**Chapter 7**

**Putting the Reform to the Test: Analyzing the Implementation of the Meaningful Learning Reform in the Upper Grades of High School**

**Background**

In 2013, after Shai Piron assumed the office of education minister, the Ministry of Education issued a national educational reform entitled “Israel Graduates: Transitioning to Meaningful Learning” aligned with progressive pedagogical approaches and committed to integrating 21st century skills. According to the program’s declaration of principles, schools must make meaningful learning their objective and ensure it happens across all years of schooling. According to the program, “meaningful learning is one in which students raise questions, identify sources of information, process information, and generate new knowledge relevant to their personal reality and to life in the technological era of the 21st century. The goal of meaningful learning is to develop critical thinking, independent learning, and creativity, and to encourage personal growth and social involvement.” Thus, the program’s building blocks consist of critical thinking, in-depth study of topics that interest learners and meet their needs, experiential learning and related activities either individually or in teams, and an emphasis on excellence and maximizing personal potential, along with the development of good values and spiritual growth. The overall policy of the program was presented in an overview (Ministry of Education, 2014) across the timeline of all school ages while making reference to different population segments. Officially, the program’s implementation began in September 2014 after the Ministry of Education had undertaken many preparatory steps to facilitate its systemic implementation. In practice, however, Education Minister Shai Piron, who spearheaded the program, resigned after only eighteen months in office and, after the election, was replaced by Naftali Bennett. The latter preserved most of the program’s components, at least at the beginning of his term, but over time the ministry’s director general and other senior officials, who had led the meaningful learning reform, were also replaced. At the time of this writing, it is still too early to determine if the program will continue to be implemented over the next few years.

 As stated, one of the program’s building blocks is teaching that encourages independent learning involving critical thinking, interactivity, and relevance to the learners. Hence, the program is relevant to the overall topic of this book. Another building block refers to assessment. Based on the idea that it is impossible to change teaching methods without concurrent changes in assessment methods, the program also included the implementation of far-reaching changes in systemic methods of assessment. The new arrangement of assessments was meant to restrain the tendency to rely on risk-replete systemic achievement exams and instead to aim at exploring the skills relevant to the learners’ future, making time for meaningful learning, and providing greater weight than before to the student-teacher relationship and the teacher’s discretion in assessing student achievements. In elementary school, these changes meant the cancellation of the external Meitzav[[1]](#footnote-1) examinations and defining them as internal school tests. In high school, the change was of a more essential nature affecting the matriculation certificate, reducing the number of external exams, cancelling any matriculation exams in the tenth grade, making social and community involvement mandatory, reducing the amount of material subject to external exams, and expanding and diversifying schools’ internal assessment methods (Ministry of Education, 2014).

 The data in this chapter concern these two building blocks and are therefore deserving of further attention. In-depth, relevant learning involving critical thinking requires more time than learning focused on passive reception and drilling of material. To allow for the time needed to engage in meaningful learning, the education minister issued the instruction reduce the amount of material studied in all school subjects. This was carried out as follows: Initially, the National Subject Superintendents (each of whom is responsible for a different discipline taught in schools) were asked to produce “equivalence documents” to improve the correspondence between the scope of material studied and the time devoted to it on the school schedule. For many years, there was continuous pressure to include more content, and consequently curricula expanded greatly. Over time, there was a sense that curricula were increasingly dense, making it impossible to teach everything in a reasonable fashion given the hours on the schedule. In the “equivalence documents,” every National Subject Superintendent was asked to cut about one-quarter of the curriculum content to create a more realistic correlation between the amount of material and time allotted to the subject. Afterwards, the National Subject Superintendents were asked to divide the remaining content into two unequal parts, of which 70 percent was deemed mandatory, as its constituted the base of knowledge and skills of every discipline to be taught in all schools and on which students were supposed to be tested via external matriculation exams, while the remaining 30 percent was deemed to be optional. The idea behind the optional part was to provide schools and teachers with autonomy in selecting topics and designing methods of teaching, learning, and even assessment. Accordingly, an important innovation in the new program was that 30 percent of the grade previously based on the external matriculation examination became an internal grade given by the individual school. For this part of the grade, the Ministry of Education encouraged schools to develop alternate assessment methods, i.e. assessments not based on a written exams, but rather on a range of options, such as a research paper, project, portfolio, etc. (Ministry of Education, 2016). An analysis of this program using the model suggested by the Van Leer Education Group (2007) suggests that it is a clear step in the direction of pluralistic learning and critical thinking (see Chapter 2).

 When we try to assess the effect of “Israel Graduates” on curricula and teaching and learning in the upper grades, it is important to pay close attention to two significant points that, for some reason, have eluded the discourse on the reform. The first one relates to *the scope of the reduction* in the material. In fact, the scope of mandatory materials was cut twice: subsequent to the creation of the “equivalence documents,” 75 percent of the material remained in place; however, at a later stage, this material was further reduced by 30 percent, meaning that the mandatory material now consisted of 70 percent of the material included in the “equivalence documents.” Cumulatively, only 52.5 percent remained of the content that was mandatory before the implementation process began. The second significant point concerns the speed of the decision-making on cutting material and the extent of consultation that went into the process. In the past, curricula in Israeli schools were the outcome of orderly, in-depth work by subject-specific committees and curricula committees that determined, on the basis of long (at times, too long) discussions between subject matter experts and educators, what must be learned in every discipline as well as the chronological order in which the subject was to be learned to furnish the students with coherent knowledge. By contrast, the instruction to cut materials to adapt them to the so-called “70/30 Reform” forced the National Subject Supervisors to work on a very tight schedule. The outcome was that curricula underwent massive cuts without any orderly debate on what should stay and what should go. Furthermore, the Ministry of Education conducted no debate on the meta-principles informing the question of what Israeli children should or must know in the various school subjects and what the criteria are for first-rate knowledge in the first third of the twenty-first century. I would like to stress that, in writing these words, I do not mean to say that there was no need for a dramatic change in curricula; on the contrary. As I explained in Chapter 2, the information era and the digital revolution in whose midst we currently find ourselves demand a fresh perspective on the objectives of the educational system in terms of the knowledge disseminated in schools. Such a perspective would result in updated disciplines, their scope, and the order of learning across the years of schooling. But, instead of conducting an orderly and thorough process of in-depth, comprehensive thinking about the objectives of education in the twenty-first century, which could have resulted in curricula for the various school subjects, the system took the curricula, whose rationale was shaped in the second half of the twentieth century, and in short order chopped them into pieces in order to adapt teaching and learning to the twenty-first century. The consequence of this process was the breakdown of the structure of curricula of long standing that, even if they were not the most up-to-date and did require change, at least had internal logic and sequence. In other words, instead of updated curricula providing an orderly response to the needs of the school system in the twenty-first century, at the time of this writing we are left with deficient curricula based on the needs and approaches of the twentieth century. It is important to understand that the data below describing teachers’ experiences in implementing the reforms were gathered in the context of these changes in the curricula.

 In 2016, the National Authority for Measurement and Evaluation in Education (National Authority for Measurement and Evaluation in Education, 2016; henceforth NAMEE), published a comprehensive report assessing the program’s first year of implementation. Some of the findings are very relevant to the data cited in this chapter and therefore I shall provide the gist of the report below. It showed that the introduction of the program of reform had considerable impact on the educational system’s interest in pedagogy, primarily in the form of providing an apt name to the topic – “meaningful learning” – and a whole galaxy of concepts explaining it. Similarly, the program resulted in a focus on implementing meaningful learning and in giving precedence to organizational processes that supported it, from the Ministry of Education’s headquarters to the school. There were professional meetings dealing with meaningful learning attended by staff personnel and regional officeholders, and professional knowledge and tools were developed and disseminated. “Meaningful learning” became the prime concept in the pedagogic discourse in the school districts; anyone still unfamiliar with the term is probably a recent arrival from a different planet.

 Nonetheless, it is clear that the regional training programs for the various subject supposed to help teachers implement meaningful learning in the schools are not yet meeting the need and the steps made to train instructors in meaningful learning and alternate training methods have been insufficient. By many indices, the findings from high schools are less encouraging than those from elementary schools. For example, when it comes to teacher training, the assessment of the value of the various sources of training drops the higher the grade level is (from 70 percent in elementary school, to 64 percent in middle school, to 57 percent in high school), which would seem to indicate the need for more sources of training and/or improving the quality of existing ones for the upper grades. During the year to which the survey relates, a significant number of teachers participated in various formal teacher-training programs (either at professional development centers or online). In addition to the positive assessment of the training programs, the survey found that more than 80 percent of teachers want to acquire additional tools to implement significant learning. As noted, the survey found that the training needs are relatively greater among teachers in the upper grades. The responses of school principals indicate that they, too, feel there is room for improvement in teacher training: only 50 percent of elementary school principals, 41 percent of middle school principals, and 27(!) percent of high school principals estimate that their teachers have the knowledge and tools to impart meaningful learning. Furthermore, the students’ understanding of the relevance and value that learning has for them is not notable for its positivity: about two-thirds of elementary school children and only one-half of middle school children (and fewer still high school students) report a distinct sense that learning is very relevant and highly valuable to them or that their learning is challenging. Regarding the change in testing methods in the upper grades (the “70/30 Reform”) described above, most students report that they do not understand what is expected of them according to the new guidelines; based on what they do understand, they do not think the method is correct. While the “70/30 Reform” was not met with a great deal of opposition, it was also not greeted very enthusiastically by principals, teachers, or students. The survey found that, in the timeframe to which it relates, teachers were unclear on the precise manner in which the “70/30 Reform” was to have been implemented. In this regard, they need further instruction. Similarly, it seems that this change lays greater burden on teachers and students: 30 percent of the assessment alternatives do not replace the effort needed to prepare for the traditional exams, but are an addition to that primary task. Some National Subject Superintendents did not reduce the amount of material the students were expected to know as the program called for, and this added greatly to teachers’ and students’ workloads. The quantity of the material was supposed to have been reduced to make room for greater quality, but this did not happen. In addition, pressure from various directions (such as local governments) to demonstrate high achievements on the national exams did not disappear as the process of implementing meaningful learning progressed.

 When it comes to the most important link in implementing the pedagogical reforms, i.e. professional development, the report states:

The findings of our students indicate a wide gap between the ideal and the real in the most important resource of all, i.e. professional development (training sessions, seminars, and so on). The professional development programs in the various subject matters for all grade levels are still not meeting the needs of the school for appropriate training on how to translate meaningful learning and alternate assessments into classroom work. While the program of reforms expects teachers to demonstrate creativity and develop new classroom materials and approaches to teaching on their own, some teachers need guidance and training to acquire more formal and intensive tools. A significant number of teachers does not engage in professional development. While those who do usually express satisfaction with their programs, many of the participants as well as non-participants explicitly say that they still lack sufficient tools to promote meaningful learning. The opinion of school principals on the issue is truly negative. It seems that this field needs special attention and substantially greater resources (NAMEE, 2016, pp. 12-13).

