

Teacher Preparation in Lebanon A Qualitative Study

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Abstract

This study investigates the math teacher training programs at Lebanese universities and how these programs differ among most of the Lebanese universities. This study attempts to answer the following question: what are the requirements, similarities and differences among the Lebanese math teachers' programs? The result of the study revealed that the teacher's preparation program, established after war at the universities, has the same characteristics as the one established before war which are characterized by: post graduate programs that prepare teachers throughout a significant amount of math courses, three to four year programs that prepare elementary math teachers, the absence of university level programs that prepare intermediate and secondary teachers, the lack of emphasis of field work, and the quality of the professional learning. These findings will help educators and teachers in Lebanon to know the content of study program.

ملخص

تبحث هذه الدراسة في برامج تدريب معلمي الرياضيات في الجامعات اللبنانية وكيف يمكن لهذه البرامج ان تختلف عن معظم الجامعات اللبنانية. تحاول هذه الدراسة الإجابة عن السؤال التالي: ما هي المتطلبات، أوجه التشابه والاختلاف بين برامج معلمي الرياضيات اللبناني؟ وكشفت نتائج هذه الدراسة أن برنامج إعداد المعلمين في الجامعات التي أنشئت بعد الحرب لديه نفس خصائص الجامعات التي أنشئت قبل الحرب والتي تميزها: (1) برامج الدراسات العليا التي تعد المعلمين من خلال دورات الرياضيات، (2) برنامج الثلاث الى أربعة أعوام لإعداد معلمي الرياضيات الابتدائية، (3) عدم وجود برامج المرحلة الجامعية التي تعد معلمي المرحلة المتوسطة والثانوية وعدم التركيز على العمل الميداني ونوعية التعلم المهني. هذه النتائج تساعد المربين ذوي الخلفية التعليمية والمعلم اللبناني في برنامج دراستهم.

Effective teachers make a major difference in the lives of our students. Since the independence of Lebanon, little attention has been paid to how teachers are prepared to succeed in the classrooms. What is the result? Too few new teachers receive the knowledge and skills they need to be successful in the classroom. With the right training and good teaching programs, talented and motivated people can be made into great teachers. However,

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Lebanese teacher preparation programs were not up to the task until recently. The war adversely affected education.

Lebanon consists of a multicultural, pluralistic Arab society (Bahous & Nabhani, 2008). Even though Arabic is the official language in the country, science is taught in a second language - French, English or German. The educational system in Lebanon is centralized under the Ministry of Education and is in charge of public and private schools in urban, suburban, and rural settings.

The Ministry and its National Center for Educational Research and Development (NCERD) oversee the country's national curriculum, textbooks, national examinations, and all matters related to public schools (Bahous & Nabhani, 2008). For example, the Ministry of Education requires public schools to use locally produced textbooks that are aligned with the national curriculum, while private schools in Lebanon are required to address the national curriculum; they are not bound to the public texts in science, but many choose to use them (Jarrar, Mikati & Massialas, 1988). Before the war, the Ministry of Education used to recruit public school teachers from the graduates of the Lebanese University only, specifically the graduates from the faculty of education and center of teacher preparation, while private schools recruit graduates of private universities where the standards of teacher preparation programs are more rigorous than in the Lebanese University in course content, foreign language proficiency, and internship experiences (Jarrar, Mikati & Massialas, 1988). One caveat is that private school teachers need not be graduates of teacher preparation programs, but they usually hold at least a Bachelor's degree in the discipline they will teach or a closely related subject.

Background of the study

Lebanon had one of the highest literacy rates in the Arab world (Boujaoude, 2002), but the war negatively affected educational standards. Furthermore, the departure of most foreign teachers and professors, especially after 1984, contributed to the decline in the standards of academic institutions. Recruitment of unqualified teachers (teachers who didn't attend teachers' training programs according to educational theories, Jarrar, Mikati & Massialas, 1988) became a standard practice as a result of pressures brought by various militias on academic institutions, especially public schools. After the end of the war, two kinds of schools now exist: public and private. Private schools are most often sponsored by philanthropic institutions and are run by religious orders.

Public schools are unevenly distributed among Lebanon's districts. Before 1992, the Beirut area had only 12.9 percent of the country's public schools. After the end of the war in 1992, and due to the high migration from villages to Beirut,

the percentage increased to 30 percent. This is a result of the assassinated prime minister Rafic Hariri's decision to build more schools in Beirut where a large number of Lebanon's private fee-based schools are concentrated.

