusion of leading teacher training HEIs and policymakers in MIT groups and other PROTEACH activities, as well as the project’s dissemination efforts, promote the Ministry of Education’s adoption and nationwide application of the model, widening its positive impact on beginning teachers, schools, HEIs and the education community at large*.

In order to assess the predictions of the proposal, the external evaluator observed five MIT activities: in Hadassim operated by Beit Berl College, in Holon for kindergartens operated by Seminar HaKibbutzim, in Petach Tikva operated by Talpiot College, in Lakyia operated by Kaye College and in Sakhnin operated by Sakhnin College. The table below summarizes information about these visits by target population, activity, teaching methods used in the course and participants from the system. The table illustrates the diversity of the project according to context as well as the commitment of local partners through their participation and support. All the MITs are context bound and there is a sequence to them. Some are beginning from scratch like Talpiot, and others are following up on previous models like Beit Berl. There is a broad spectrum depending upon the site. Some of the MITs grew as a natural extension of the Academia in the Classroom program for second year students. Others developed from other forms of incubators. Because of the existence of other programs and the complexity of teacher training and induction, contribution theory can account for some of the outcomes. The successful development of the MITS can be attributed in part to its belonging to a general trend to improve teacher induction. It was the right innovation at the right time.

### Table Observation conducted by the External Evaluator

|  |  |  |  |
| --- | --- | --- | --- |
| Target population | Activity | Teaching methods | Cooperation with local institutions, MoE, others |
| *Beit Berl*Hadassim Elementary School (dormitory and local school) | Presentations of innovations inspired by new teachers presented in different formats. Several stations in classrooms throughout the school. | Frontal presentation - Interdisciplinary teaching of literature and bible, art and music, Film - challenges of immigrant students, teaching English through virtual meetings with students abroad, Experiential - Sports and subject matter,  | Beit Berl College, School principal, Staffs of the participating schools including mentors,The regional pedagogical inspector, |
| *Kaye College* Elementary school teachers in Lakiya  | End of Year celebration – | Poster presentations, dramatization of how a new teacher feels in the teachers’ room, speeches, entertainment, certificates | Kaye College, Principals of all 7 participating schools, Staffs of the participating schools including mentors, The regional pedagogical inspector. |
| Kibbutzim CollegeKindergarten teachers in Holon | Presenting posters of an issue or dilemma encountered this year There are about 30+ posters.  | Viewing posters hung around the room.Brief oral presentation of each poster.Insightful comments from the group. | Staff of PISGA, Early childhood dept. in the municipality, the regional pedagogical inspector, representatives of the parents’ groups. |
| *Sakhnin* | No MIT activity was available at the time of the visit; however, interviews were conducted with project participants | Use of Safe Spaces in which BTs can discuss challenges and dilemma freely. | MITs in Sakhnin work with the Municipality in the towns in which they work.  |
| *Talpiot* Petach Tikva Elementary school teachers | Presentation of challenges in first year teaching.A new teacher leads a session on differential learning.  | Experiential exercise + a ppt. presentation of how to deal with differential learning. | Talpiot College, School principal, The regional pedagogical inspector,Staffs of the participating schools |

These observations, interviews and focus groups provided insights into the MIT programs. The people involved were highly committed to the program. They participated freely and were eager to have their voices heard. The enthusiasm of the new teachers and interns could be felt throughout the activities. Their comments, which appear in the appendix attest to this fact.

# Strengths and Weaknesses of PROTEACH

The teachers’ voices in the appendix attest to the success of the MITs. The evidence shows that the Project has very strong points and a few weak ones. These are listed below.

## Strengths

Flexibility and responsiveness to needs as they arise.

High level of cooperation and exchange of ideas among partners.

Development of excellent MIT models taught with innovative methodologies.

Spectrum of experience with school-based teacher training programs.

Development of different models according to the context.

Building on what exists

## Weaknesses

Time pressure, too much paper work in reporting.

