

MURAD JURDAK

American University of Beirut—Lebanon

jurdak@aub.edu.lb

SEARCHING FOR PRAXIS AND EMANCIPATION IN AN OLD CULTURE

Q. Tell us a little about who you are, about some of the most significant milestones in your personal/professional life and your most noteworthy achievements as an educator/scholar/citizen. Locate and position yourself within the socio-political and historical movements that define who and what you are, and where you 'stand'.

I was born in 1943 in Marj'youn, a town in South Lebanon about 100 kilometres south-east of Beirut and about ten kilometres from the Palestinian borders then. The town residents may be described according to the standards in the 1950s, as mainly middle class, including merchants, landowners, and professionals with a minority working class of soldiers, artisans, and workers. My father was an artisan/small contractor, and as such my family was a working class family. My mother, who had a high school diploma from an American missionary school and had a working knowledge of English, was considered to be an educated individual according to the standards of the time. My family, especially my mother, had high educational expectations for the children, particularly for me, being the only male child in the family.

Two bundles of events stand out in my memory. First, as a child of six years, I suddenly became aware of the existence of the Palestinian issue when an elderly Palestinian couple, Imm Mousa and Abu Hussein, came unexpectedly to live in a room in the basement of our shabby house. They were referred to as refugees from Palestine. The couple looked happy as if they were coming to visit for a short time waiting for the 'events' in Palestine to clear up. Imm Mousa treated and pampered me like her son. After few months, the couple suddenly faded away as suddenly as they first appeared, most probably to join one of the hastily primitive shelters that were set up by the UN to house the hundreds of thousands of Palestinian refugees for what was thought to be few months before returning to their homes in Palestine. Until now, I do not know what made my family share their poverty and the little they had with this Palestinian couple!

The second bundle of events which I vividly remember pertains to the critical role that the transistor radio played in connecting me to the world of news and culture. With this little magic transistor box in my hand and from my poor home in this remote town I could follow what was happening in the world. I took special

interest in the broadcast from radio Cairo which had at that time a cultural radio channel that specialized in broadcasting and critiquing classical plays and music. The transistor was an artefact that helped shape my educational and cultural formation.

My education at school and university was a continuing struggle to work in order to support myself and my family and at the same time maintain a very high academic achievement standard, which I regarded as the only thing that could give me a head start to obtain a scholarship to enable me to continue my education and to move up the social ladder.

My career as a mathematics educator started when, upon graduation from the American University of Beirut (AUB), I had my second encounter with the Palestinian issue when I took the job of an assistant teacher training specialist in mathematics at the Institute of Education run jointly by UNRWA (United Nations Relief and Works Agency for Palestine Refugees in the Near East) and UNESCO. The Institute of Education provided long- and short-term in-service teacher education programs to teachers in Palestinian refugee camps in the West Bank and Gaza as well as in the refugee host countries (Lebanon, Jordan, and Syria). My job was to cooperate with the UNESCO mathematics education specialist to design and supervise the implementation of the mathematics education courses for mathematics teachers in all UNRWA schools. In the course of my job, I had to visit the UNRWA schools in the Palestinian camps regularly and conduct training sessions for teachers there.

My experiences in the UNRWA schools made me aware of the extent to which education is intricately linked to social context and justice. Here I came face to face with a human tragedy, where the Palestinian people in their totality were uprooted by force and intimidation from their homes in their country Palestine, to be accommodated in refugees camps with minimum provisions for survival. On the one hand, I had a chance to experience the glaring injustice which was evident in the daily life of the people in the camps as well as in the schools. On the other hand, I also experienced the human compassion reflected in the tremendous efforts of UNRWA to provide subsistence and education via UNRWA schools, which were comparable to, and even better than public schools in the Arab countries which hosted the Palestinian refugees. Now that I reflect on that experience, I realize that education in the Palestinian camps was more meaningful to the people than any of the many countries I had the chance to know.

