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Analyzing Plans of Localizing Professional Development of the Ministry of Education in Kuwait Based on TPACK Model for the Rolling Out Competency-Based Curriculum

Fatimah Alhashem¹

¹ Assistant Professor, English Department, Gulf University for Science and Technology. Email: hashem.f@gust.edu.kw

Abstract

The aim of this study was to investigate the localized training for teachers during the reform of the education system in Kuwait between 2015 and 2017. It focuses on analyzing the professional development plans that were delivered to teachers for four core subjects in elementary and middle public schools. A mixed-method approach was employed, using quantitative one-way ANOVA and in-depth interviews and school visits to collect and analyze data. The results revealed that stakeholders and education leaders lacked clarity of purpose with respect to planning for professional development and did not rely on a cohesive framework for training teachers, resulting in discrepancies among all training plans. The study concludes with recommendations for the adaptation of a national framework for professional development based on educational theory and teachers' needs.

Keywords: TPACK Model, Competency-Based Curriculum, Teachers' Training, Reform Curriculum, Localized Training, Professional Development, Mixed Method, Master Trainer, Supervisors, World Bank

Introduction

Kuwait has embarked upon a major reform of its public education system, including revision of the curriculum for grades 1 through 12. As the centerpiece of the country's broad education reform agenda, the Ministry of Education, with technical support from the World Bank and under the umbrella of the integrated reform program agreement, were trying to shift from a content- to a competency-based approach to teaching and learning at the primary, intermediate and secondary levels of education. Kuwait's adoption of a competency-based curriculum aimed to equip its children and youth with the skills, values and capacities needed for future learning, as well as entry into employment and adaptability in the workplace for increased global competitiveness (Alazmi, 2018).

Introduction of the new competency-based curriculum has been planned over a five-year period for use in all schools and classrooms across the country. Drawing on best practices and lessons learned elsewhere, the new curriculum has been developed based on a new Kuwait National Curriculum Framework, which describes the conceptual foundations for the new curriculum and serves as the main reference document for the development of

teaching plans at each level of education, subject curricula and teaching and learning resources for students and teachers. The new curriculum in Kuwait's schools includes: development of a new system for continuous assessment, shifting from examination-based student assessment, particularly at the primary level; (ii) competency-based teaching-learning materials; and (iii) school-based continuous professional development to support teachers' professional practice in their own schools and classrooms (Singer, Samihaian, Holbrook, & Crisan, 2014).

Training requires high competency levels in the transfer of experience and a thorough understanding of the training materials. This research, with its analyses and recommendations, can be used as a first step toward a roadmap for the career-long professional development of teachers in Kuwait and a basis for the formulation of policies on which a Teacher Education Strategy and a National Teacher Framework can be built.

In preparation for the implementation of the *Kuwait National Curriculum*, 65 *Technical Supervisors* have been trained as '*Master Trainers*'. These, in turn, trained 340 of their colleagues who subsequently delivered curriculum-related training to the teachers involved in the rollout of the KNC at the elementary and middle school levels. The World Bank has trained master trainers for competency-based curriculum, resulting in expansion of the training among all teachers in Kuwait. The roll-out of the curriculum created new professional development to be employed in school (localized training) (Alshammari, 2014).

As in all clinical training, it is necessary to find methods of ensuring that the training reaches down by way of mentoring and coaching to individual teachers in their own classrooms if implementation of the new KNC is to be effective, and the gap between curriculum theory and actual practice is to be bridged. If adequate provision is not made for coaching and mentoring of individual teachers, effective reform of teaching and learning, as envisaged in the KNC, will take much longer. Thus, in this research, plans for localizing training provided by the public education sector was examined in the four core subjects (Arabic, Math, Science, English) to answer the following:

- How many training courses are prepared by each supervisory for each subject?
- What are the elements included in the training based on TPACK (educational/technological/specialized (content-related) or integrated)?
- What is the duration of the localization plan? Who is involved in training? What are the stages covered by the training resettlement plan? And why the fixed schedule of the plan to localize training?