The increase in population and public schools leads to the need for more qualified teachers. In addition to the increase of the number of universities to forty in 2000, most universities added programs to train teachers (Osta, 2007).

Higher Education

The Lebanese University, established in 1952 under the control of the Ministry of Education, is the only public university in Lebanon. Before the end of the war, there were sixteen colleges and universities in Lebanon which were privately owned (Frayfa, 1987). Now, the Lebanese University has more than five branches; its main branch was built in Beirut in 1995 in Hadath, The faculty of education, named faculty of pedagogy, has three branches; Unesco, Furn-chebak and Rawda.

The private universities, established before war, had their faculty of education in their schools of humanity and literature. Such universities were Saint Joseph University established in 1875, the American University of Beirut (AUB) initially established in 1866 by the Evangelical Mission to Syria, and the Lebanese American University (LAU) established in Beirut in 1835 by American Presbyterian missionaries. The rest of the universities were established after the war; some of them have more than one campus and offer several majors and the education major is offered in the school of arts and science in most of these universities. The major language of instruction in these universities is English; their campuses are spread in at least three of the five provinces of Lebanon such as the Lebanese International University (LIU), the Arab Open University (AOU) and Hawai University (AUL). Most of these universities are business oriented and the universities containing education majors do not have teacher training programs after graduation.

Teachers in Lebanon

In the year 2010, the total number of teachers in Lebanon for all grades, from the pre-school to K-12 was 172,173. They were equally distributed between public and private schools (46% and 47% respectively), while the semi-private schools which receive funds from the government employed less than 7% of the total number of teachers (NCERD, 2011, p, 38). As for gender, the majority of Lebanese teachers are females (79.7%). A breakdown by type of school reveals that a great number of female teachers (64.66%) teach in public schools; 72.3%

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and 85.88% of teachers in private and semi-private schools respectively are female (NCERD, 2011, p.32)

A lack of guidelines and assessment regulations is leading Lebanese high schools to become saturated with under-qualified teachers. The most recent research conducted by the World Bank reveals that only 42 percent of public school teachers hold a specialized degree, and less than half hold a university level qualification. While the number of teachers has more than doubled in the last three decades, there is no governmental procedure to assess and train new teachers, perpetuating a drop in quality. The qualifications and criteria for teaching positions range from school to school, lacking a coherent regulation and structure (Alamedine, 2007). Therefore, the majority of Lebanese teachers possess no university degree (65.1%), yet not many of those teachers have a teacher training certificate (12.4%). As for their ages, the teachers are somehow evenly distributed among the age groups: under 30, 30-40, and above 40 years as 33.8%, 34.6 %, and 31.6% respectively (NCERD, 2011, p.37).

Literature Review

Today most teachers in Lebanon enter teaching by means of a three-year, undergraduate program or two years after their bachelor of science. There was a time, however, when few believed that elementary teachers didn't need a university education and that only high school teaching required professional preparation where teacher education was a fit undertaking for a major, research university. To appreciate how teacher preparation has acquired its characteristic shape and where some of the major ideas about learning to teach have come from, we need to know something about the history of teacher education. According to Nemser, three historic traditions have influenced ideas about and approaches to teacher preparation. Each tradition can be linked to a different institution offering a different kind of preparation to a different group of students: The normal school tradition was intimately connected with the preparation of elementary teachers. The liberal arts tradition had early ties to the preparation of secondary teachers in liberal arts colleges (Feiman-Nemser, 2001). The tradition of professionalization through graduate preparation and research were promoted by the modern university which sought to prepare educational leaders (see Table 1).

Institution	Elements	Clients
Normal Schools	professional treatment of subject matter	Elementary teacher
Liberal arts colleges	knowledge and skills common learning's	Secondary teacher
University school of Education	research ideal education as applied social science professionalization through graduate study	Educational Leaders

Normal schools

The early normal schools provided a brief course of study to help students master the subjects they would teach and acquire some techniques for managing instruction. Once normal schools required a high school diploma, some leaders felt that these schools should not duplicate academic instruction available in secondary schools and colleges. They should rather offer a "strictly professional" curriculum. There were two approaches to this goal. One school of thought emphasized the "professional treatment of subject matter"; a second emphasized training in special methods (Cremin, 1953).