**Descriptions from the Field: What Teachers Say on the Implementation of the “70/30 Reform” in Its First Years**

Until now, I have described the reform called “Israel Graduates: Transitioning to Meaningful Learning,” especially the part that relates to reforms in examinations in the upper grades. Because the reform is related to the key subject of this book, i.e. the transition to progressive teaching and learning methods in general and the development of critical thinking in particular, and because this program is one of the most comprehensive pedagogical reforms every carried out in Israeli schools, it is worth examining it in light of the issues discussed throughout the book. In this chapter, I shall try to trace the way the reform was implemented in the field by means of a series of semi-structured, informal conversations with teachers held at the end of the program’s second year. All the teachers who participated in these conversations teach in the upper grades and took part in the implementation of the “70/30 Reform.”

These conversations can be divided into two groups. The first consists of conversations with thirty-four teachers of various school subject held in the summer of 2016 after the teachers had taught two graduating classes and prepared them for the matriculation exams under the new guidelines. The second consists of twelve conversations with chemistry teachers held in the winter of 2017. The overarching goal of the conversations was to learn what the teachers thought about the way the reform was being implemented. All the participating teachers represented a convenience sampling, i.e. teachers who were available and accessible to M.A. students at the Hebrew University. Because the sampling is selective, it is reasonable to assume that the findings are an under-assessment of the difficulties and challenges existing in the system as a whole. That is to say, the challenges and problems described below exists in all schools at least to the same extent as reported in the data below. Because of the lack of sampling selectivity and because of the informal nature of the conversations, it is necessary to exercise caution and not use them to generalize about the school system as a whole.

In the following sections, I shall first discuss the data based on the thirty-four conversation held with teachers of different subject matters. In the first section, I shall sketch a profile of teachers who, throughout the conversation, expressed a coherent position either supporting or rejecting the reform. In the sections thereafter, I shall expand on several selected themes and show how the teachers related to them. In the last part of the chapter, I shall analyze the conversations held with the chemistry teachers. Because the teachers were ensured full anonymity, I have avoided all identifying details.

**Opposing Stances Regarding the Reform**

From the conversations with the teachers, it seems that the reform was imposed on a tight schedule and without sufficient preparation, guidance, or training, leading to uneven implementation. Some schools and teachers were already “on board” in the sense that they had experience and skills in advanced teaching methods and assessments, and could take advantage of the relative freedom given them with 30 percent of the material to “take off” and “soar” (these expressions are borrowed from the teachers themselves) and attain new and creative methods of teaching, learning, and assessment. Other schools – those lacking the required knowledge and skills – experienced “a mess” and “instability” (again citing the teachers). Below, I reproduce excerpts of conversations with teachers representing the two opposing stances on the reform.

A history teacher describes the positive change she experienced in teaching and learning methods thanks to the reform as follows:

To begin with, there is much more freedom, much more room to give the children the opportunity to express themselves. The learning is more meaningful and less frontal. We don’t have that pressure at every given moment, the pressure from above, where they tell the kids what to do and how to do it at every given moment. It’s not that there are no assignments to hand in, dictations, and quizzes, but there isn’t that pressure, the pressure is gone. There’s different pressure of research, but it’s not remembering and memorizing like it used to be… It created a process, classes are calmer, [there is] more in-depth study of topics of our own choosing… And, yes, we incorporate a lot of visuals – movies and debates. The in-depth approach made the movies possible. It has pluses and minuses: it’s a lot more fun, but there is the research component, it’s hard, and it makes demands, especially of the students, but it too develops skills.

Another teacher, who feels the reform has had a positive effect on her work, puts it as follows:

Yes, [the reform] affected me in that I started to work harder to transmit the material in an interesting way. The work it required of me was greater, thinking how I [can] reinvent myself each time. I think it had a positive effect on me, because the harder you work the better you become. The process with the class was good, because the students are expressing themselves better. A child who can learn, or write, sing, write a poem, or [do] computer stuff… So each [child] is capable of expressing himself in his own way and I think that the process that happened is really good…

The same teacher was also very enthusiastic in answering the question if and how the reform enhanced her sense of professional capability:

It enhanced my sense of capability very much, because if I thought I could [do] X, I proved to myself that can [do] much beyond. It affected me for the better. It made me feel good. For example, I prepare a broadcast with the class; personally, I always dreamt of doing something in the theater, on the stage, drama. Suddenly I realized that through the alternate assessment I can bring myself to a place I never dreamed of, because in frontal learning you have no possibility of doing it, but through the reform I did it.

Another teacher I shall cite as an example of someone who had a positive experience with the reform has been teaching Judaic subjects and social sciences for four years in a state religious school in a small city with a relatively low socioeconomic profile. To describe the enthusiasm the reform kindled in her, she uses the verb “to soar”:

[The implementation of the reform] very much encouraged me to soar, because suddenly you have the opportunity to mix it up in teaching and assessing. I have experience with this and it really works… It so happens that I tend to put more work into what I do, so it suits me and I soar with it… From the outset, the teachers at [the name of the school] [were] very into the idea, we’ve always been very creative, and suddenly you have the opportunity to do something we’d already been doing, and now it’s transmitted to the students and it’s more defined; they know that this is their matriculation; for real, we shifted to more research papers and fewer tests, like, let’s make a meaningful change.

 This teacher affirms that the encouragement and opportunity afforded by the reform brought about a significant change: fewer tests were given and more papers were assigned. The change allowed the teachers to be creative, affecting both their teaching and assessment methods. Nonetheless, the quotation makes it clear that, in this specific school, teachers had applied similar methods before the reform, i.e. the school already had a previous pedagogical infrastructure for the innovative working methods. This teacher learned how to apply the process at two professional development courses she attended before the reform was implemented. One, which took place outside the school, dealt with alternate assessments, and the other, a school-sponsored program, provided teaching and assessment tools. According to her, the two programs were good and effective:

They [the professional development programs] were very good. Ah… I also participated in an online professional development given by [she names a particular educational organization operating before the Piron reform]. It wasn’t the school’s. Outstanding professional development program! One was about assessment alternatives. The school also provided a half-year course, and it provided a lot of tools on classroom teaching through asking questions, through theater, reading, and lots of other stuff than can be an option for alternate assessments.

 A positive attitude to the reform was evident also in the answer of one of the participants to the question if the reform affected her function as homeroom teacher.[[2]](#footnote-2) In her answer, the teacher expressed her sense that participating in the reform, and especially in her close work with students on alternate assessment assignments, she had improved as homeroom teacher, because the reform made it possible for her to get to know her students better:

Q: Did the change affect your function as homeroom teacher, and if so – how?

A: In a certain sense, yes… The alternate assessment makes me, as a teacher, undergo a very close process with the students, get to know them from different angles, from a much more creative place, and get to know what they’re interested in and how they incorporate those things into their work. I think that the process added an important dimension to my recognition of the girls’ capabilities, talents, and strengths.

 Towards the end of the conversation, the teacher explains that the reform had a positive affect also on her own sense of professional capability and on her understanding of her professional role:

It’s very empowering. It gives the teacher the opportunity to express herself. It enhances my creativity in teaching.

 In contrast to the positive picture painted by the teachers in the preceding paragraphs, other teachers draw a much bleaker sketch. The first teacher in this category teaches history and is also a homeroom teacher; she has been teaching for 11 years. In answer to the question “What happened in your school consequent to the alternate assessment reform?” she said that what occurred was “a mess.” The first graduating class that encountered the reform was one in which she taught history; she was also its homeroom teacher. She describes the implementation of the reform as a “decree” imposed from the top down, and says that she was shocked by the presentations shown at the start-of-year conference meant to introduce the “70/30 Reform.” She notes that, although she was told to start teaching according to the program, she was confused, reporting that “personally, I didn’t understand a thing.” To her chagrin, the details of the program she was supposed to teach were determined without her participation; she was not invited to have a voice in the construction and planning processes. She underscores the fact that, had she been asked to be involved, she would have made some very different suggestions. According to her, the resources and tools placed at her disposal were unsuited to implementing the reform. In particular, she noted the lack of time: many things planned could not be executed and the lack of time made creative work impossible. She did not take part in any process of professional development that could have prepared her for the new program. Therefore, the only knowledge resources available to her were the teaching tools and skills she had already acquired thanks to her own professional experience in preceding years. She stresses that she felt a lacuna in appropriate professional development focused on the changes she was supposed to implement:

I’m missing professional development… I would very much like to see the leaders and developers of the reform come to the classrooms and model what they meant and observe classes. That all of this isn’t disconnected from the real world… Such professional development could have been very relevant.

 Because she did not participate in any professional development program, it is not surprising that the reform, even though it was manifested in structural pedagogy (in this case, the schedule and division of class time), had no effect on her teaching methods. According to her, the style of teaching the 70 percent studied for the external examination is still aimed at success in the exam, while the style of teaching the remaining 30 percent – supposed to be taught in innovative ways – is affected by the fact that there is no time to teach in a meaningful manner:

Other than the technical part of the schedule, the division of the content – the reform had no effect on me. I still teach to the matriculation exam, and aim at the questions likely to appear on it. We taught the 30 percent part (which, according to the directives from above, dealt with the Holocaust) very fast because of the lack of time, without any depth; and there’s no way to know if all the topics were covered… My teaching methods didn’t change.

 Unfortunately, this teacher states that the reform also had a negative impact on her role as homeroom teacher. In answer to the question “Did the change affect your function as homeroom teacher, and if so – how?”, she answered as follows:

It only added to my workload on the technical level. I cancelled homeroom discussions to cover what I had to get through of the material. It significantly reduced my homeroom hours.

 Another teacher frustrated by the reform has 15 years of seniority and an M.A., and she teaches Hebrew bible and another humanities class in addition to being a homeroom teacher. She explains that, while the school heralded the change as “major” and there were, in fact, changes in the structure of teaching because of the reform, especially a change in the division of the content taught to the different grades, still there were no real changes in the teaching processes in the class, i.e. in the pedagogy, in the essence of teaching:

Q: What happened in your school as a result of the reform of alternate assessments?

A: What happened…? They simply changed the curricula. What we used to teach in the 12th grade, we’re now teaching in the 10th, and that’s, like, the 30 percent. In addition, they also gave us alternate teaching and alternate assessment, and this is done in a written paper or a presentation and research. This was, like, a big change, sure, when they told us. But, at the end of the day, it, like, happens the same way. We weren’t part of the deal, like; at the school they said that, from now on, it’s like this. The teaching in the classroom – for sure, it didn’t change.