Literature Review

Guskey (1995) issued a salutary warning to those planning educational reform. He wrote,

"There is no easier way to sabotage change efforts than to take on too much at the same time. ...If there is one truism in the vast literature on change, it is that the magnitude of change people are asked to make is inversely related to their likelihood of making it" (p. 119).

Consequently, he recommends approaching change in a gradual, incremental manner, that is, 'thinking big' (i.e. having a clear vision and comprehensive plan) but 'starting small'. Furthermore, he argues that that the process through which effective change occurs among teachers is not a linear process from theoretical persuasion to practical implementation. Rather, teachers are persuaded of the value of proposed changes when they experience successful implementation on their part and improvement outcomes on the part of students. In other words, change is primarily an experientially-based learning process for teachers. Attitudes change in the face of concrete, experienced, evidence of positive outcomes. Simply put, for teachers, 'seeing is believing', practice is more persuasive than theory, and in a very real sense, precedes theory. Any professional development program that neglects these on-the-ground realities is unlikely to effectively motivate teachers.

Teachers share a significant responsibility in preparing young people to lead successful and productive lives. There is a broad consensus that teacher quality is the single most important in-school factor influencing student

achievement¹. Sustained professional development for teachers is associated with more positive and stimulating teacher behavior and positive student outcomes. When designed well, these opportunities help teachers master content, improve teaching skills and address challenges faced in the classroom (Lewin & Stuart, 2003).

However, the professional development in Kuwait is still in need of development to fulfill the teachers' requirement. Technical Supervisors in Kuwait have the formal responsibility for the provision of professional development for teachers. Formal responsibility for the provision of INSET and CPD for teachers in Kuwait rests with the Technical [Subject] Supervisors. There are eighteen General Supervisors, each of whom is responsible for one of the 18 subjects in the National Curriculum. The General Supervisors produce 18 plans each year for teacher training, which is delivered either through one-week courses in one of the training centers or through one-off workshops in district centers or in schools.

While shifting the national curriculum of Kuwait to competency-based curriculum starting in 2016, the education field needed incentive amount of induction and training for teachers to adopt to the new curriculum. However, many researches have indicated that Kuwait's education system does not provide adequate programs for its teachers, especially during the reform period. Alshammari (2014), who explored the perspectives and the role of science teachers concerning the new science curriculum for the sixth and seventh grades (students aged 11 to 15) in Kuwait, indicated that the top-down paradigm was the process of changing the science curriculum at the Ministry of Education. He pointed out that teachers were confused about the content and teachers faced challenges in teaching the new science curriculum (Alshammari, 2014). He also reported that teachers faced challenges related to lack of instructional tools and teacher autonomy, the condensed content that needed covering and large class sizes. Alshammari (2014) reported that in carrying out curriculum reform, the Ministry of Education must consider professional development program for teachers to assure the success of the implementation.

Another study found that teachers' perceptions regarding professional development programs being provided by the Ministry of Education of Kuwait were negative (Alqahtani, 2018) He also stated that teachers view professional development as extra information that is not applicable in the classroom context, and there is a mismatch between the programs and teachers' demand, as they do not certify them since most of the professional development programs are informal (Alqahtani, 2018). Moreover, even teachers' learning communities (TLC) at public schools face similar challenges in application, such as enabling teachers to apply new methods due to lack of autonomy and lack of leadership support (AlShammari, Testerman & Halimi, 2020).

Finally, a study focused on investigating the perceptions of teachers and heads of departments of the recent reform implementation plan by Alazemi (2018) concluded that educational leaders did not provide the support needed for schools during the change of the system. Alazemi (2018) added that there was not a clear structure nor cohesive professional development plan for teachers or any information and communications technology (ICT) structure, as well as a lack of autonomy. Yet the absence of support from stakeholders forced many schools to take their own initiatives in terms of providing professional development needed for their teachers (Alazemi, 2018).