Liberal arts colleges

Referring to the nineteenth century, the liberal arts tradition regarding the preparation of secondary teachers highlights the unique relationship between liberal education and teaching. According to this tradition, "to be liberally educated and to be prepared to teach are equivalent" (Borrowman, 1965, p. 1). The idea that "liberal" and "useful" knowledge were incompatible dominated collegiate education for a long time. Although not designed with vocational goals in mind, the traditional college program served both liberal and professional aims (Borrowman, 1956).

University school of Education

The creation of university schools of education at the turn of the century was part of a larger movement to professionalize various occupations. Like their counterparts in law and medicine, educators sought to place teacher education in the modern research university, hoping that the new location would dignify education as a career, lead to the development of a specialized knowledge base, and support the professional preparation of educational leaders (Clifford and Guthrie, 1988; Powell, 1976).

Because most "theories" of knowledge constitute little more than lists, we have little sense for when or how different kinds of knowledge are best acquired. The default assumption is that teachers obtain their knowledge while in college, and

many studies rely on indicators of teachers' college-education experiences (e.g., the number of courses teachers take in a particular subject, whether the teacher holds a major or minor in a subject) to represent the extent of teachers' knowledge (e.g., Monroe, 1952). Yet professional development for teachers is an enormous industry (Garet, Birman, Porter, Desimone, Herman & Yoon, 1999; Parsad, Lewis, & Farris, 2001) that attempts to augment teachers' college education and is itself highly diversified (Miles, Odden, Fermanich, & Archibald, 2004). Are all of these efforts added to college education because college education fails to provide knowledge? Is it because college knowledge is not relevant to teaching? Or is it because knowledge for teaching develops in a certain pattern or sequence, so that college provides a foundation that needs to be built upon with continuing professional development? Without a model of the relationship between teachers' pre-service education and their in-service education -- one that articulates how in-service experiences can build on pre-service experiences, or that articulates how knowledge develops in interaction with experience -- studies of each enterprise lack meaning and are difficult to interpret. Towards this goal this study is oriented, and it emphasizes different content of teacher education programs in Lebanon.

Teacher programs in Lebanese Universities

In 1942, the Lebanese government opened its first Teacher Training College located in Furn El-Cheback (Jarrar et al, 1988). To become a primary teacher in public school, it was enough to have a K-12 education and then go to a teacher-training institute for two years. Later in 1953, the government changed the requirement to three years (Jarrar et al, 1988). In 1951, the government established the Lebanese University to provide teacher training for secondary teachers, and later in 1953, it became a university with diverse programs (Freyha et al., 2001).

AUB offers education programs for both undergraduate and graduate students at the elementary and secondary level. Teacher training for the secondary level at AUB began in 1910 and, through a grant in 1952 from Rockefeller Brothers Fund, AUB provided teacher training at the elementary level for 100 teachers from seven countries of the Near East. In order to provide training for more teachers in rural areas, the university established the elementary Teachers Training Institute in 1955; one building was located in the university campus and the other in Sidon Girl's School in South Lebanon.

LAU began its teacher training in 1936 and offered its first course in general teaching methods. Then in 1950 LAU established its own education department and offered a course in child development. Preschool education was housed in the human development department. LAU is the only private

university that has had a long history in providing training in early childhood. In 2000, LAU started a graduate degree program in education.

In 1966, large private education institutions like Al-Makassed Philanthropic Association founded their own teacher training programs for primary teachers. The purpose was to prepare primary school teachers to teach in urban and rural areas (Jarrar et al, 1988). Their program was similar to that of the government admission tests, requiring 9 years of elementary schooling or grade nine levels.

The Holy Spirit University of Kaslik (USEK) is a private Catholic higher education institution founded by the Lebanese Maronite Order (LMO). It is, thus, the first university which was established upon a Lebanese initiative and by Lebanese citizens (in this case by the LMO monks). From that moment, these monks, who had been entrusted with a teaching mission for more than three centuries, have undertaken the management of USEK. Their remit has been to provide university teaching in conformity with the requirements of the labor market and in close association with scientific research. The department of education aims at training professionals in education across different cycles: education managers, teachers of elementary cycle I and II, experts in education technologies and researchers in education Sciences. In this context many training levels are available and recently, the university has begun to offer a doctor of education in collaboration with France.