 Later on, the teacher reports that the reform was imposed on her from the top down and that she was not involved at all in its construction. Similarly, she did not acquire any new teaching and assessment tools as part of her professional development:

Q: Were you involved in writing the curriculum?

A: No, that’s it, I told you. It’s like, they just told us. I wasn’t involved… If I write a lesson plan, in reality it didn’t change, do you understand? It’s like, it’s still new, nobody really knows what to do with it, and we don’t even have time to write something new – like lesson plans. So the tools we had before are the same we have now and that’s enough for me for now.

Q: Did you participate in a process of professional development that prepared you for the program?

A: Professional development? No, what are you talking about?! They didn’t explain. They dumped it. Like, at the beginning of the year they said, “From now on, do A, B, C…” and we go along.

 The teacher complains that the resource she lacks most for the optimal implementation of the reform is time, i.e. the lack of [remunerated in-school] hours to prepare and develop new teaching materials:

Q: Do you feel you are missing tools or knowledge resources to implement the reforms?

A: I think that what is missing here is time. Time to develop plans. I don’t have the hours to do it. What we write, we write at home, on our own time, and it shows. Teachers don’t actually do it; they prefer the practice they already know, which is a shame. So we don’t generate anything new, but on the other hand we don’t have the time for it. Time, time is so important… The thing is always giving teachers time. They constructed these reforms, but they didn’t go all the way, and they expect that suddenly everyone will get it, right away. But the time to really understand or to plan comes at the expense of our own time; the prep time at school is so limited. We’re supposed to be at school until four in the afternoon, but it’s clear that we work all day long… Who has the energy left when you finally make it home to sit down and develop something new? It’s sad that that’s the way it is. They forgot our time.

 Considering her words, it is hardly surprising that she reports that the reforms did not affect her, either in terms of her classroom teaching, which remained the same as before, or in terms of her function as homeroom teacher. Neither did it impact her sense of capability:

Q: Did the change affect you, and if so – how?

A: Hmm… No. It didn’t affect me, no. I told you, like, the classroom teaching is the same.

Q: Did the reform add any new teaching methods to the professional tool-chest you already possess?

A: I think that we, like, we didn’t write the plan. But all the classroom teaching stayed the same, more or less.

…….

Q: Did the change affect your function as homeroom teacher, and if so – how?

A: It didn’t.

Q: Did the change affect your sense of professional capability and your understanding of your professional function, and if so – how?

A: Umm… I don’t think so. I really, I think that it’s not yet “there,” this reform.

 The teacher answers the last and summarizing question of the conversation in the same vein in which she professed that the reforms are not really felt within the walls of the classroom, while expressing an overall negative attitude:

Q: In conclusion, what is your opinion about the reform in general?

A: I… I’ll tell you the truth. I think it’s still unfinished. Or at least that’s the way it is in my school. Not fully constructed. Like, what do they want exactly? What is possible exactly? Maybe it’s like that for me, because I didn’t study it in an organized way, because I’m not planning or writing the change for the track,[[3]](#footnote-3) but to me it feels like another reform that is very soon going to be turned into something else. I find it interesting that you find it interesting in the first place. It is so very uninteresting to me.

 To conclude this section, I would like to quote some distressing views a different teacher voices at the end of the conversation with her, during which she explains that, from her school’s perspective, the reform was a “curse” that detracted from the quality of her teaching:

A: From the school’s point of view, this is a curse. The teachers are not overjoyed by too many reforms. [The program] was imposed very fast and there was no time to identify a ground that could master of all these changes.

Q: Did the change affect your sense of professional capability and your understanding of your professional function, and if so – how?

A: It undermined it a bit. The quality of my teaching is much worse. I wasn’t prepared for all the changes and the attempt to stitch it all together with the information gaps and on short notice – it’s for the worse.

 **Teachers’ Thoughts on the Reforms’ Effects on Classroom Teaching and Learning Methods**

In the following paragraphs, I shall relate to some of the common themes that emerged from the conversations and, using a latitudinal analysis, try to show what teachers thought of them. I shall begin with the theme of the reform’s effects on classroom teaching and learning methods. Some answered that it had an effect and explained that the reform generated significant changes in their methods of teaching in the classroom and their students’ methods of learning. For example, one teacher explains that, in her subject matter (geography), many changes had been made [before the reform] intended to improve teaching and learning methods. These changes included professional development courses that provided her with advanced pedagogical tools. She says that the directions published as part of the reforms made her think anew, which allowed her to take advantage of the knowledge resources she had already acquired to change and improve her pedagogical work:

Q: Did the reform affect you, and if so – how?

A: It very much forced me to rethink things. And just this year, in the 10th grade, they’re not doing their research project itself, but I had to develop a program that doesn’t have a matriculation exam at all [and therefore] I create assignments in a completely different way. So how do I create this learning? Because all the materials I have are structured and aimed at the matriculation exam. So it very much forced me to sit down and think, and I tried to get help from teacher teams outside my own school. It very much forced me to try and think…

 In her opinion, taking a fresh look at writing new plans and the subsequent results led, in her case, to a significant and positive change in her teaching. Later on in the conversation, she describes the significant change from the perspective of the students who had a more relevant learning experience, one more closely related to the world outside of school:

…But, based on what I heard from students, they underwent a significant process. I think it had a positive effect on the students. If you do it right and are serious about it, and if there is support for teachers and students throughout, they can experience something really meaningful. For our research project, we picked a topic that speaks to them and affects them directly. The research question was: What factors affect the decision made by young people in Jerusalem to stay in the city or leave it? So, here, what interests me, what issues do I have with the city? What do people think, what do young people, think, what do older people think?

 On the other hand, a large group of teachers reports a lack of change in classroom teaching and learning methods consequent to the program. A close reading of the interviews showed that this group can be divided into two sub-groups. One sub-group, which included the teacher described earlier (on p. XX), reports that, despite the changes in pedagogy of teaching structure, the essence of the teaching did not change at all. Because of absence of professional development, these teachers felt they received no new teaching strategies and therefore, of necessity, they continued to rely on old methods with which they are familiar. The second sub-group also reports that there were no changes in the essential pedagogy, but that was because they had already had the chance to explore the teaching and learning methods the program was promoting before the program of reforms was imposed. The teachers in this sub-group report that, in their classrooms, they are applying innovated teaching and learning methods, whether as a result of implementation activities carried out in a lateral, systemic manner in their subject matter, or whether as a result of implementation activities carried on within their school. For example, civics teachers report that, in their subject matter, the relevant changes took place before there even was a program of reform:

Q: What, if anything, occurred in your school as a consequence of the alternate assessment reform? For example, were changes made in teaching and learning?

A: In the context of civics, there were no changes at our school, because we had already started with the alternate assessment earlier… so for us this didn’t represent any problem. In other words, we started, we were, in fact, the first to do alternate assessments. And it continues to be the same to this day… We do performance assignments.

 Similar to civics, science teachers also report that there were no fundamental changes consequent to the reform, because they had already been teaching through research. For example, one science teacher reports that she acquired the innovative teaching methods she uses long before, thanks to the National Center of Science Teaching:

The school made no changes in teaching or learning consequent to the alternate assessment reform… There was no program and the process is mine as a veteran teacher… I deal with the research method and teaching in a research lab, and my grading system is an alternate assessment – a portfolio… For the last 21 years, I’ve participated in a process of professional development that prepared me.

 In other words, both the civics teacher and the science teacher report that, in their classrooms, they use advanced pedagogy, but this is not a consequence of the reform; rather, they make use of the knowledge they acquired laterally in the system in the years preceding it. That is to say, these teachers took part in systemic professional development programs designed for teachers of their subject matter (rather than all the school’s teachers) long before current reform. In other cases, teachers report that the reform made no difference, because the transition to innovative teaching, learning, and assessment methods started as a process of change within the school that predated it:

The truth is that there were no changes [in our school] because of the reform; we’ve always done alternate assessments and projects based on classroom learning. Now, maybe, it has this name – “alternate assessment” – but we’ve always done it. The change is in name and in the percentage of the assessment. It used to be 15 percent, and now it’s 30…

In such cases too, the implementation of the reform relies on knowledge that existed before its launch:

I think I have the knowledge and tools to construct appropriate lesson plans and to plan and assess assignments. That’s how I’ve worked at the school ever since I started teaching here.

 The same teacher, responding to a question about professional development she would like to receive to implement the reform, gives an answer that supports the idea that she already had the relevant knowledge before the reform came into existence:

No… Not that I’m bragging or anything… I don’t feel that I need to learn how to do this. [Another professional development course] for me is unnecessary, because, as I said, we have always worked and taught this way at this school; it’s really nothing new for us.

 In answer to the explicit question “Did the reform affect you?” this last teacher gave a one-word answer: “No.” And when asked “Were you introduced to new teaching methods consequent to the reform?” she grew irritated by the pretense that the reform could innovate, because the question’s hidden assumption was that before the reform teachers at her school did not engage in meaningful teaching:

Not really [i.e. the reform did not really affect her]… We’ve been teaching meaningfully all the time; that’s what’s sometimes so annoying. In this reform, there’s this sense that, until Shai Piron came along and launched this reform, we didn’t engage in meaningful teaching. There is no doubt in my mind that for a not-small portion of teachers, it brought nothing new. Our classes always consisted of discussions, presentation, analysis of events, and visual contents. As far as I’m concerned, he conduct of the lesson did not change at all.

 An interesting example of school change predating the reform is provided by a teacher who describes in great detail the pedagogies in her school focused on project-based teaching and assessment:

Q: In your school, were there changes in teaching and learning consequent to the alternate assessment reform? If so, please describe these changes.

A: The pedagogy in place in our school is that of alternate assessment as part of project-based teaching. This pedagogy has been in place at our school for several years in the middle school. Every year, new teachers join the circle of project-based teaching. The teaching methods vary and are matched to the outcome. Also, for outcomes that need the teaching of experts, the teacher leads the project under the supervision of an expert. Teachers who are part of the project-based teaching circle submit, at the outset, an organizing project plan that refers to the contents, skills, teaching methods, didactic processing of contents, learning objectives, and community objectives related to the project. The school also runs its own professional development for teachers doing project-based teaching and it includes an analysis of the pedagogical questions involved as well as the learning endeavor. This course is led by teachers from within the school. In addition, teachers receive individual direction and supervision of projects. In the last two years, the school has incorporated this method also into the upper grades.

As part of a pilot program in history, students are now studying for the matriculation exam with varied teaching methods. The alternate assessment is adapted to the topics and teaching methods and includes assignments that must be completed, an interim test, and instructions for writing a research paper. At staff meetings, we discuss contents, teaching methods, and assignments… The school places all necessary resources at the teachers’ disposal.