Method

A mixed-method approach was employed to explore and answer the research questions and obtain a complete understanding of the entire situation related to the training. In-depth analytical reading to the training program, focus groups, visits for training sessions and interviews were conducted to understand the sources, background and rationales behind each training course. Therefore, a request has been sent to the General Education Department to obtain a copy of all the localized training programs for the first year (2016) and the second year (2017). Then, all the plans were categorized based on TPACK according to their descriptions in the pamphlets. One-way ANOVA was conducted to compare the effect of each core subject planning on the number of training

¹ Organization for Economic Co-Operation and Development (OECD), Teachers matter: Attracting, Developing and retaining effective teachers, Paris, OECD Publishing, 2005.

for teachers in schools. The second phase of the data collection relied on in-depth interviews with the general supervisors of the core subjects to ascertain more about their planning.

Coding Strategy

The professional development that was conducted during 2016–2017 was explored based on multiple trainings in terms of pedagogical, content and technological knowledge among teachers at both the elementary and middle school levels. Each training was classified as one on the TPACK model. The acronym TPACK refers to what Koehler and Mishra (2005) defined as “Technology Pedagogy and Content Knowledge,” and these three essential elements (technology (TK), pedagogy (PK), and content (CK), as shown in Figure 1) are recognized as the elements for teachers, where they need to be competent in the three domains for teaching quality (Kartal & Afacan, 2017). Not only are teachers required to understand relevant content knowledge, they also need to know how to convey this content to their students. At the same time, they need to adapt and update their technological knowledge to keep up with technical and lifestyle developments (Kartal & Afacan, 2017). Each learning activity was classified as only one of the three categories of TPACK or any form of integration between any of the categories.

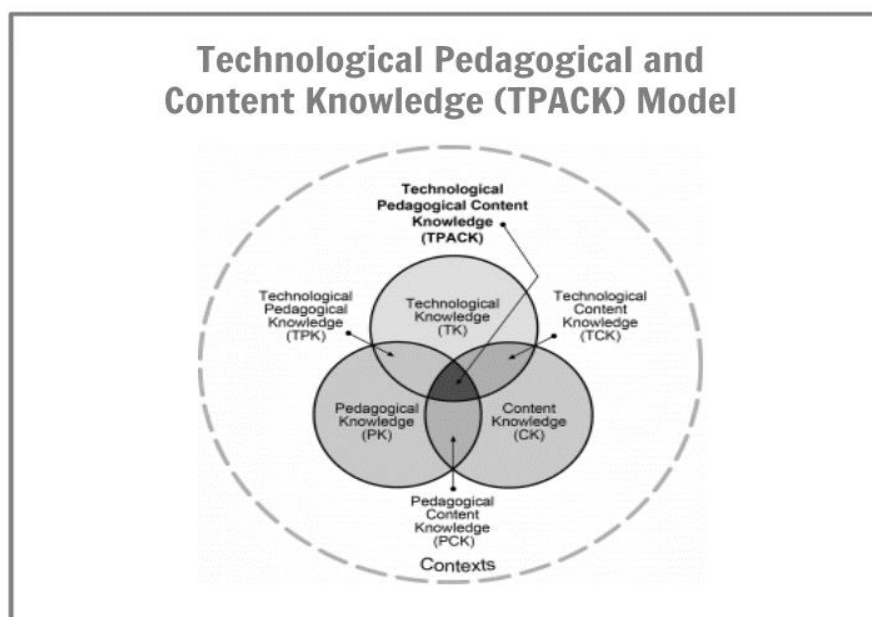


Figure 1. TPACK Model

Findings

Quantitative Results

All core subjects were categorized for both year 1 (2016) and year 2 (2017), as shown in Figures 2 and 3. Both plans did not apply all TPACK fields especially when it comes to technology. There was a marked discrepancy between the number of training sessions on the material level, which is due to the nature of each subject. This raised an important question: “what were the bases of building the training model?”

In Figure 2, the distribution of the type of localized training was mostly attributed to courses related to pedagogy and pedagogy (116ontente-based). Also, the number of training hours reflects discrepancies and only the 116ontent subject training contained the three fields of pedagogy, technology and 116ontente knowledge. The second year was not 116ontente116 from the first year, as shown in Figure 3, where the training clustered mostly around pedagogy and 116ontente, while technology was largely absent.