Time, persistence and patience needed to build a MIT.

Dwindling response level of feedback forms, connected to the first weakness of too much reporting.,

It is hoped that the strengths will help build more and more such learning frameworks and that the weakness can be overcome in time.

# Role of the European Partners

The European Partners played a significant role in the development of materials and in productive discussions of teacher induction methods and systems. They attended conferences in Israel and hosted conferences in their home base including workshops in their special fields of expertise.

They also learned from the implementation of the project in Israel and adopted and adapted the principles to their own teaching. The participation was characterized by the following.

* Participation in developing materials for evaluation,
* Reviewing syllabi of MIT courses.
* Workshops on mentors (TLU), VaKE (PLLUS), induction programs, in country and in Israel
* Site visits – in country and in Israel, including visits to schools,
* Visits by BTs to schools abroad
* Sharing of tools and strategies (UBEX, PLUS)
* Cooperation on research, writing and publication.
* Adopting and adapting MIT principles to their own work.

Many of the associations formed during PROTEACH will continue in other projects, cooperation and publications.

# Conclusions

All of the WPs of PROTEACH meet the criteria of relevance, effectiveness and efficiency.

The participant testimonies concerning learning outcomes indicate impact at least in the short run, which definitely point to potential impact and sustainability. However, impact and sustainability are more difficult to assess at this point given that the project has not operated for a 5-year period. Thus, the following trends based on Guskey can be indicated.

The strengths of the program as listed above will help ensure sustainability. Hopefully the weaknesses will be remedied through implementation based on the experience of these three years.

Impact and sustainability are more difficult to assess at this point given that the project has not operated for a 5-year period. Thus, only the following trends based on Guskey (2002) can be indicated and have been confirmed through quantitative and qualitative measures. The first three stages have been successfully attained. It is too early to categorically confirm success in the last two.

## Satisfaction with the new program

## Use by beneficiaries of new knowledge, skills and attitudes

## The support of the organization (and change of the organization)

## Impact on schools and colleagues

## *Too soon to know categorically, however there are positive indications.*

## Impact on learning, motivation, interest of pupils.

* 1. *Too soon to know categorically.*

# Suggestions and further research

At this point the suggestions the external evaluation can make are to keep up the good work, disseminate the approach and materials developed by PROTEACH to ensure impact and sustainability. The data point to the need for further research concerning the role of mentors in the induction process.

# References

Borman & Dowling, 2008, Teacher Attrition and Retention: A Meta-Analytic and Narrative Review of the Research. *Review of Educational Research*. Volume: 78 issue: 3, page(s): 367-409. Article first published online: January 10, 2017; Issue published: September 1, 2008

Guskey, T. R. (2002) *Professional Development and Teacher Change*. Taylor & Francis. ISSN 1354-0602 (print)/ISSN 1470-1278 (online)/02/03/040381-11 Ó 2002 Taylor & Francis Ltd DOI: 10.1080/1354060021000005

Mayne, J. (2011). Addressing Cause and Effect in Simple and Complex Settings through Contribution Analysis. In *Evaluating the Complex*, R. Schwartz, K. Forss, and M. Marra (Eds.), Transaction Publishers.

Mayne, J. (2011) Contribution Analysis: Addressing Cause and Effect in Evaluating the Complex, K. Forss, M. Marra and R. Schwartz (Eds.), Transaction Publishers; Piscataway, New Jersey.