In 1970, the National Centre for Educational Research and Development (NCERD) was created. It provided textbooks for public schools and civics and history books that were required for all schools, private and public as well as issued early education statistics reports. The Centre also provided teacher training for pre-primary and primary public school teachers through a ten-month training period after the completion of their secondary school/high school.

On October 17, 1955 Haigazian University was established in Beirut, Lebanon by the joint endeavors of the Armenian Missionary Association of America (AMAA) and the Union of the Armenian Evangelical Churches in the Near East (UAECNE). This eastern Mediterranean institution is a liberal arts university which emphasizes a challenging curriculum, good teacher-student relations, and empowerment through the free search for truth. Haigazian University offers both undergraduate and graduate degrees in education as well as a teacher's Normal Diploma. Its units and courses are patterned after the American system of higher education.

The 1980's witnessed growth of private universities, some of which offered education programs and training to interested teachers. By the year 2000, the number of private universities reached 42 (Freyha et al., 2001). Yet, despite

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the long history of teacher training, up to 45 percent of teachers at the primary level were found unqualified in the early 1990s (Zouain, 1994).

The Lebanese International University (LIU) was established in April, 2001. The mission of the School of Education encompasses two principle concerns: teaching and research. They prepare and train teachers to work with children, parents and other adults in a range of educational settings and fields. The School of Education programs are instituted on the belief that the aim of the educator is to link academic knowledge and professional training with practice. To achieve this purpose, their students undertake supervised practical training experiences during the third and fourth years of their study. LIU offers both undergraduate and graduate programs in education. It achieved accreditation from the Lebanese government when its chair Mrad was a minister of education.

Notre Dame University - Louaize (NDU) was founded in 1987 by the Maronite Order of the Holy Virgin Mary. NDU first came into being under the name of Louaize Center for Higher Education (LCHE) in 1978 as a joint venture between Beirut University College (BUC), now Lebanese American University (LAU) and the Maronite Order of the Holy Virgin Mary. Later, inspired by a deep apostolic concern and guided by the needs of the community, the Order decided to start a new chapter in its history by founding an independent university. Thus, Notre Dame University - Louaize was born, the only Maronite Catholic University adopting the American education system, not only in Lebanon but also in the entire Middle East. Three years later, in June of 1991, the university awarded its first bachelor degrees to seventy-two graduates. In April 1994, NDU established the Faculty of Engineering and Architecture, and in October 5, 1996, the Lebanese Government issued decree 9278 granting the official recognition of the programs that lead to the Bachelor of Architecture and the Bachelor of Engineering in Civil Engineering, Computer Engineering, Electrical Engineering, and Mechanical Engineering. In spring 2000, NDU established the Faculty of Architecture, Art and Design, and the Faculty of Political Science, Public Administration and Diplomacy. Accordingly, the Faculty of Engineering and Architecture was named the Faculty of Engineering. Moreover, realizing the need to serve the community, the Faculty of Nursing and Health Sciences was established in 2008. The University offers undergraduate and graduate degrees in education in the department of humanities, and a doctoral program of education (Ed-D) in collaboration with the Saint Louis University-Missouri in the United States.

Teaching Diploma

In addition to the universities mentioned above, more universities in Lebanon offer teacher preparation programs called teaching diplomas (TD). The TD is designed for graduate students who seek to increase their earning potentials in the fastest growing market. The main goal of the program is to supply both the freshly out of school, inexperienced graduate and the teacher who already has some experience but lacks scientific preparation, with the skills and competitive advantages so that they can take charge of their career and their income. The Teaching Diploma program prepares teachers to facilitate the learning of all children at the "Middle and High School" level. The TD program promotes and demonstrates scholarly inquiry, central to teaching and learning. It helps graduate students to develop the conceptual understanding and research skills needed to focus on research involving students and teachers at both levels. It is a one year post bachelor program.

Purpose of the study

This study investigates the recent increase in the teacher programs at the Lebanese universities after the end of the war and the points of similarities and differences between most of the Lebanese universities regarding their courses according to teachers' preparation programs.

Research Question

This study attempts to answer the following questions:

- What are the requirements of the Lebanese math teacher preparation program?
- What are the similarities and differences among the Lebanese math teachers' programs?
- What are the points of weaknesses that may exist in Lebanese teachers' preparation programs?