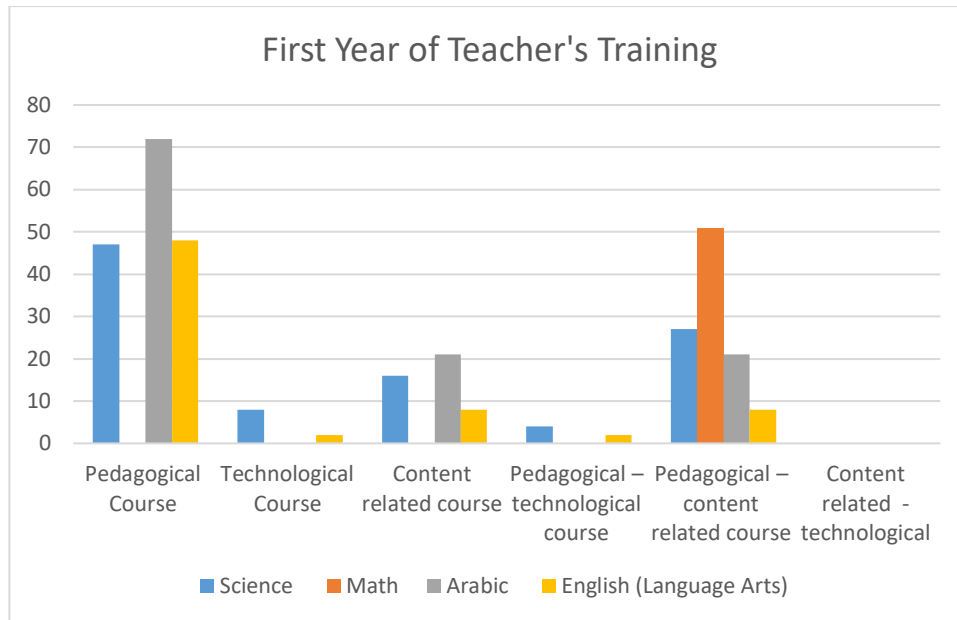


Figure 2: First Year of Teacher's Training

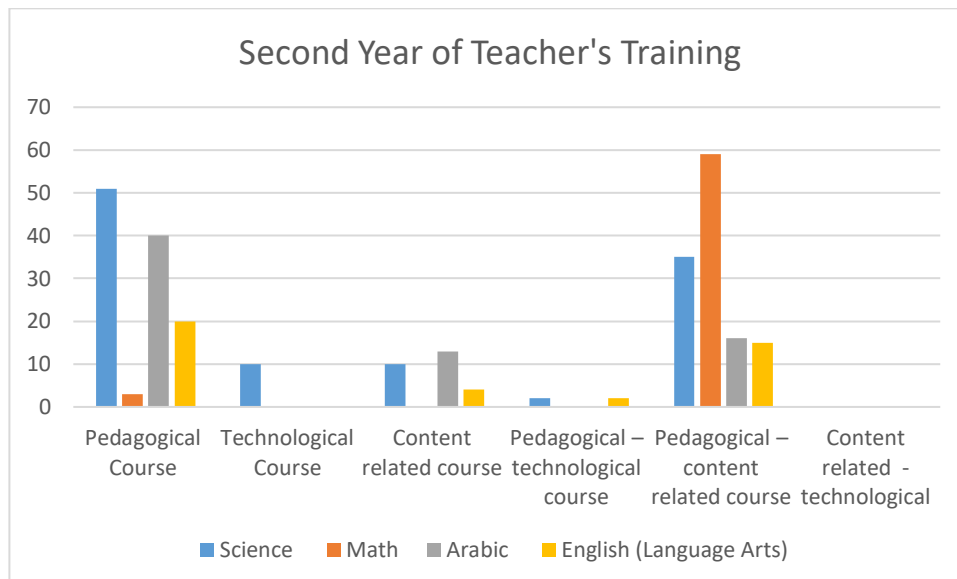


Figure 3: Second Year of Teacher's Training

An analysis of variance for the first year of the training plans showed that the effect of each core subject plans on the number of training among the four subjects was significant, $F(3, 20) = 0.30, p = 0.819$. The second year was not different in terms of the significance, so the analysis of the variance for the second year showed that the effect of each core subject plans on the number of training among the four subjects was significant, $F(3, 20) = 0.39, p = 0.754$. Apparently, the huge differences among each subject and even the variation between the first and second year indicates the lack of coherent framework or guidance. The numbers were discussed in the second phase of the study when interviews were conducted with the main stakeholders.