I finished my Ph.D. in 1973 and joined the Department of Education and the Science and Mathematics Education Centre (SMEC) at AUB. As it often happens, I started my career there by developing the courses for the Master degree in mathematics education. As a young assistant professor, I was inspired, in this foundational phase, by my professors and their courses at the University of Wisconsin-Madison. My teaching at AUB and my supervision of MA theses had little impact on my belief system regarding the social aspects of education. Attempting to publish a paper on my first research project in a scholarly journal was a remarkably daring feat. For some reason, the journal of *Educational Studies in*

Mathematics (ESM) attracted my attention because it dealt with topics similar to my project. The editor of ESM was Freudenthal himself, one of the early fathers of mathematics education, who was the founder, editor, and the single irrefutable referee of ESM. Frankly, I was not intimidated to send the manuscript to ESM because I was simply not then aware of the weight and temper of Freudenthal. To my great surprise, I received a letter from Freudenthal responding to my submission in strong and unquestionable authority to tell me that, unlike some of the ‘rubbish’ he received, there may be something good in my manuscript but I needed to work on it. I did revise the manuscript and it was eventually published. My first successful experience with publishing in international mathematics education journals encouraged me first to continue my career as a mathematics education researcher and second, it initiated me to the ‘trade’ of publishing in international journals.

An experience which had a lasting impact on my conception of social aspects of education was my involvement in several mathematics curriculum development projects in Saudi Arabia and Sudan. This brought me face to face with the actual world of policy makers, schools, teachers, and students. Through institutional arrangement between the American University of Beirut and some Arab ministries of education, the Science and Mathematics Education Centre was charged with implementing science and mathematics curriculum development in some Arab countries. I assumed the leadership role in the mathematics education of these projects. Saudi Arabia was an oil-rich kingdom with vast financial resources and very ambitious plans for social development but within the strict interpretation of Islam. The Sudan, on the other hand, was a poor, vast, agrarian republic with limited financial resources to meet its development needs. Culturally, Saudi Arabia is an ethnically, linguistically, and religiously homogeneous Moslem society, whereas Sudan is (was) an ethnically, linguistically, and religiously diverse society. The education system in Saudi Arabia grew out of religious community schools to become a vast public education system whose schools were equipped with modern facilities and mostly expatriate teachers from other Arab countries, mainly from Egypt; whereas, the education system in Sudan was modelled in its educational approach after that of Britain, which had ruled the country before the fifties.

The Sudanese schools lacked in facilities and equipment but were in good supply of well-prepared Sudanese teachers. Unlike Saudi Arabia, Sudan had a unique tradition in teacher education. In the 1930s, Griffiths, one of HMI inspectors of education, decided to establish an institution to prepare teachers for rural areas and set up an institute of education, calling it Bakht-Al-Rida after the name of the nearest little village. There he built a campus with minimal facilities similar to what one would expect in the rural areas of Sudan. The recruited student teachers were required to live on campus and lead a combined life of work and education in this minimalist environment. The student teachers as a group were expected to develop, test, and debate the school curriculum, lesson by lesson. Griffiths documented the establishment of Bakht-Al-Rida and his experiences there in a book, now out of print, under the title *An Experiment in Education* (Griffiths, 1953). For about five

years in the mid-seventies, our team had the chance to work with teams of local mathematics educators and to visit schools and meet with teachers in both Saudi Arabia and Sudan. The socioeconomic and cultural contrast between Saudi Arabia and Sudan sharpened my awareness of the complexity of how and to what extent the socioeconomic and cultural contexts mediate student mathematics learning. I emerged from these experiences with a double identity, a mathematics education researcher and a mathematics educator. The researcher identity made me conform to the standards set by the scholarly community without much regard to implications of my research to practice. On the other hand, the educator identity pushed me to use my expertise in the field to give judgments and recommendation to policy makers and practitioners without regard to research findings. By the end of eighties I was able to achieve a professional transformation by integrating the researcher and educator identities through integrating theory and praxis!