 Not only does this description provide a glimpse of teaching and learning methods used in that school, it also sheds light on a thorough, orderly processes occurring for the sake of integrating these teaching methods. The process includes comprehensive professional development, consisting of a teachers’ course in the school, learning from colleagues, and individual instruction. The description includes details about the way the pedagogy of the essence of teaching is handled as part of this process of integration: from the planning stage, in which teachers submit an organizing plan relating to objectives at different levels, to components of contents, skills, teaching methods, and didactic processing of contents. Because this sort of planning requires quite a bit of knowledge, it is clear that the integration process did not begin with the planning described above; it was certainly preceded by another stage of professional development that is not mentioned here. Later on, there is a process of professional development that includes collegial teaching and sharing of accomplishments and a group analysis of the pedagogic questions involved. And these processes are happening in the school with ever-growing circles of teachers. It is important to stress that, despite the fact that the welcome endeavor of the school described herein began before the reform, the teacher quoted gives the reform its due, because she sees it as enabling the use of innovative pedagogies in a better and more in-depth manner:

I’ve been waiting for this reform for years! It allows an opportunity for creative thinking and doing, both on the part of the teachers and on the part of the students. In alternate teaching and alternate assessment, there is a fusing of process and goals, and that makes all the difference.

 In other words, the last quotation demonstrates that the policy involved in the reform creates a change for the good even for schools that seemed to have been “on board” before, i.e. they had transitioned to advanced pedagogies before the reform. The quotations indicates that the teacher sees a difference between working on such pedagogies when the Ministry of Education’s official policy supports traditional teaching, on the one hand, and working on them when the official policy supports advanced pedagogies, on the other. The policy the reform implements means that the innovative teaching process fuses with the new systemic assessment methods instituted as a result of the reform. Therefore, the teacher sees the reform as a factor encouraging creative work and critical thinking on the part of both teachers and students. The difference the cited teacher feels is so noticeable that it makes her say “I’ve been waiting for these reforms for years!” Hence, one may say that even for schools that had already “been on board” (in adapting innovating teaching methods) where teachers therefore say that the reform caused no significant change to their teaching methods, one must not draw the hasty conclusion that the reform made no difference. Processes taking place within an isolated school are affected by the system’s general educational climate and by directives and rules having to do with testing. Therefore, it may be that, similar to the last teacher quoted, the change in the overall policy, the climate, and the subsequent regulations (especially having to do with changing assessment methods) made it possible for other teacher, too, to implement innovative pedagogies they had applied earlier at a higher level and/or quality.

 On the other hand, a rather large group of teachers reports a lack of change consequent to the reform, because they did not result in any progress towards innovative pedagogies. Examples of this stance are obvious in the following quotations (each quotation in the next section was submitted by a different teacher):

[The reform] isn’t serious enough or strong enough to shock me or make me change direction. We get through it to get along.

The reform doesn’t cross the classroom’s threshold. The dogs bark, but the caravan keeps going… I don’t oppose the alternate assessment, but I don’t like the way it’s being done. It’s being dumped from above!!!

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Q: What took place in your school consequent to the alternate assessment reform?

A: I don’t think any fundamental changes were made. We decided that we would do the alternate assessment at the beginning of the year and then continue with learning for the matriculation exam. The decision was made by the professional staff jointly.

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Q: Were any new teaching methods added to you “tool-chest” as a result of the reform?

A: I don’t think so… Classroom teaching stayed the same more or less…

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A: [The reform] didn’t affect me in any fundamental way. Maybe it gave me a little more room to maneuver.

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A: They dumped on us again. But after a while we saw that, at least with us in history, it didn’t make such a big difference all in all on how we teach or are told to teach. They made a change in distributing the materials between 10th and 12th grade so that now not everything is taught in the 12th. In practical terms, how we teach is pretty much the same.

**Detailed Pedagogic Planning**

In schools where the reform worked well, especially when the teaching staff already had the knowledge relating to meaningful learning, teachers provided some fine examples of detailed pedagogic planning that clarify the intention inherent in such planning. In answer to the question “Were you involved in writing the program? If so, describe the process,” a Hebrew bible teacher, who also happens to be the subject matter coordinator at her school, stated the following:

Not only was I involved in writing the program, but I wrote it together with the teachers in practice. The program started out as various ideas raised on what we want our students to do as alternate assessment while still adhering closely to the National Subject Superintendent’s instructions. At the next stage, we looked at ideas other schools had uploaded to the internet, so it was possible to “sneak a peek” and get an idea about the assessment we ought to construct, the scope of work, the rubrics, and so on. At the same time, we asked ourselves what objectives did we want to attain by means of the alternate assessment? For what grades was the assessment meant? Should the entire grade level get the same alternate assessment, or should underachieving classes, for example, get a different alternate assessment than high-achieving classes? And so on. The next stage was selecting the topic to focus on and develop, in other words building a skeleton of the work. Another stage was finding enrichment materials for the topic we selected. The next-to-last stage was writing the assignment with guiding questions, and the last was constructing the rubrics.

 This statement, too, describes a meticulous approach to pedagogic questions to allow the implementation of the alternate assessment reform in one subject matter, in one grade level, at one particular school. Thus, the citation demonstrates the type of questions and level of detail that teachers must face – teachers receiving the appropriate conditions for detailed planning and implementation of the essential pedagogy in school-wide implementation processes. There are no shortcuts, because it is obvious that, without paying attention to all the practical questions described above, the implementation of the alternate assessment reform will not take place in anything approaching an optimal manner.

 Another interesting comment on the importance of detailed pedagogic planning is made by a teacher who teaches civics and another subject. She casts light on the issue by contrasting civics, which underwent a similar reform some years previous to Piron’s and where there was an orderly, system-wide pedagogic planning process, followed by systematic implementation of assignments in civics (see Chapter XX), with the other subject matter she teachers. According to her, in the other subject, there was no similar planning. The teachers at the school were left to their own devices, with no attention paid to the pedagogic details of the change. The teacher complains that, in history, the teachers were given too much freedom regarding the details of the process, because the leaders of the change at the Ministry of Education had no idea how to direct it. She is especially critical of the lack of planning of the details of the rubrics, which inform the entire process of learning and assessment:

The fact that there were no rubrics… They said: “We’ll let you do what you want.” What – are you stupid or something?! If you let people do what they want, they won’t do anything, they’ll think small. I’m not saying to reduce the scope of [teachers’] thinking, but there have to be limits… I come back to the comparison with civics, because in civics this was all organized. In civics, they informed us already at the beginning of the year of the days we had to pick for inspection and these days were entered on the test calendar. And there are were specific instructions for inspection, based on the desire that there be a framework and structure that must be maintained. This is all true of civics, but not in the [current] reform [of meaningful learning]. And that’s the problem in [the other subject]. Also, it’s not clear what the goal is; it’s like endlessly feeling your way in the dark where you have to make your own decision. In [the other subject matter] there is no database you can rely on; you just get lost. A framework and structure are needed to get to the wide-open places, and in [the other subject matter] I’m not sure what’s going to happen… They told us 30 percent is study of [topic X] – do what you want. It’s a nightmare. My mentor told me: “What?! They gave you freedom, like, and you’re not taking it?!” Because it doesn’t work that way. I come back to the civics assignment, because it’s the model for the entire Piron reform. When we started the assignment, there were rubrics, there was a program. We worked according to the rubrics, otherwise we’d have gotten lost… Regarding [the other subject matter], we had no clue. The Ministry of Education has no clue. The only thing they know how to do is to fill out forms.

 This teacher, who is informed enough to compare two implementation methods, clearly expresses her preference not to be granted unlimited freedom, which she calls “a nightmare,” but rather to receive an orderly work plan and clear criteria of quality. According to her, absent an organized setting and a clearly articulated direction, people “get lost.” And, in fact, the impression she gives is that she and her colleagues are feeling their way in the dark and getting lost. She locates the cause with “the Ministry of Education,” which imposed the reforms program on the schools without sufficient planning, and did so not for some ideological reason or belief that this is the proper way to institute reforms, but simply because “they had no clue,” i.e. the leaders of the program themselves had no idea where they were going or where they were leading the people who were supposed to implement it.

 **The Meaningful Learning Reforms: Improved Student Knowledge?**

One interesting issue emerging from the interviews relates to the students’ knowledge as a consequence of the reform. One its stated goals was to deepen the students’ knowledge. In practice, teachers are concerned that the reforms will harm students’ knowledge of the school subjects. This concern is not aroused by the reform’s principles, but rather by the methods of implementation, especially the speed of the relevant processes that caused two problems. One problem, as we saw earlier, was that the sequence of the topics learned was upset, because of the new instructions on reducing the scope of contents taught for the exam (i.e. 70 percent for external evaluation via the matriculation exam and 30 percent for internal evaluation via the alternate assessment), and the subsequent reduction of classroom hours devoted to the systematic, sequential teaching of the material. This led to a new challenge, the gist of it being to create coherent connections between the various topics that were left in the curriculum while bridging the gaps and ruptures formed by the deletion of entire sections:

We have to fill many gaps of knowledge. We don’t teach straight sequences. There are information lacunae that have to be bridged. Plus the hours that were cut.

 The second problem is that the ministry’s haste in implementing the reform led to problems. Teachers speak of two major aspects: the lack of organized plans for teaching methods suitable to the 30 percent of the material shifted to the alternate assessment piece of the curriculum, and flawed teacher training. These two issues cause teachers to report that they are teaching the material set aside for the alternate assessment not as well as in the past:

First of all, I don’t think they trained the teachers properly for the reform. They said “creative work,” but they didn’t actually fully develop this, and there weren’t clear-enough guidelines on what they want the kids to know. The level of the matriculation exam went down and it became a joke. The 30 percent in Hebrew bible, which is material that is really, really important and really essential in my opinion, became a joke. You work just any old way, and it’s because they didn’t develop it fully. What does the Ministry of Education expect? What does “alternate assessment” even mean? Or “creative work”? This wasn’t fully developed. So every teacher did whatever he or she wanted. And it just brought the level down. The teacher training wasn’t good enough.

 Later on, the teacher elaborates on the complaint about insufficient professional development, both on the part of the Ministry of Education and on the part of her school, and explains that professional development is necessary so that the students’ knowledge does not suffer:

[Professional development is necessary] so as not to lower the level. I think that, let’s say, in Hebrew bible, at our school, it simply lowered the level. It cheapened the stories [i.e. Biblical narratives]. I mean, the whole of Genesis was dropped to 30 percent. I think that the stories in Genesis are very, very important, and this simply cheapened the level. Cheapened Genesis. Made it less important. Because there was no teacher training. I think that had there been better training we’d have understood in greater depth what the ministry expects us to do, and it wouldn’t have turned into something so sub-standard. The high standard would have been kept… I think that the 30 percent lowered the level of learning at the school…

 According to the last statement, the major problem is the fact that the reduction of the curriculum that has to be taught as preparation for the matriculation exam (because of the 70/30 division) leads to a situation in which she no longer teaches contents she considers very important (e.g. the biblical narratives of Genesis) as well as she did in the past. The problem isn’t only that these narratives were excised from the mandatory exam contents, but that the substitution, which was supposed to have been “more meaningful learning” of those materials, remained vague and unclear because of the lack of training. As a result, these contents all but disappeared from the curriculum:

[I used to teach] everything at a 100-percent level. You teach everything at a very high level. And now I can tell you that I’m teaching very differently. I focus only on very important things. If it’s less important, I ignore it. I don’t teach everything. And this lowers the level. The focus is only on what’s important, and my agenda is for the students to score only high marks… The program isn’t developed. They just threw us [in the water and told us to swim].