Significance of the study

This study investigates the teachers' preparation programs after the establishment of new universities in Lebanon where studies revealed teacher's preparation before this era. Moreover, this study compares the different teacher programs in the universities established before the war and those established after the war. In addition, the findings will enlighten educators on the Lebanese teacher's educational background in their program of study.

Limitations

Very few articles in Lebanon study science teachers' preparation programs in general and none investigate math teachers' preparation programs in particular. This poses shortage in the literature review provided in this study. However, the

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present study is the first stone for future research pertaining to this problem.

Theoretical framework

This study employs the theoretical framework of Freiman-Nemser (1990). According to Frieman-Nemser, researchers discussing teacher preparation have focused on either structural or conceptual issues. Structural issues include the general organization of programs such as the number of years to complete a program, the number of required credit hours of education and content, the duration of field based experience and alternative certification methods. Conceptual issues include the different views of theories of learning to teach that programs. Conceptual orientations can be academic, practical, technological, personal and social, with reflective teaching being a professional stance that can be emphasized in any of these orientations (Freiman-Nemser, 1990). According to Freiman-Nemser, the academic orientation is concerned with the transmission of knowledge and the development of understanding; the practical orientation focuses on the element of technique and on the primacy of experience as a source of knowledge about teaching; the technological orientation focuses on the knowledge and skills of teaching; the personal orientation places the teacher-student at the center of the educational process; and finally the social orientation preserves social inequalities and gives confidence in schools as agents of social change.

Method

The method for this study consists of interviews done with university and program administrators and math teacher professors, syllabi of courses offered in each of the math teacher preparation programs, and institutional websites describing teacher preparation programs in all Lebanese institutions. Interviews are conducted with two teachers completing the program of teacher preparation, four professors from two different universities and two academic deans. Later, data were analyzed to identify the conceptual orientations of math teacher preparation in institutions using the framework of Freiman-Nemser (1990). A comparison of the characteristic of each institution in terms of the number of required credit hours of education and content is presented in a table and discussed. Results across institutions are analyzed to identify patterns.

Results

The results are presented in two sections. The first section discusses teacher preparation in higher education by presenting the teacher preparation programs offered in universities. The second section discusses the interviews done and links with Nemser framework.

Similarities and differences among the math teacher preparation programs

The findings are presented in the form of a table including the requirements for bachelor degrees at seven Lebanese institutions:

	Level	Math Credit:	Math Credits	Methods Credits	Field wor Duration
Lebanese University	Grade 1-3	3	6	24	4 years
	Grade 4-6	6	9	14	4 years
AUB	Elementary	18	3	6	3 years
	Master		21	6	2 years
	TD		18	6	1 year
LAU	Elementary	18	3	3	3 years
	Master		21	6	2 years
	TD		18	6	1 year
NDU	Elementary	9	6	9	3 years
	Master	3	18	3	2 years
	Ed-D		21	6	>3 years
Haygazian	Elementary	18	3	3	3 years
	Secondary	18	3	3	3 years
LIU	Elementary	18	6	6	3 years
	TD		18	3	1 year
Balamand	Elementary	6	3	6	4 years
	TD		18	3	1 year
USJ	Elementary	3	3	1 year	4 years
	Master		18	1 year	2 years
	Ed-D	6	21	1 year	>3 years
USEK	Elementary	3	3	1 year	4 years
	Master		2	1 year	2 years
	TD		18	1 year	1 year

Most of these universities have similarities in the education programs. Therefore, to obtain a bachelor's degree, teaching diploma, master in education or even a doctor of education, teachers are required to have a minimum of eighteen credits of math and math methods. In addition to subject area, they have to complete general pedagogy courses. The similarities of these programs appear in the emphasis of subject matter preparation and introduction of students to diverse teaching techniques and strategies in the methods courses.

The field work differs among universities; it is obvious that universities following the French system require students to complete a field work of a minimum of one year while universities following the American system require a field work of six credits. It appears that universities differ according to the system they follow instead of following the requirement by the Lebanese government. However, even though the field work differs in terms of the period of practice, the content of the course named practicum in Teaching Math in

elementary and secondary Schools consists of observation and practice in classroom situations under the guidance of university course instructors and cooperating school teachers.