Table 1: Single Factor Year 1

Anova: Single Factor (Year 1)				
Groups	Count	Sum	Average	Variance
Science	6	102	17	308
Math	6	51	8.5	433.5
Arabic	6	114	19	780

English (Language Arts)	6	68	11.33333	333.8667		
ANOVA						
<i>Source of Variation</i>	<i>SS</i>	<i>df</i>	<i>MS</i>	<i>F</i>	<i>P-value</i>	<i>F crit</i>
Between Groups	428.125	3	142.7083	0.307666	0.819548	3.098391
Within Groups	9276.833	20	463.8417			
Total	9704.958	23				

Table 2: Single Factor Year 2

Anova: Single Factor (Year 2)						
<i>Groups</i>	<i>Count</i>	<i>Sum</i>	<i>Average</i>	<i>Variance</i>		
Science	6	108	18	417.2		
Math	6	62	10.33333	569.8667		
Arabic	6	69	11.5	246.3		
English (Language Arts)	6	41	6.833333	72.96667		
ANOVA						
<i>Source of Variation</i>	<i>SS</i>	<i>df</i>	<i>MS</i>	<i>F</i>	<i>P-value</i>	<i>F crit</i>
Between Groups	391.6667	3	130.5556	0.399762	0.754662	3.098391
Within Groups	6531.667	20	326.5833			
Total	6923.333	23				

Qualitative Results

To understand the rationale behind the amount of training needed for each core subject, in-depth interviews were conducted with the four core subject general supervisors to know about the planning part. Table 3 summarizes the four main questions that were addressed to the four general supervisors. Supervisors answers varied when asking about the person prepared the professional development (PD) plans, which may reflect the discrepancies between Figures 2 and 3 above. Moreover, the lecture was most of the training style which also cannot be considered training.

Table 3: Interviews

Subject	Why the fixed schedule	Who prepared the PD plans?	Who conducted the training?	Training Style	Did you stick to the plan? And why?
Language Arts (English)	General education and school districts	Diagnostic assessment with teachers' need in the beginning of school year.	Supervisors and or Head of Department (HOD)	Lecture	The trained ones only from Supervisors and HOD
Math	The World Bank visits	The trained educators and the authors	The trained educators +Supervisors & HOD	Lecture	Who was trained and capable
Science	General education and for World bank visits	Supervisors	Supervisors and HOD	Lecture and workshop	Who was trained and capable
Arabic	General education and school districts	Supervisors and schools	Supervisors and or HOD	Lecture	Who was trained and capable

In terms of the school visit, one sixth-grade training session based on the competency curriculum was attended. This was followed by a meeting to discuss applications, compare it with other regions and the extent of application for other school districts, which was followed by a training session. Discussion was held between the supervisors of the various educational districts about the pros and cons in the lesson. We were provided with regular presentation based on the plan for localization of training, which included an explanation of the lessons and applications according to the competency curriculum.

Discussion

The aim of this document was to review current provision for the professional development of Kuwaiti teachers across the continuum of their professional development training within the guiding context of the new Kuwait National Curriculum. While the review does not present a blueprint for action, nor was it meant to, it is hoped that the analyses and recommendations provided therein will help identify the first steps towards the provision of a roadmap for the career-long professional development of teachers in Kuwait and provide a basis for the formulation of policies on which a Teacher Education Strategy and a National Teacher Framework can be built.

Current thinking suggests the professional development of teachers is viewed as a continuing process that needs to contain content, pedagogical and technological knowledge. While shifting the national curriculum of Kuwait to competency-based curriculum starting in 2016, the education field requires incentives and training for teachers to adapt to the new curriculum. The training is delivered either through one-week courses in one of the training centers or through one-off workshops in district centers or in schools. This training is largely subject or pedagogical-related. It is determined in a top-down manner by the Supervisors with little or no consultation with teachers as to their need (Alqahtani, 2018).