Austrian Development Agency, Evaluation Unit Vienna, October 2008 English Translation, Vienna, July 2009

<https://www.oecd.org/dac/evaluation/daccriteriaforevaluatingdevelopmentassistance.htm>

<http://documents.worldbank.org/curated/en/165531535737401639/pdf/129713-WP-PUBLIC.pdf>

Skaalvik & Skaalvik, 2010. [Teacher self-efficacy and teacher burnout: A study of relations](https://www.sciencedirect.com/science/article/pii/S0742051X09002479). [*Teaching and Teacher Education*](https://www.sciencedirect.com/science/journal/0742051X)*.* [Volume 26, Issue 4](https://www.sciencedirect.com/science/journal/0742051X/26/4), May 2010, Pages 1059-1069

[https://www.betterevaluation.org/en/plan/approach/contribution\_analysis assessed August 24](https://www.betterevaluation.org/en/plan/approach/contribution_analysis%20assessed%20August%2024), 2019

# Appendix

## Representative testimonials

The testimonials below demonstrate the overall principles underlying the concept of MITs: personal: educational: emotional – social, organizational and the creation of a community of learners.

### Learning

*The program is very good and helps the new teachers learn about how to integrate into the school, get along with the other teachers and deal with the class. The meetings with all the others are important because they can share experiences and tips and tools. He thinks it will lower teacher drop out. (Mentor, Lakyia)*

*When I started teaching, they threw me in the water and I learned how to swim. With the program, I can swim in an ocean. One “new” teacher who had taught for many years. Petach Tikva*

*Many novice teachers reported learning, social and emotional support from their mentors. Appreciate the containment, respect, understanding and warm attitude they received from the mentors and other teachers. One of the first teachers expressed her joy at the unconditional support of her mentor, who helped her in her absorption in the school, in planning and performing the lessons, and in the teachers' room.*

### Working collaboratively

*For two years we have been in the PROTEACH program and changed accordingly. A quality group has been formed that generates strength in the teachers’ room. The teacher has a voice and a framework. Principal Petach Tikva*

*It forces the principals to sit with the new teachers and generates an open dialog. One of the mentors said if she had had such a program she would have stayed in teaching. New teacher, Petach Tikva*

*The impact of the EU program. Knowledge from partners gives practical suggestions. There is a dialog between them. Even more important is the dialog and connection among Israeli Colleges. They want to continue even without the EU. (College president, Talpiot College)*

*New teachers who come to teach come straight into the system. There was no support beforehand. Now they have support. All the new teachers from all the colleges participate. (Head of the Department of education at the Municipality of Lakiya.)*

*Every teacher should go to MIT program regardless to internship in the first year. The MIT group includes teachers who want to learn and to share, dare to open up and share their experiences, even if difficult, even when the school staff is present. Dror School, new teacher.*

*"… During the meeting, the interns spoke highly of their mentors' unbounded commitment to their own progress. The mentors too praised the interns and the way they functioned. I was touched to see how everyone stopped and made time for the personal dialogues and reciprocal praising, without complaints… this shouldn’t be taken for granted." (the school counselor.)*

*Throughout the year, school personnel were fully on board with us. The absorption coordinator, the mentors, and the school management gave to the teachers without boundaries, understanding how meaningful this was for the school. Collaborating, planning and brainstorming together, and CO work in the workshop, made our work more relevant both for the group and for the whole school. This comprehensive partnership made our work authentic.*

*The meetings were held in a pleasant social atmosphere, and strengthened acquaintance within and between the groups. The hosting school was comfortable and highly suited to the activities. The team of instructors worked in collaboration with the MIT director, and were always willing to help. Most of the teachers came to the Thursday meetings willingly and out of a desire to participate, and always brought refreshments. Although there were sensitive situations in the village after the general elections, the atmosphere was pleasant. The director of the Education Department, and figures from the local authority, school principals, and Ministry of Education inspectors participated in the activities, and attended some of the meeting, praised the teachers, and supported them.*

*System-wide work was carried out in all the schools, in an instructional framework in some of them, and in three schools as part of an initiatives project (“Absorption and Initiatives”), which was incorporated into the PROTEACH Project. Beginning teachers, management staff, principals, educational counselors, and mentors took part in the system-wide work.*