Comparing the math requirement courses among the universities, similarities appear between most of them in terms of the content of math consecutive courses; with respect to the introductory math course, it contains pedagogical and mathematical basis of various approaches in mathematics teaching in elementary and secondary schools which includes demonstrations, classroom observation, and applications; as to the second math course, it is based on an analysis and preparation of teaching/learning materials, plans, and tests for mathematics teaching, including supervised practice teaching and individual and group meetings. The Lebanese University stands out among other universities in that it offers two types of 4-year programs at the elementary level: one of Grades 1-3 and another for Grades 4-6. In the year of 2006, the Lebanese University adopted the LMD program which changed the education program to credits and from four years of education to three years and joined the two levels offered to one level, leaving students to choose which level to emphasize (grade 1-3 or grade 4-6) after studying both levels instead of choosing from the beginning.

An important notice in the findings appears in the absence of university level programs for the preparation of intermediate school math teachers which leads to a lack of the minimum credit required for the field work. Finally, the adoption of an orientation is presented; it has some characteristics of the academic and technological orientations to teacher preparation, without neglecting an emphasis on reflective practice and thinking. Given that teachers play an important role in children's success or failure in schools, the type of teacher training has influence on classroom practices.

Historically, teacher training programs for teachers began with the European missionaries who established these programs in their own institutions. Before the 1950's, there were only three private teacher training programs. The earliest teacher training institute dates back to 1890 when the British-Syrian Lebanese Mission School was established. In it, the British Lebanese Training College provided training for would be teachers and used its school as a learning site (Jarrar et al, 1988). The criterion for admission was for teachers to be holders of a Baccalaureate degree. In order to make a difference to teacher's work and to improve their knowledge and skills for a peaceful and democratic society, the Lebanese Ministry of Education should be more involved in the teacher's preparation programs as it is in the Lebanese curriculum. Moreover, universities should design programs to prepare intermediate and low elementary level teachers. More research is needed to explore in depth the content of teacher training programs in order to find the weaknesses of the programs to build new

structures and new ways of thinking about the roles of teacher training programs in teacher's professional development.

Interviews and link to Nemser framework

According to Nemser, the Academic Learning Program represents one serious effort to grapple with some of the questions raised by the academic orientation. Set in an undergraduate context, the program should aim to prepare elementary and secondary teachers who can foster conceptual understanding of school subjects. The program emphasizes three areas of knowledge: (a) a broad understanding of the disciplinary roots of school subjects, (b) knowledge about how pupils learn in different subject areas, and (c) knowledge of effective teaching strategies that promote conceptual understanding. The program consists of an integrated sequence of core courses with related field experiences. The first two core courses, Learning of School Subjects and Curriculum and Academic Learning, draw on concepts from cognitive psychology, philosophy of science, and curriculum to explore major themes in the program- that knowledge is socially constructed, that learning is an active process of making meaning, and that good teaching depends on a deep understanding of disciplinary knowledge and a repertoire of ways to represent key ideas in one's field (Amarel, 1988a).

Moreover, Nemser proposes that candidates take a specially designed, three-course math sequence taught by a mathematics professor and a math educator. The first course focuses on number theory, the second on geometry, and the third on statistics. All three involve students actively in making sense of mathematical situations and solving a variety of real-world problems. The sequence is motivated by the realization that teachers cannot teach for understanding if they themselves have never been taught to understand the conceptual foundations of school mathematics (Schram, Wilcox, Lanier, and Lappan, 1988). Most Professors and chairs interviewed emphasize the importance of strong background of the subject matter at the secondary level rather than pedagogical content. They argue that to be a good math teacher, you need to be strong in mathematical concepts and have mathematical skills. In their opinion, the most important element is to understand what is taught before knowing how to teach it. Moreover, according to the analysis of the interviews, most programs aim to provide teachers with an adequate knowledge of math and help them to encourage their students to think, construct knowledge, and find meaning in what they study. To accomplish these goals, strategies are being taught in their teacher preparation programs such as inquiry teaching.

In addition to the aim of teaching subject matter in these programs, the analysis of interviews with professors shows that the purpose of teaching math

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and math methods is to help students in the teacher preparation program to develop knowledge about Lebanese curriculum and lesson planning and to achieve goals of teaching math and math teaching methods at both elementary and secondary levels.