 In a similar vein, a history teacher complains that the cuts to the material to be prepared for the exam, especially the removal of the Holocaust from the mandatory studies, causes learning to suffer. In answer to the question of how the Meaningful Learning Reform affects her work, that teacher said that the cuts to the matriculation exam curriculum meant that, for the first time in her life, she managed to finish teaching the materials for the exam on time (because she had to teach much less material than in the past). She finished teaching the Holocaust by a certain date, because the topic had been switched to the 30 percent falling under the alternate assessment part, and therefore had to devote less time to it when preparing her students for the exam. What helped her conclude the topic faster was the fact that the Holocaust became part of the school’s internal assessment and therefore she wrote the exam herself. But, the teacher continues, she is uncomfortable with this state of affairs, because she did not teach the material at a sufficient scope or in a satisfactory manner according to her own professional standards:

It’s a devaluation of the topic, damage to the topic and the scope of learning. Usually, learning about the Holocaust isn’t something you ignore. They [the students] look forward to it, they want to study it. They are full of appreciation for Holocaust survivors. Since [the institution of] the alternate assessment, the experiential learning – like meeting survivors, seeing movies, etc. – has suffered. We’re working on strategies for doing the alternate assessment, but it comes at the expense of in-depth, experiential, classroom learning.

 Usually, the alternate assessment is viewed as one that allows meaningful learning, including in-depth, experiential learning. By contrast, this teacher feels that, in the past, when she taught the Holocaust more fully in class and could devote significant amounts of time to it, she could go into the topic in greater depth as well as provide her students with experiential learning at the emotional level, which included meetings with Holocaust survivors and watching movies. In her opinion, this type of learning suffered because of the alternate assessment, as the latter caused a “devaluation” of the topic and damage to the scope of learning. Similar claims were made by other history teachers. Another teacher describes how the reduction in the scope of contents taught in preparation for the exam in history resulted in a deterioration of the quality of knowledge. That teacher, who is also a subject matter coordinator in her school, describes a struggle among the history teachers and within herself. At staff meetings, there were voices saying “Oh no, history learning will decline” because the Holocaust would not be taught as it was in the past. The coordinator tried to defend the reforms and answered that, in her opinion, the traditional rote teaching for the exam did not lead to high-quality knowledge because:

If we teach them the chronology, the events, and prepare them just so for the matriculation exam, half an hour after the exam they forget everything we taught them. And that’s not the point [i.e. that’s pointless]. Let’s try to teach them differently. So there was a struggle within the team. Now, I admit, I had the same struggle internally, but all in all this struggle was about the fact that we have a knowledge base we have to stick with [i.e. the approach of her colleagues on the history staff], and I said, “Let’s try something different with this topic.”

 The teacher continues to explain her stance, according to which it is not necessary to impart the body of knowledge about the Holocaust in all its details by simply presenting the information (“You don’t have to teach them that the Nazis took control of the government and the burning of the Reichstag, you don’t need all the small details”). Instead, it is possible to focus on a personal, experiential angle that would be based on researching a single case history, in the course of which students would need information and would have to search for it for a reason, which is supposed to generate more meaningful learning:

You can take someone who was there when the Reichstag was burned. Let’s go to the personal. Let’s teach the topic from the personal perspective of people who were there, and if they need knowledge… then [they will search for it].

 The coordinator’s opinion was accepted and the history teachers made an attempt to teach accordingly. But, after this teacher experienced “different” learning, she was disappointed and was left with an internal dilemma about her preferred method of teaching. On the one hand, she does not believe in the quality of knowledge created when “we spoon-feed the students” with information before the matriculation exam. On the other hand, she was sorely disappointed with the quality of knowledge obtained by students through the alternate assessment route, because it was not done in a serious way, did not generate anything new, and in practice depended on the same teaching methods used previously:

So now we said, OK. What is the tool, the means, for this different teaching, the alternate assessment? We went for the same thing everyone’s is doing at the moment – the portfolio, in other words, we gave small assignments. This, too, I’m telling you is BS. [We also had them analyze a movie…] What’s this nonsense?! I’ve been showing these movies for years… and then analyzing them. Take “The Pianist,” which I always show my classes: I’ve been teaching it [for years] after teaching about the ghettoes. So is this an alternate assessment? What’s this rubbish? It made me nuts. [But on the other hand] the matriculation exam means spoon-feeding them, but I don’t know if anything of that stays with them (no. 14).

 **Teachers Hungry for Meaningful Professional Development**

It often seems that teachers hold professional development programs in contempt and believe them to be a waste of time. The conversations we conducted would seem to conclude the complete opposite. Consequent to the profound process of change teachers were forced to undergo in terms of teaching and learning methods, teachers who received professional development expressed gratitude for the programs and courses they participated in (whether as a direct consequence of this program of reforms or earlier). Teachers report that they feel their professional development helped them and provided them with practical tools to handle the effort involved in the change. By contrast, teachers who were not given appropriate professional development, express a strong sense of deficiency. Below are several examples of the way in which teachers describe these contrary emotions.

One teacher describes the benefit she gained due to a good professional development program as follows:

The professional development met my needs. It was good. It helped us understand exactly how to transmit the material. We were encouraged to ask questions about anything in the new reform that wasn’t clear to us and also how… the methods teachers can use to transmit the material and teach within the setting of the reform. By the end, it covered everything, because we could ask about anything that wasn’t clear, and at the end we left with all the answers. It was very good, a very important professional development.

 A different teacher participated in professional development programs for geography teachers she describes as “outstanding.” While these started before the Piron reform, they provided appropriate tools to handle the changes the reform required. Her remarks illustrate the extent to which a good professional development course can contribute, in her opinion, to her professional capabilities:

…Outstanding. I would force teachers to participate in these courses. Here, at my school, I told anybody willing to listen: “Go take these courses…” Since starting to teach geography, I have made a practice of going to professional developments, because they really push me ahead, and they are excellent in my opinion. Even if I don’t complete them and don’t hand everything in at the end, it really, really helps me, really pushes me ahead. I think that those related to research assignments and alternate assessments in high school should be made mandatory.

 Later on in the conversation, she explains the importance of making sure the professional development is of a high standard, also as part of the Piron reform, and emphasizes that she views professional development and support for the teachers “in the trenches” as a condition for the reform’s success:

Q: Based on your experience, what suggestions for improvement would you give for the reform to succeed in the schools?

A: This is derived from the difficulties I mentioned at the end. I think that the National Subject Superintendents, and also the schools, have to pay greater attention to instruction and support for teachers during the process itself, also during the planning… Not to leave teachers on their own. It can also help by providing a setting and the possibility of turning it into something serious and meaningful, not…something superficial, improvised. If it’s done properly in the schools, if it’s through an orderly professional development, if it’s through organized meetings with the pedagogic coordinator, or with the middle school or high school principal, I think things…in the first years at least it would become the norm. So I think it can turn into something much more meaningful and it would also make life easier for us. Sometimes, there has to be learning from colleagues, I mean it’s not like we can come up with an endless supply of creative ideas [on our own]…

 Teachers who did not receive appropriate professional development point to this fact as the key obstacle keeping them from implementing the reforms in an optimal fashion. For example, one teacher reports that she did not get any instructions as part of preparing from the reform’s implementation and that, in practice, she relies on other teachers and the previous knowledge she brought to the school in the first place, knowledge she acquired while studying for her teacher’s diploma. In answer to the question what was lacking for her to be able to implement the reform in an optimal fashion, she answered:

A: Professional development, maybe examples of things done or things that are already happening… I do think we need more mentors, uh…from the Ministry of Education, to lead the way. And maybe things will be demanded of the school to confer it on the school culture, not something “by the way,” but something more embedded.

 As is evident from the quotations below, many teachers who did not receive professional development share this or similar opinions:

Q: Did you participate in professional development that prepared you for the process?

A: No, I did not.

Q: Do you think that such professional development is relevant or unnecessary?

A: I think it’s relevant, because it’s very important for preliminary preparation. It provides examples. In our school, they didn’t really make it possible. There was more self-study along the way in the course of our work.

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Q: Based on your experience, what suggestions for improvement would you give for the reform to succeed in the schools?

A: Providing useful, clear tools for constructing alternate assessments and for measuring them. Unfortunately, we were not given this.

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A: There was one meeting with the history mentor and he explained. There were also professional development opportunities for history teachers that covered the subject of alternate assessments, but I wasn’t forced to attend and [so] I didn’t.

Q: Do you think that such professional development is relevant or unnecessary to you? Explain.

A: Very relevant. It was missing.

 The following quotation is expressed by a teacher who, like several other teachers, also complained of confusion and chaos generated by the reforms’ implementation (for more on this, see the end of this chapter). This teacher explains that professional development in various ways could have prevented the sense of helplessness and chaos teachers experienced as a result of the reforms and lead to success:

Q: Do you think that if teachers had been forced to participate in professional development there have been less chaos?

A: For sure. For sure. The chaos was the result of lack of knowledge, lack of understanding of the process, lack of knowledge of how to bring [the material] to the students, how to make the material accessible to the children. Sometimes I just read the teachers’ cries of help on the website and my heart aches, really… especially for the new teachers… It’s very, very problematic. Therefore, it’s very important to meet the need for teachers’ professional development and learning. It’s a must. From my perspective, what’s needed for success is…mandatory teacher training.

 **The Reform and the Homeroom[[4]](#footnote-4)**

Another interesting issue about which there was no consensus among teachers was the effect the Piron reform had on the quality of education, both in the sense of teaching values and in the sense of the work of teachers as homeroom teachers. One opinion expressly states that more meaningful learning taking place as part of the reform allows teachers to highlight values-driven topics relating to the curricula:

A: I feel that I am much more of an educator because of the reforms. In other words, even in classes where I’m not the homeroom teacher, I feel that, this way, I bring up many more values-driven issues. Umm, philosophical idea, things from my world and also things that broaden horizons. I feel that students cooperate much more with this, enjoy the learning much more. They don’t feel they simply have to remember material, but there’s much more fun.

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Q: Did the reform affect you function as homeroom teacher, and if so – how?