### Personal, emotional, social Support/ creating a safe space

*Throughout the year an ongoing collaborative communication took place among all of the functionaries that were to absorb the novice ECE into the system – either face-to-face or via e-mail or telephone. A number of meetings were held with the superintendents, and some with the advisors and trainers. Thus, a coordinated and appropriate framework was created that included the facilitator of the workshop from the college, superintendents, advisors, and lead ECE (from the city's resources), mentors, trainers, the staff from Pisga Holon[[1]](#footnote-1) the municipal department of ECE, etc. We often advised specific kindergarten teachers on specific issues. In addition, we discussed the emphasis required for advisors and support of the entire group.*

*This was done by creating a safe space for experimentation, encouraging teachers to bring up difficulties, giving positive messages about abilities, etc. These attitudes helped the teachers feel need satisfaction, which promoted their involvement in our activities.*

*The MIT that took place on-site where the interns worked, as opposed to being college- based enabled the early-childhood educators to become acquainted with the spirit of the education system into which they were being absorbed, the modes of the system's activity as well as the variety of functionaries with whom they would have a future liaison. The MIT served as a unifying framework of all the supporting factors of novice early childhood educators, and general functionaries with whom s/he would be working. Thus, the novice educator is surrounded by support both professionally and emotionally; a sense of belonging is created as well as an appropriate and sensitive process of inculcation and absorption into the education system.*

*As one who teaches intern workshops in a college setting as well as in the MIT I am a strong supporter of the MIT model. The fact is that the training and support take place within the system itself serves a link between the field and reality, and does not uproot the teacher from his or her natural environment. The sense of shared fate among the teachers who find themselves in similar situations and predicaments, as well as meeting their collegiate counterparts allowed them to feel secure; the process of building group trust was shorter than usual.*

### The group processes – creating a community of learners

*The fact that in the beginning I "taught" and later on "facilitated" was due to the level of faith in the group process. In my opinion, it is almost unnecessary to include structured content in these workshops as the topics that arose during the workshops were those that determined what was going to be addressed and the spirit of the sessions. Coordinating theory and situations from the field and not vice versa, force the facilitator to be flexible and improvise, but provide real solutions to needs.*

# Summaries of consortium meeting feedback

## Dr. Barbara Rosenstein, external Proteach Evaluator

## May 28, 2019

## Introduction

Tallinn University is Proteach Partner 7 and is responsible for WP 1.3, preparation of materials for mentors and novice teachers, 2.2,, 3.1, and 5.1. Within this framework a seminar and consortium meeting were held in Tallinn on 6-9 June, 2017. The meeting focused on mentors and included a workshop and visits to local schools.

The University of Exeter is Proteach Partner 6 and is involved in WPs 1.3, 2.2, 3.1, 4.1 and 5.1. The Exeter hosted a study visit from 19-23th of March, 2018. The focus of the meeting was newly qualified teachers (NQTs) and the methods used and research conducted at the University of Exeter in this field.

The Paris-Lodron University of Salzburg (PLUS) is Proteach Partner 11 and is responsible for WP 1.2, 1.3, and WP 3.1. PLUS held a consortium meeting in Salzburg on February 25-March 3, 2019, which focused on Values and Knowledge in Education (VAKE) including a workshop on the subject. It also included a workshop on mentors as a follow up to the workshop in Tallinn.

Two additional meetings took place at Beit Berl and Beer Sheva.

## Methodology

The methodology used to conduct the evaluation of the meetings was based on a survey format including both open and closed questions. The questionnaire was delivered via Google forms to all participants. Response rate was high (20 and 29 out of \_\_\_). A similar questionnaire was used for each meeting with changes adapted based on feedback and content of the meeting.

## Findings

The findings were used to inform subsequent meetings on both form and content.

### Form

The overall satisfaction with the length of the meetings increased after the first meeting. It is clear that the subsequent meeting benefited from the feedback of the first and that the format was better suited to the participants. The overall satisfaction for the Exeter meeting was divided into topics. The participants rated the length of the sessions highly with satisfaction rate of over 84% for each topic: 84.6% for research and evidence based teaching, 92.3% for draft index for professional learning, 84.3% for professional learning and professional identity, and 84.6% for building resilience as a teacher. Table 1. below shows the percentages per meeting.