From the days of the normal schools to the present, reformers have sought to improve the status and quality of teaching and the teacher preparation by lengthening programs and adding requirements. There has been a tendency to impose structural changes hoping to achieve substantive changes or to link quality with particular institutional arrangements. To summarize, different orientations and approaches exist because people hold different expectations for schools and teachers and because, in any complex human endeavor, there are always more goals to strive for than one can achieve at one time. Teacher educators cannot avoid making choices about what to concentrate on. Thus, deliberations about worthwhile goals and appropriate means must be an ongoing activity in the teacher education community. In such deliberations, it would be more productive to clarify the kind of teaching one hopes to foster rather than to debate the orientation one favors.

References

- Alameddine, Y., & Ellis-Petersen, H. (2007, September 8). High school teachers, quality vs. quantity. Daily Star. Retrieved September 16, 2013 from <http://www.dailystar.com.lb/News/LocalNews/2011/Sep-07/148058-high-school-teachers-quality-vs-quantity.ashx#axzz2f2HAg3KZ>
- Amarel, M. (1988a). Site report: Academic Learning Program. Unpublished paper, National Center for Research on Teacher Education, Michigan State University, East Lansing.
- Bahous, R., & Nabhani, M. (2008). Improving schools for social justice in Lebanon. *Improving Schools*, 11, 127-141.
- BouJaoude, S. (2002). Balance of scientific literacy themes in science curricula: The case of Lebanon. *International Journal of Science Education*, 24, 139-156.
- Borrowman, M. (1956). The liberal and technical in teacher education. New York: Columbia University, Teachers College, Bureau of Publications.
- Clifford, G., and Guthrie, J. (1988). Ed school: A brief for professional education. Chicago: University of Chicago Press.
- Cremin, L., Shannon, D., and Townsend, M. (1954). A history of Teachers College. New York: Columbia University Press.
- Educational Center for Research and Development. 2001. *Education for conflict resolution*. Beirut: ECRD. [In Arabic.]
- Frayha, N. 1987. *Religious conflict and the role of social studies for citizenship education in Lebanese schools (1920–1983)*. Stanford, CA: Stanford University. [Dissertation]
- Frayha, N. 2002. *School effect on citizenship education*. Beirut: Sharikat Al-Matbouat. [In Arabic.]

- Feiman-Nemser, S. (1990). Teacher preparation; Structural and conceptional alternatives. In W.Houston, M.Haberman&J.Sikula (Eds).*Handbook of research on teacher education (pp.212-233)* New York: Mcmillan Publishing Company.
- Garet, M. S., Birman, B. F., Porter, A. C., Desimone, L., & Herman, R. (with Yoon, K. S.). (1999). Designing effective professional development: Lessons from the Eisenhower program.
- Kennedy, M (1990).Choosing a goal for professional education. In W.Houston, M.Haberman&J.Sikula (Eds).*Handbook of research on teacher education (pp.212-233)* New York: Mcmillan.
- Jarrar, S.A., Mikati, J.F., & Massialas, B.G. (1988). In G.T. Kurian (Ed.), *World education encyclopedia* (pp. 778-96). New York: Facts on File.
- Miles, K., Odden, A., Fermanich, M., & Archibald, S. (2004). Inside the black box of school district spending on professional development: Lessons from five urban districts. *Journal of Education Finance*, 30(1), 1-26.
- Monroe, W. (1952). *Teaching-learning theory and teacher education: 1890-1950*. Urbana: University of Illinois Press.
- Nabhani, M. & Bahous, R. (2010). Lebanese teachers' views on continuing Professional development. *Teacher development* 14(2),207-224
- National Center for Educational Research and Development. (1995). *Lebanese national curriculum*. Beirut, Lebanon: NCERD.
- National Research Council (1996). *The national science education standards*. Washington, DC: National Academy Press.
- Osta, I. (2007). Developing and Piloting a Framework for Studying the Alignment of Mathematics Examinations with the Curriculum: The Case of Lebanon. *Journal of Educational Research and Evaluation*, 13(2), 171-198.
- Parsad, B., Lewis, L., & Farris, E. (2001). Teacher preparation and professional development: 2000 (NCES 2001-088). Washington, DC: U.S. Department of Education. Retrieved August 24, 2007 from <http://nces.ed.gov/pubs2001/2001088.pdf>
- Schram, P., Wilcox, S., Lanier, P., and Lappan, G. (1988). Changing mathematical conceptions of preservice teachers: A content and pedagogical intervention (Research Report 88-4). East Lansing: Michigan State University, National Center for Research on Teacher Education.