A: [The teacher explains at length that the reform allows her to take values-driven, relevant topics and devote more time to them than in the past, and cites the following example:] This year, in the 10th grade, the fact that some students don’t have a direct bus connection to school came up. So I suggested we do a small project: let’s talk about sustainable transportation. I devoted five class periods to it; we developed a kind of project, a kind of campaign, a type of social action. So there are places [where the reform affects educational values-driven topics].

 Another way in which the reform affects the educational aspect of teaching is connected to how learning occurs in face-to-face conversations or in small group discussion. This type of learning allows teachers to get to know their students better, thereby improving their ability to educate a class:

Q: Do you think the reform affects your function as homeroom teacher?

A: Definitely. Umm, yes, it made me get closer to my students. It also gave me new ideas for homeroom periods.[[5]](#footnote-5)

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A: In a certain sense, yes… As a teacher, the alternate assessment makes be undergo a process in close proximity with the students, to get to know them from different angles, from a much more creative place, to get to know their interests and how they incorporate them in their work. I think that this process adds an important dimension of familiarity with the girls’ capabilities, talents, and strengths.

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Q: Did the change affect your function as homeroom teacher, and if so – how?

A: All teachers ought to view themselves as educators as well: teaching and alternate assessments force us to relate to the interpersonal differences among students, promote the teacher-student dialogue, and make it possible to steer the students towards a productive dialogue among and within themselves. The projects allow for group work; they make the students themselves responsible for their learning and for the group to accomplish the product of that learning. All these and others are also educational goals.

 By contrast, other teachers did not think the reforms had any effect whatsoever on their function as homeroom teachers:

Q: Did the reform affect you function as homeroom teacher, and if so – how?

A: Ahh… I doubt it… I do see that the girls have more assignments and papers and they complain about it, but fundamentally – I don’t think so. It’s not something that changes my work or changes what I emphasize as a homeroom teacher.

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Q: Did the reform affect you function as homeroom teacher, and if so – how?

A: No, because the reform doesn’t apply to my homeroom class.

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A: It didn’t affect me as homeroom teacher. Personally, I don’t see any connection between the two.

 And, finally, some teacher explain that the reform negatively impacted their function as homeroom teacher:

Q: Did the reform affect you function as homeroom teacher, and if so – how?

A: The reform cut back on the amount of time I devote to education in the class. Obviously, I cover everything necessary. I believe that, in the end, I’ll figure out the balance.

 **Chaos at the Outset, Order Later On**

A few teacher speak of a trend whereby, at the outset, there was a lack of clarity about the reforms and they experienced a sense of chaos, but over time – after a year or two of implementing the reform in practice – questions were clarified thanks to professional development sessions and clearer instruction from the ministry, as well as the teachers’ accumulation of experience and use of common sense. One teacher, who was quoted earlier complaining about the chaos in implementing the reforms in the other subject matter she teacher, complains also in other parts of the conversation that, at the moment, she senses chaos but that she has a vague hope that things will improve down the road:

It may be that there will be a change and it will be good. For now, everything seems topsy-turvy, just a total mess.

 Another teacher, also complaining of the chaos, says:

I have an idea for improvement: that all every single National Subject Superintendent sits down long and hard and decides what it is she wants to get out of this 30 percent program, what she wants to produce, what are the criteria, and that she refines this really, really well. Because this chaos, every school doing what it wants, how it wants, when it wants… It’s really missing the point.

 Other teachers share the sense that, while initially they experienced a lot of “uncertainty,” “chaos,” and “mess” stemming from the teachers’ lack of prior knowledge and from the fact that the Ministry of Education did not explain what it wanted very well, they now report that over time, thanks to experience and with the help of supportive and helpful settings, they have a better grasp of what is required of them, and the darkness is dissipating:

A: Look, at the beginning… True, there was a great deal of fog… In our subject matter, many things were unexplained. Like, we have an outline of what we were supposed to be doing. You learn with time…

Q: What happened? What made the dust settle? Who put things in order?

A: Look… Every school gets professional training, seminars, there are answers, people are in touch with their National Subject Superintendents, there are listservs, Facebook groups. People communicate. It’s not as if they came and threw each one of us [into the water] separately. It just takes time. Over time, people connected with one another, heard, saw, asked. I think that’s what settled us down.

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Theoretically, there’s a program; we improve on it all the time because, what choice do we what, there’s no prior knowledge; there’s a difference between planning and what happens in practice. Let me be more precise: there is no previous knowledge, but while we go along we learn and improve. We learn when to stop and when to go on; based on experience, we’re more prepared [now].

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Again, no. There were no tools. We learned as we went along.

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Let’s just say that it’s been two years. There were a lot of questions. I can now say that we’re at 85 percent knowledge. There are still question, but the majority – we already know.

 To conclude this section, I will cite the opinion of a teacher who also thinks the present reform is not “fully baked,” i.e. it was imposed on schools before it was fully formed. But she believes that this state of affairs is typical of any reform and that if only there is stability to allow implementation over a long-enough period it will be possible to fix whatever needs fixing. She therefore praises Naftali Bennett, the current Minister of Education, for not “tossing” his predecessor’s program “in the garbage bin,” but electing instead to support it while allowing its further development, which can – according to this teacher – only occur over time:

This, too, is a very tough problem with this reform, it’s not fully baked. It’s true of every reform, I imagine. It takes years of implementation, and I actually appreciate the fact that the current Minister of Education didn’t toss it in the garbage bin. This is a system that needs stability, but mustn’t be afraid of innovation. I appreciate that he didn’t cancel the program and has chosen to give it time to fix whatever needs fixing.

**Meaningful Learning Reform in Chemistry and Biology**

The Reform in Biology

In a few subject matters, the Meaningful Learning Reform collided with processes of progressive pedagogy implementation that had been occurring for many years. The “70/30 Reform” directives issued by the ministry’s directorate were issued to one and all, without making any distinction among subject matters. It is therefore interesting to ask what happened when these sweeping directives encountered teaching and learning methods in subject matters that were already “on board,” i.e. had for years been working to implement processes of meaningful learning similar, both in objectives and in methodologies, to the ministry’s new general policy. In this section, we will address this question by taking a closer look at two of the sciences – biology and chemistry.

 Biology was the first subject in Israel’s educational system that systematically implemented the study of research and systemic research-based assessment. As early as the 1970s, Pinhas Tamir and his colleagues spearheaded a systemic pedagogic change in the teaching of biology by “importing” the Biological Science Curriculum Studies from the United States, the core principle of the BSCS being teaching biology through research (Tamir, 2006). To adapt the new teaching methods to assessments, Tamir and his colleagues implemented two important innovations in the matriculation exam in biology decades ahead of their time. The new exam (back then) included research and critical thinking questions as part of the written exam (60 percent of the final grade), a practical exam in a research lab (20 percent of the final grade), and an individual research project by every student or group of students (20 percent of the final grade). Over the years, the research project underwent several modifications; early on, it was called “Ecology Paper” and “BioTop,” and later, it was known as “BioKnowledge” or “BioResearch.” The model of Israel matriculation exam in biology was one of the first in the world to include a systematic alternate form of assessment, and was viewed as a successful model for later developments that occurred place both in Israel and abroad. In particular, the implementation ideas and methods that emerged in this subject matter served as inspiration for the development and implementation processes applied to all school subjects in the context of “The Pedagogic Horizon: Critical Thinking Education” program in 2006-2009 (Zohar, 2013).

 Despite the various transformations, the first change in biology teaching to be implemented occurred about fifty years ago and proved to be unusually sustainable in tandem with processes of progressive pedagogic processes. Important aspects of the process were retained in the school for decades (Tamir, 2006; Zohar and Schwartzer, 2005). One might have expected that, as all subject matters transitioned to alternate assessments as part of the Meaningful Education Reform, there would have been a process of studying and lesson learning from biology – the subject matter that had at that point decades of experience with that type of assessment. Unfortunately, this did not happen. The “70/30 Reform” applied a single model to all subject matters. Moreover, the directives issued by the ministry’s directorate made none of distinctions required by the pedagogic situation unique to every subject and made no consequent adjustments. Therefore, instead of allowing biology that had, in practice, already implemented a significant portion of the reform’s stated objectives to take another step towards meaningful learning and varied teaching and assessment methods, the program’s demand to adjust testing methods already in place for decades to the 70/30 pattern caused a profound sense of regression.

 In an informal conversation, an individual, who held a senior position in biology teaching when the reform’s implementation was just getting under way, shared with me details of a process that are generally not revealed to the public. As noted, in the most expanded, five-unit biology program,[[6]](#footnote-6) two units had for decades represented “meaningful learning” assessed by alternate methods: a practical exam in a research lab and a BioResearch paper/project. But neither of these units met the requirements of the in-school assessment as this was defined by the new procedures issued with the reform, because both of them incorporated internal and external assessments. Because the directives issued by the ministry’s directorate for all subject matters mandated that the number of external examinations be reduced, pressure was brought to bear on biology to give up on one of these assessment methods, a demand that undermined the successful evaluation processes used in biology for many years.

 At the beginning, the ministry’s directorate suggested that the lab exam become the school’s internal alternate assessment, a suggestion that ignored the complexity of teaching for, preparing for, and holding a lab exam. A lab exam requires a whole infrastructure that includes professionals working to write a new lab exam every year. The exam requires a complex set-up of an experiment that is, on the one hand, complex enough to provide substance to the exam questions, and, on the other hand, simple enough so that every student can carry it out without mishaps and get results within the time afforded by the exam. In addition, the support infrastructure also includes a central lab that can provide all schools in the country with the materials and equipment needed for the lab exam. For decades, a central body operating under Ministry of Education directives and with its financing provided the support needed for a lab exam. The demand to turn the lab exam into an internal in-school assessment completely ignored the complexity inherent in the practice of managing a system of lab exams. It is not feasible to expect every school to prepare its own lab exam anew every year at an acceptable standard. In addition, preparing students for the lab exam requires the school to make a significant financial investment, because it means that the school must cover the budget of a high-level lab and the cost of a lab assistant who helps teachers prepare lab equipment and supplies. Given all this, it was obvious to the biology teaching personnel at the Ministry of Education that, if the lab exam became an in-school affair, its quality would rapidly deteriorate and it would disappear within a few years. They therefore opposed the ministry’s directorate and demanded that the lab exam remain an external exam. At the end of the day, biology was given exceptional authorization to have two external exams – the written and the lab – and thus the lab was in practice included in the 70 percent portion of the material defined as mandatory. However, this was not the end of the story. The BioResearch turned into the 30 percent of the material students would be tested on by means of an in-school evaluation. To adjust the curriculum to this constraint, biology teachers were forced to propose a curriculum that would match the ministry’s demands in terms of the 70/30 split. To meet the requirement, they proposed a curriculum that, while it ticked off all the formal demand, was far inferior to than the previous curriculum formulated by the Biology Committee and the Curriculum Committee over the course of years. The individual with whom I spoke describes the process as follows:

I’m in shock. We had this intricate puzzle that worked well. And now it became necessary to take it apart and put it together again… [The result is] a bad, bad, bad curriculum. It has no internal logic. It’s the best under the circumstances, but a step backwards compared to what we had.