#### Table 1. Distribution of ratings for overall satisfaction with the form of the meeting

|  |  |  |  |
| --- | --- | --- | --- |
| Item/ Meeting | Tallinn (N=19) | Exeter (N=13) | Salzburg (N=27) |
| Right length | 63% | 86% | 78% |
| Too short | 16% | 7% | 7% |
| Too long | 21% | 8% | 15% |

Overall satisfaction with the content of the meetings also improved based on the feedback received. The overall assessment was high for all three meetings, 70% of the participants of the meeting in Tallinn rated the meeting highly, a combined 4 and 5 assessment. However, the overall assessment from the meeting in Salzburg, was higher with 89.3% rating the meeting at a combined rate of 4 and 5. Only 10% of the participants at the Salzburg meeting rated it 3 (10%) whereas, 30% of the respondents from the Tallinn meeting rated it 2 and 3. The overall ratings were highest for the meeting at Exeter, 93% combined 4 and 5. It can be assumed that adjustments were made concerning both form and content at the meetings following the first feedback and that that accounted for the higher ratings in part. Table 2. presents these ratings.

### Content

Concerning content, the questionnaire asked both closed and open questions. The questionnaires asked questions concerning the specific content for each meeting. Most of the respondents strongly agreed with the items relating to the focus of the workshops and the learning taking place during them.. However, because the numbers are small in general and external factors such as pre-existing knowledge and experience have to be factored into any conclusions regarding these questions, it is difficult to make a more detailed conclusion. The comments are a better source of information.

#### Table 2. Distribution of ratings for overall satisfaction with the content of the meeting

|  |  |  |  |
| --- | --- | --- | --- |
| Rating | Tallinn (N=20) | Exeter (N=14) | Salzburg (N=28) |
| 5 | 35% | 64% | 36% |
| 4 | 35% | 29% | 53% |
| 3 | 20% | 7% | 11% |
| 2 | 10% | 0 | 0 |
| 1 | 0 | 0 | 0 |

The respondents were asked the question: What did you find interesting about the workshop? Their answers and comments confirmed that all three meetings were informative, promoted learning and knowledge development. Moreover, their comments highlight the importance of exchanging ideas and knowledge across countries and reinforce the concept of cooperation and partnership in the Proteach Project. Examples of their comments appear below according to the location of the meeting.

#### Tallinn

*I learned that it is possible to train teachers at the school with minimal or no contact with the colleges. I saw that a new space for colleges could be seen in the new teacher training combined with the school and not as a "single player". I have identified places where the academy can contribute to accompanying the school's teachers. And places where the school is somewhat limited in support of the new teachers.*

*I was particularly interested in learning about the Estonian educational system, as well as about the experience of the Austrians, the Romanians and the English.*

*The exchange of different practices/methods in mentor education.*

*Learning about other mentoring systems in Europe.*

*Learning about the English model of teacher training.*

*I think dealing with the continuity aspect from training to teaching, through an academic-grade principle and entry into teaching programs, is very important. The visits to the schools were very helpful and helpful. The most interesting workshop was about the bridge metaphor presented by the Romanian team.*

#### Exeter

*Yes, as far as I was concerned, it was interesting to see what was done in England (and materials presented by other partners) and to learn new ways of doing it - action research (when used by teachers in the field) and of course the ways in which England worked in the context of educational standards.*

*Yes they are useful since you learn from others, you think about what you learnt, you ask questions about it, you can reflect on what you learnt and gain insights for the future processץ*

*I really enjoyed it very much, and I learned a lot from this week with the excellent English lectures. The organization is excellent, and good will is evident from everyone. Thanks for the opportunity and for opening the door. Very grateful and appreciative.*

#### Salzburg

*I benefited from all parts of the seminar, both VAKE's and the mentoring workshop.*

*The lectures were helpful and supported the process.*

## Suggestions

The questionnaire ended with a request for suggestions for improvement. The most frequent suggestion was to include school visits and meet people from the field at all levels. Some difficulties arose concerning the visits to schools in Exeter and the participants were disappointed. No school visits were planned in Salzburg. The respondents expressed the need to see the theories in practice in the schools. The comments appear below.