The training was largely subject or pedagogical-related. It was determined in a top-down manner by the Supervisors with little or no consultation with teachers with respect to their needs. The evidence from a broad range of methods strongly suggested that the mode of training delivery was formal, lecture-oriented, and did not normally entail much hands-on involvement of the participating teachers. Unfortunately, the written portion of the program was not clearly translated into the action plan especially in the training part. Poor implementation resulted in a failure to transfer the correct information. In addition, the training programs were not described except for the science. The science supervisory described the preparations for the training programs and the development of general guidelines only. Most of the training was missing the technology component. There was no clear methodology for laying the training groundwork.

The focus on strengthening the educational aspect of the program is important, and its presence was noted in all plans for the resettlement of training, which is positive. There was a marked discrepancy between the number of training sessions on the material level. One-off workshops are arranged by supervisors on an ad-hoc basis and are delivered in District Training Centres and/or in a central school convenient for teachers from a cluster of schools. Like the training courses, these too are generally subject-related.

The analysis suggests that the quality and relevance of supervisor-provided training courses and workshops is mixed, that they tend to be theory-oriented, general and generic in orientation, and inadequately targeted at the pedagogical content knowledge relevant to the effective teaching of individual subjects and the needs of the teachers involved. Regarding such isolated training inputs, Fullan (1991) commented, "Nothing has promised so much and has been so frustratingly wasteful as the thousands of workshops and conferences that led to no significant change in practice when teachers returned to their classrooms". The whole approach runs counter to the research evidence on effective professional development for teachers, which are cited as part of the recommendations in this paper.

Training requires high competencies in the transfer of experience and a thorough understanding of the training material. The training of heads of departments include a week to transfer knowledge, which is not enough, and negatively affected the transfer of the actual material, thus affecting teachers' understanding of the curriculum competencies.

Conclusion

Quantitative analysis and a qualitative approach were both used to analyze the process of localizing training in public schools of Kuwait based on TPACK model. It is acceptable to set up the plan to localize the training and enrich the educational field with new curriculum techniques and provide them with ongoing training. However, the critical part remains and is innovative, providing teachers with their needs rather than top-down or uncategorized type of training. It was noticeable from the results that there was no clear vision regarding how to determine the training for teachers.

During a radical change and transitional phase in any reform program, the program itself could face such challenges while changing the national curriculum, but it should be noted that well-planned training program must be studied and implemented correctly prior any execution. Yet, supervisors should not work in isolation. Rather, they should plan in terms of self-evaluation of teachers' need, and training programs should be a combination of a vision for development by guidance and an actual need of teachers through surveying or any other methods.

The evidence indicated that teachers experience much more powerful learning when professional development is related to their identified/felt needs, directly connected to their work with students, linked to subject matter and the concrete tasks of teaching as outlined in national curricula, organized around problem-solving and sustained over time by regular contacts and inputs. The implications of this evidence for professional development provision in Kuwait, as elsewhere, include the following:

On planning for training localization:

- Prepare training plans based on two considerations (vision guidance and teacher needs).
- The development of exercises that integrate the actual needs in the field and the latest educational innovations that the Ministry of Education seeks to continue.
- Increase the integration of teachers with outstanding experience in planning and implementing training programs in accordance with the frameworks and controls.
- Establish clear criteria for training to be organized in equal proportions.
- Activate the teacher self-assessment, adapt the needs of the teachers and plan the localization of training.
- Blogging, documentation and compliance are among the most important factors that will help the field improve training and develop it.

For training materials and methods:

- Develop specific frameworks to guide the development of training without neglecting any particular aspect (e.g., educational, specialized, administrative, or technological).
- To find a balance between the three training components of the educational, cognitive and technological head without neglecting any of the other components needed in the field (e.g., administrative).
- Increase technology topics and employ them in the competency curriculum.
- For active learning, training must be active, and it should increase the number of workshops and practices and reduce the lecture style.
- Use of the centers available to develop and support the guidance towards upgrading the training as well as the head of the department.
- Archive of plans and educational programs and the use of the curriculum sector on the work of publications in the training programs or lessons annotated and uploaded electronically on the website of the Ministry of Education.
- Link professional development and training as an integral part of supervisory functions.

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