 In addition to the damage to the curriculum inflicted by the need to take apart what was in place in order to adapt it to the 70/30 requirement, real damage was inflicted to the magnificent project of research whose model was meticulously developed for biology over decades, including periodic updates given needs changing needs. The model consisted of a delicate balance between in-school evaluation and external regulation that included an oral exam, during which external examiners came to the school and spoke with every student about his/her research. This regulation supervised the quality of the in-school evaluation, thus validating and endorsing it. Now, because of the reform, the research became the 30 percent of the in-school assessment, meaning that the external system of regulation was abolished on the spot before any alternative had been identified. This upset the balance that had existed, leading to the very real concern that the quality of learning and assessment would suffer. It also led to the concern that, under the new procedures, school principals would pay less attention to the students’ research work, which would also cause the in-depth learning process to suffer, a process that had in the past been the pinnacle of the five-unit biology program:

…They didn’t construct any control mechanism… At the beginning, they wanted the lab exam to be internal… Obviously, principals won’t maintain the lab if [the exam] isn’t external… Without a doubt, the lab will suffer over time… It’s like what happened in chemistry… [In chemistry] they did away with the lab. Principals say “Let them do the work first” so they can get rid of the lab… Because principals enjoy autonomy… Instead of having the research be the pinnacle of learning. It’ll be interesting to see where BioResearch is headed in the next few years if there’s no external supervision… The oral exam was a formative subject. Now it’ll be cancelled… There’s no point… The current change damaged biology more than other subject matters.

 To conclude, these statements indicate that the system did not take advantage of the mass of knowledge that had accrued over decades in biology teaching to promote the desired change in other subject matters too. Instead, the change imposed uniform directives for all school subjects. The demand to toe the line and follow the uniform directives prevented previous knowledge from being used appropriately. Moreover, it seems that some magnificent pedagogic accomplishments constructed in biology suffered massive damage. Because of the reform, meaningful learning in biology regressed rather than progressed.

The Reform in Chemistry

The reform in the most expanded, five-unit chemistry program is particularly interesting because, like biology, in-depth learning – including relevance to the students’ world and evaluation by alternate assessment – was already embedded in chemistry before the Meaningful Learning Reform. Over the years of chemistry study and while studying the theoretical side, practical labs had been incorporated in which students were asked to engage in a scientific experiment with all its components. Thus, students did lab experiments, including preliminary prep work, formulating research questions, raising hypotheses, defining variables, planning experiments, and carrying them out in teams. After the experiment, students had to process and analyze the results in lab reports, which teachers graded with an in-school grade while also appending written evaluations based on detailed rubrics. The rubrics determined the teaching objectives and presented what was more important and less so to the teacher in the students’ learning process. The rubrics also helped students to evaluate themselves and their classmates and to know what was expected of them, what they were doing right, and what they needed to improve. In the last year of study (grade 12), all lab reports were compiled into a portfolio on which students were tested and assessed orally by an external examiner.

The research unit was not mandatory, but it was considered a common assessment method, and many schools opted to include it for the matriculation exam in chemistry. Based on data from several National Subject Superintendents’ circulars, it is clear that the percentage of students examined on the research unit was steadily increasing (National Subject Superintendent for Chemistry Circular, 2012-2013). Furthermore, in 2006, a new chemistry curriculum was introduced. It was designed to adapt chemistry studies to changes that had occurred in the previous 20 years to human knowledge in general, and to knowledge of chemistry in particular (National Subject Superintendent for Chemistry Circular, 2006-2007, 2009-2010). The new curriculum emphasized the relevance of chemistry to everyday life and its contribution to various technological applications and other fields of knowledge. It thereby tried to meet the growing requirement that individuals and society as a whole be familiar with principles of chemistry to better understand environmental, medical, and other issues requiring public involvement.

These two goals were met at the expense of extensive cuts to the scope of contents taught. Entire basic chapters, such as organic chemistry, were removed from the syllabus, and new chapters reflecting current issues and relevance, such as food chemistry, were added. All other topics were imbued with meaning and greater context in terms of everyday life by means of literacy assignments and online activities (Avargil, S., Herscovitz, O., & Dori, Y. J. (2013). Challenges in the transition to large-scale reform in chemical education. *Thinking Skills and Creativity*, *10*, 189-207; Barnea, N., Dori, Y. J., & Hofstein, A. (2010). Development and implementation of inquiry-based and computerized-based laboratories: reforming high school chemistry in Israel. *Chemistry Education Research and Practice*, *11*(3), 218-228). For example, oxidation-reduction reactions and acid-base reactions were taught in the context of reactions in the human body. Familiarity with biological molecules, such as fats, carbohydrates, and proteins was acquired through relating explicitly to food and pharmaceutical development.

Starting the 2004-2005 school year, when the “70/30 Reform” was instituted, the research lab was made mandatory in all schools, subsumed under the 70 percent mandatory portion of the curriculum, i.e. for external examination. In other words, 55 percent of the grade was the written exam evaluated externally; 15 percent were the result of the research lab, also evaluated externally; and the remaining 30 percent were left for internal, in-school evaluation. As for the contents, some were included in the 70 percent core knowledge base, while some were subsumed under the “expanded, in-depth” segment of 30 percent elective materials (National Subject Superintendent for Chemistry Circular, 2014-2015).

To understand chemistry teachers’ thought about the “70/30 Reform and see the changes taking place in practice as a result of the reform’s first implementation stages from their point of view, we interviewed twelve chemistry teachers who had prepared their students for the matriculation exam two consecutive years according the to 70/30 model. The subjects (two men and ten women) teach in different Israeli high schools. All teachers interviewed are classroom chemistry teachers who prepared their students for the matriculation exam also before the Piron reform. Their teaching seniority ranged from 3 to 30 years ($X$ = 21.75, S.D=7.79). The teachers’ academic background is advanced (five hold PhDs / post-docs in science, seven have a graduate degree in science, science teaching, or curriculum assessment and planning). The twelve teachers work in different geographical areas in non-selective schools serving students from a wide variety of backgrounds.

The conversations included 16 questions probing the teachers’ views of the effects the reform had on the depth and scope of the students’ knowledge of chemistry. The most interesting finding was that there was full consensus on this point: all twelve teachers unanimously said that, in their opinion, the reform does not promote the development of students’ in-depth and large-scale knowledge. The teachers supported this opinion with a variety of explanations.

Most of the teachers felt that the reform in chemistry was less relevant than in other subjects, because the alternate assessment already existed in the chemistry curriculum. What they meant by this was the research module, which developed the same skills and capabilities the reform was aiming at: teamwork, independent learning, searching for information, formulating questions, processing data, writing concluding/summarizing reports, etc. In the original research module in chemistry, the process was evaluated over three years of study, and the labs reports of all the experiments were collated into a portfolio. In light of this, the teachers interviewed explain that what the reform tried to innovate was already embedded in most schools before the Meaningful Learning Reform:

By the way, I think that meaningful learning existed in chemistry all along, and the tools for alternate assessment – those were also in existence for years. Therefore, from the perspective of our subject matter, the Meaningful Learning change is a little less relevant.

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I know that, in other subjects, the reform is more relevant. Like, it makes a bigger difference to them. In chemistry, we had the whole research thing going already […] In other words, to begin with, chemistry was built in a way that most of the teaching for the exam is frontal, and the research – which wasn’t 30 percent, but maybe 20 – it provided that dimension of additional skills. And I like the research unit very much, I think it’s really well-done. Now they divided it in a way that’s really complicated. So that, like, in chemistry, it didn’t make such a difference, because ahead of time… Really, the reform meant for other subjects to be more like chemistry.

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Look, first of all, in chemistry, it was always there, for many years, long before the 70/30 reform and in-school evaluation, a research unit. And this is absolutely an alternate assessment; a large chunk of the grade is the teacher’s internal.

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In chemistry, we don’t have that many changes because we have the lab. And the lab is already considered an alternate assessment. That’s how it was and that’s how it’s staying.

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Contrary to what people like to say, I think we did meaningful teaching also beforehand.

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In chemistry, not too much [changed], because in any case, for many years, long before the reform, we got into the research lab thing. […] We went into that program by choice. We came to believe that we needed more experimentation than theoretical learning. It was a type of alternate assessment, because the evaluation was based on experiments… We took professional development for the research unit, and we’ve been deep into this thing for a long, long time. We transitioned to the alternate assessment long before it became mandatory. So, in chemistry, there’s no terribly dramatic change.

 In other words, according to these statements, the chemistry teachers interviewed explain that in their subject matter the reform brought nothing new. Moreover, the statements below show that, in their opinion, the reform did not take into account the teaching and assessment methods meticulously implemented in chemistry long beforehand, and which were – according to them – highly successful. Therefore, the teachers complain that the implementation of the reform actually caused their subject matter to suffer. Some of the teachers interviewed report that, instead of adding something of value to the learning, the new research unit harms the learning instituted in the subject long ago, one that – in their opinion – was very valuable. Similarly, a few of the teachers view some of the experiments suggested in the new research unit as meaningless compared to the experiments of the past and as irrelevant to the material being studied. Also, the instruction to prepare the students to take the entire written matriculation exam in a single year (rather than to spread the written exam out over two years) has a negative impact on the research unit, because it prevents enrichment and in-depth analysis of the lab experiments beyond the curriculum

They didn’t cut anything. It’s just that instead of us doing labs, like in the past, now we’re doing research labs. I do research labs on the teaching material. One time, at the beginning, when I had time, I would do research on all sorts of things outside the curriculum. I stopped. I’m limited in time. Research in my class is now only on topics we’re studying in any case.

When an experiment is silly and isn’t connected to the material, like some of the experiments suggested in the research unit, you don’t have to pick them, but they’re there. It’s an experiment that lacks any meaning.

 In addition, teachers stated that the removal of 30 percent of the contents from the mandatory materials fatally impaired the students’ knowledge. Some viewed the material shifted to the 30 percent as material that was doomed to “be lost” because, to their mind, the moment there is no external exam is will cease to be taught properly:

They’ll suffer. When they’ll want to go to the university, they won’t have enough knowledge and mastery of the topics. There are topics they haven’t ever heard of, such as inorganic compounds. I remember studying that in high school. Now it isn’t there. How can you not even have heard of them? This is going to affect their academic studies later on.

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Yes, the whole physical chemistry piece, which was made part of the 30 percent, I’m very sorry that it’s going to be lost. It’s a pity.