### From Tallinn:

*The most important thing in my opinion is to get as much as possible to meet with the local people who are doing the work.*

*I am very impressed by the ability to create an enthusiastic, proactive, active and caring learning community. It is not obvious this connection between so many different bodies. I lacked a deeper acquaintance with the Estonians. I would like to meet with other lecturers, hear structured lectures on educational issues that correspond with the issues at hand, meet new teachers, students and teachers, meet policy makers in the local authority and the Estonian Ministry of Education and understand the context of new teachers entering the system. If possible, I would be happy to meet the Estonian Council for Higher Education, and to hear their worldview about the continuum of training and teaching, and future trends.*

*1. More time for group or group discussion*

*2. A general reference to the various models and a discussion of the similarities and differences between all of them*

*3. Sharing knowledge in order to evaluating the project*

*The organization of the meetings was planned. It was a little hard to get to the meeting place. The instruction on the subject was not perfect. Most of the days we were in an open place and not in a room specially organized for us, the days were too long and the breaks were too short and too short. Not all Europeans took an active part. Colleges that start next year - should have taken a more active role. Need to elaborate on the MIT.*

*It is important to plan well the program framework. To reduce the scope of workshops and to deal with material issues in the process of establishing incubators. It is important to discuss the factors that promote and prevent the greenhouse framework and to learn more about the processes of establishing and institutionalizing greenhouses as support and learning frameworks. It is recommended that tours abroad also meet with a wide range of factors that influence decision-making processes and contribute to shaping the policy of integration and integration processes of teachers in the educational system.*

*The meetings should deal with the practical aspects of working with the mentors. The encounter in the schools was an inspiration for the organization of the place and the concepts presented, but the meeting with teachers and students was lacking in the routine of the school ...*

### From Exeter:

*Visits to educational institutions to see the system in action were missing and would have enriched the broader educational context.*

*Prepared time for building cooperation with colleagues from abroad, proactive and planned time for feedback and discussion of reports, dilemmas and actions at MIT with partners from abroad.*

### From Salzburg:

*We should have had time to expand the reflection after the lectures to examine the directions of implementation. It would have been good to try to meet school principals (I know they were on holiday) and meet decision makers in the fields of teacher training, education and absorption from the Austrian educational system.*

*There was too much theory and not enough training.*

*To deepen the workshop of mentors.*

*More time should be dedicated to work in small groups of various participants.*

*It would be good if a study tour was included in the seminar in which students can be seen or visited in a school, or to create a variety of learning in a different way. The fact that we were only at university, during five days of learning was somewhat tiring. The lectures were mostly excellent, the information about the Tact was not enough.*

***I felt that conclusions from the past were implemented well in this occasion (e.g., the need to keep every days' work not too long), and I am glad for this, because it contributed to the good feeling and attention of the participants and to the effectiveness of the sessions.***

## Conclusions

It is clear from the comments and the quantitative data that the participants appreciated and learned from the sessions, but would have liked to see more practice than theory. It is noteworthy that the comments reflect the incorporation of lessons learned from the feedback into subsequent meetings. This is particularly true concerning length of the sessions, and allowing free time for reflection and discussions (see last comment). However, school visits and meetings with policy makers were not included in the subsequent meetings.

The results of the meetings are impressive and not included in these feedback surveys. For example, participants from Israeli and European Partners joined research groups to carry on working together and will produce their research in articles and/or a project book at the final phase of the project. The current work on these tasks bears witness to the participants’ commitment to these research goals.

1. Teachers' Professional Development [↑](#footnote-ref-1)