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Q: In your opinion, how does the reform affect the depth of students’ knowledge? Do you think they are benefiting from the reform in this sense?

A: I think not. Because… It’s as if, supposedly, they’re learning differently. It does affect skills. The fact that it’s a different type of learning, the students are testing out the creation of different knowledge outputs – that deepens their skills very much. Independent study, the ability to write and summarize, working in groups… That is, from the point of view of learning skills, of which there was talk in the education system, the reform clearly meets that. But if we’re talking about contents… at the end of the day they reduced the contents student must master at the level of the matriculation exam… And when I look at chemistry, I know that these students – the graduates of the reform – will get to the university will a lower level of mastery of some of the topics.

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So I think our program was a priori a good program, and the fact that now, the material the students are supposed to master for the matriculation exam has been reduced – it’s a shame. The bottom line is students who know less chemistry than the cohort before the reform… So really, like, we compromised, and the kids we’re graduating now will know less; we gained a few more skills, some more variety in teaching methods. But the benefit, in my opinion, is not great compared to the loss in student knowledge.

 It is important to note that, in the teachers’ opinion, the damage suffered by the students’ knowledge because of the reform is not limited only to scope, but also to depth:

I really try to do things in depth, but I do less in-depth teaching than I used to, because I’m limited by time […] There is no in-depth learning. On the contrary – less depth!

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The scope of the assignments, the time needed for them – it’s not for in-depth study. Who has the time to go deeply into material that won’t be on the matriculation exam [i.e. the external exam] while trying to prep the students for it?

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On the contrary [i.e. there is no depth], the reform only manages to sabotage it, because the load on the students is very heavy.

 Most of the teachers feel that the students invest less time and are less emotionally and intellectually invested in studying and enriching their knowledge, because their research takes place after they complete the written matriculation exam. After the great pressure of the external exam is gone and the objective of all their studying is ostensibly attained, the students feel they are no longer required to give their studies the same high level of commitment as before:

From my experience this year with the 12th grade – they don’t have the matriculation exam, because they took it last year in 11th grade – I feel that I, as the teacher, and they too are less stressed and also less prepared. We’re free of the matriculation exam pressure, so they invest less.

**Conclusion and Discussion**

The data described in this chapter are not based on a national representative sampling, but rather a convenience sampling. The participating teachers were available and accessible to M.A. students at the Hebrew University: teachers from schools where the students themselves teach or teachers they know through personal connections. As such, it is reasonable to assume that the knowledge resources available to the teachers interviewed are not a representative sampling of the knowledge resources available to all teachers in the Israeli school system, but are rather an over-assessment of the relevant knowledge. Therefore, I saw no point in calculation the frequency of the various stances revealed. Nonetheless, these conversations represent a fascinating, current window to up-to-date, high-quality information about different patterns of implementation of the Meaningful Learning Reform two years after its kickoff and some related fundamental issues.

The first conclusion arising from the first group of conversations (n=34) concerns the great variance among teachers and schools in terms of the reform’s implementation. The data show that, in practice, there is a patchwork of situations and combination situations. It seems that, in some schools, the reform afforded a real change for the better in teaching and learning methods and in the teachers’ view of their professional capability. On the other hand, there were schools where – based on the participants’ statements – the reform caused chaos and deterioration in the quality of teaching and learning and triggered frustration, a sense that teachers’ autonomy was infringed upon, and a blow to their view of their professional capability. It seems that many of the schools where the reform led to a change for the better already had knowledge resources and working patterns consistent with the principles of the reform before it was instituted. In other words, according to the teachers, it is clear that the reform generated positive change in schools that had started research-based and/or project-based teaching and learning and/or a variety of evaluation methods (e.g. student portfolios) in the years preceding the reform and that had also invested much in the teachers’ professional training. One could say that these were cases of the systemic reform, imposed on the schools in a top-down way, meeting with the “islands” of pedagogic innovation and excellence already in the system, some of which developed in the schools from the bottom up. In these schools, the reform was an enabling catalyst for processes already begun: it removed bureaucratic obstacles that had in the past prevented the progress and fruition of pedagogic change and supported and empowered this process. The teachers’ description of successful processes taking place in their schools are first-hand testimony to the detailed planning and gradual execution necessary when implementing change in fundamental pedagogy.

The cases in which the systemic reform imposed from above met schools and teachers lacking knowledge resources and working patterns consistent with the principles of the reform before it was instituted seemed to fall into two group. Given time, one group managed to catch up and develop appropriate working methods, whether thanks to in-school forces or thanks to external assistance (professional development programs, the National Subject Superintendents, school-wide training). The teachers in the other group were lost. They were forced to abandon their traditional, well-known practices, but had not yet developed new, relevant ones. According to reports from teachers in this second group, the reform caused the quality of teaching and learning to suffer. It may be that, absent the strong impact of the reform on ------------------ revealed in the quantitative study done by NAMEE (2016) stems from the fact that the reform has had positive effects on some schools and negative effects on others, meaning that in a quantitative study they cancel one another out. Because of the nature of the sampling, the conversations described in this chapter do not allow us to answer questions about the frequencies of the patterns we uncovered.

Generally, we should remember that this chapter deals with the effect on the reform on the upper grades where NAMEE’s 2016 study uncovered less-encouraging findings that in other age brackets. According to NAMEE’s findings, one would expect conversations with elementary and middle school teachers to reveal more positive results. It is worth noting that, despite the methodological limitations described above, the data cited herein are similar to the data on parallel issues found in the NAMEE study (2016). Both sources reveal a gap between the real and the ideal on the most important resource of all for the success of the in-depth dimensions of the reform dealing with the pedagogy of the essence of teaching, i.e. teachers’ professional development. Both sources indicate that teachers still lack sufficient tools to implement the reform, that teachers are avid for professional training, more tools, and instruction, and that the manner of the reform’s implementation was/is not clear to many of the teaching teams in the school. Both sources also point to the need to improve the training of the reform’s leaders. And both sources show that, in terms of the quality of knowledge created in the new learning processes, the reduction of the scope of learning material did not make way for a better quality of knowledge.

The conversations herein raise two concerns. One is that the reform will exacerbate the educational gaps already inherent between schools. The schools with pedagogic excellence knowledgeable teachers will continue to improve, while schools lacking pedagogic excellence will continue to deteriorate. This is in blatant contradiction to the stated policy of the Ministry of Education on the need to close gaps. The other worry is about the students’ depth of knowledge. One of the stated goals of the reform was to deepen knowledge. But the teachers cited in this chapter aver that, on more than one occasion, the implementation processes actually resulted in knowledge that was more superficial and less substantial than in the past.

The teachers’ statements are evidence that the first stages of the reform were not well-organized, resulting in disorder in the schools that was sometimes very worrisome and described as “chaos.” But some of the teacher remarked that, with time, this got straightened out. This finding raises doubt about the legitimacy of this implementation method. It seems that the pattern did not come as a surprise. Informal conversations in the past with senior ministry officials, including former Minister Piron himself, made it clear that they knew that, at the beginning of the implementation process, they would not have the necessary pedagogic infrastructures for an orderly introduction of the reform, yet they made the conscious decision to prefer a disorderly introduction over the alternative of waiting a few years to introduce it after sufficient planning and preparation, which would have allowed a more orderly introduction. The main reason for this preference stemmed from the rapid changes in the Israeli political system, because of which it is impossible to know how long a minister will keep his post and, consequently, how much time s/he will have to leave his/her stamp and implement a reform before being it is exchanged for another. Some of the quotations in this chapter show that, in some places, it worked: with time, the in-school resources (in the shape of teachers’ prior knowledge and learning through experiencing the reform) as well as external ones (professional development, clarifications from the National Subject Superintendents, support groups on Facebook) helped lift the dark and dispel the fog. In other places, the sense of disorder resulted in ongoing dissatisfaction. It seems to me that, at this stage, the data are still insufficient to answer the question if one can rely on this implementation method as tried and tested. It is necessary to wait and see the effects the reform will exert over the next few years and collect systematic data from organized samplings. One factor that may tilt the scales is the extent of investment in professional development in the near future, which could help formulate new teaching and learning methods in the schools where these are not yet in place. The schools lacking appropriate human capital and knowledge resources will have no way of making progress without in-depth and extended professional development. Therefore, one may suggest that one way to handle the worry of ever-growing gaps between schools due to the reform, mentioned in the previous paragraph, might be to diagnose the schools lacking the appropriate knowledge resources and to construct for them a selective strategic program for structuring the human capital and knowledge they so sorely need.

Another issue relates to the pattern of uniform, inflexible implementation demanded in all subject matters without consideration for processes that had already taken place and routines created in the past precisely for the sake of promoting meaningful learning in certain subjects. In this context, one should in particular mention biology and chemistry. The lack of consideration for past processes in these subjects before the reform was instituted led to two negative phenomena: one, the ministry missed the opportunity to take advantage of the knowledge resources built up in the system in the these subject and that could have helped with implementation; two, in subjects like chemistry and biology, in which structures and methods had been put in place over the course of many years, the implementation caused these structures and methods to suffer. In fact, the implementation processes destroyed what was already there without offering an alternative that was as good or better. This insensitivity made teachers and other educators feel that the pedagogy in these subjects regressed and was going backwards instead of forwards. In this context, one could propose to the educators involved in implementing pedagogic changes to adopt the physicians oath: first, do no harm. To extend this analogy, the findings would seem to indicate that educators about to impose a change should look at the schools in which they intend to work and identify the “islands” or places where the same goals the reform wants to promote are already being implemented. Considerations of efficiency and the need to respect people engaged in their profession should lead to thinking about what can be learned from those places and about the best ways to preserve and even enhance them as part of the implementation processes. This would make it possible for the whole system to stride ahead instead of taking one step ahead and another step back.

1. Hebrew acronym for standardized testing, literally “school efficiency and growth indices,” administered in the fifth and eighth grades. [↑](#footnote-ref-1)
2. In Israel, the homeroom teacher fulfills a more essential function than the purely technical one common in the United States (taking attendance, collecting lunch orders, making announcements, and performing other administrative tasks). Here, the homeroom teacher is expected to serve as role models and instill values by leading discussions of hot-button topics. His/her role is much more pastoral and educational than is common in U.S. schools. [↑](#footnote-ref-2)
3. In many Israeli high schools, students can “major” in certain subjects, which is what is meant by “track” in this context. [↑](#footnote-ref-3)
4. See note 2 above. [↑](#footnote-ref-4)
5. Generally, homeroom hours are devoted to discussions of hot-button topics or issues of concern to the students and provide an opportunity for homeroom teachers to instill values (what is meant by “educating” below) in addition to “teaching” (as referring to instruction of subject matter). [↑](#footnote-ref-5)
6. In many school subjects, student can choose the scope of study. The most expanded biology program consists of five units. [↑](#footnote-ref-6)