Q. What have been some of the most formative moments in your own education? Here you can also tell readers about the individuals, movements, organisations, etc that were most influential in shaping your development as an educator/scholar/citizen.

In the early primary grades, I became more conscious of my socioeconomic status. Somehow this awareness gave me a sense of empowerment. Now that I can analyze it from my present perspective, I can trace that sense of empowerment to my home environment which developed in me a resilient motivation to achieve, as the only way up the socioeconomic ladder for me and for my family and to an obsessive drive to achieve distinction in school work to the point that I became determined to achieve the highest average in class in every subject. Given this head start, I started to realize that the personal capital I owned (my ability for distinguished academic achievement) and my home capital (attitudes and values) were valuable to the point that the principal of the school, a compassionate and visionary educator, allowed me to continue in school even after I informed him that my family would not be able to pay tuition anymore. Throughout my school years, not only had I not felt disadvantaged because of my socioeconomic status, but on the contrary, I did feel empowered and proud of being a disadvantaged student.

Coming from a low socioeconomic status would have been a barrier to join a private university, let alone the most expensive one. The 'home capital' I carried and my school success story helped me land a full scholarship at the American University of Beirut, the elitist and prestigious university in the Middle East. The requirement of my scholarship was that the field of study be a developmental one, such as agriculture, education, or public administration. My school grades made me eligible to be accepted in any field of study. However, I chose math as a major, and to satisfy the requirements of my scholarship I had to study for a teaching diploma, along with my bachelor degree in math. Though I would have preferred literature, I eventually chose mathematics as my subject because of my belief that it was regarded by society as the more prestigious of all other school subjects both intellectually and economically.

At AUB I had my first true experience with a multi-cultural society. In the nineteen sixties, the AUB student body, which had a representation of over 60 nationalities, was a truly multi-cultural community with students coming from many countries such as Iran, Afghanistan, Sudan, Cyprus, most Arab countries, and many European and American countries. The professors also represented a multi-cultural mix. This experience taught me the positive side of living in a multi-cultural community with people of different colours, languages, and cultures.

One of the significant things that I learned at AUB was how to make choices and take responsibility for their consequences. AUB has a long history of adopting and practicing a liberal education model since its establishment in 1966. Its motto '*that you may have life and have it abundantly*' was engraved on AUB main gate then and continues there to be a beacon for its education. As a teenager coming from a remote town where most of the important choices were made for me, I found myself challenged by the expectations at AUB to make my own choices and carry the responsibility for their consequences. For the first time I was on my own to decide what, how, when, or if I want to learn. At AUB, I made one of the most significant choices of my life when, after graduation from AUB, I got married to my wife Muna who studied mathematics with me at AUB.

After completing the Bachelor degree in mathematics and the Teaching Diploma in the teaching of mathematics, I decided to follow a Master degree in mathematics at AUB, and luckily was granted a teaching assistantship. However, during that period, I was initiated into the real world of teaching mathematics from two entry points: First, during my study for the Master degree, I had to teach freshman mathematics courses as part of my assistantship, and second, I concurrently started to be a part-time secondary school mathematics teacher. Both teaching experiences reinforced my conception of the teaching of mathematics that I had formed, based on experiences with my former mathematics teachers and my experience during my undergraduate study at AUB. At the time I viewed math teaching as a delivery act which involved the presentation and explanation of mathematical concepts in a clear, correct, and systematic way. The teaching act normally ended with assessment, which constituted the basis for judging students: Those who did not meet the 'standard' for success were judged to be deficient in their abilities or in their background knowledge. I rarely thought that the emotional, social, economic, or family background could influence how students learned, what they learned, or how much they learned.

My work with UNRWA/UNESCO Institute of Education ended in 1971 when I accepted a fellowship to study for a PhD in mathematics education at the University of Wisconsin-Madison. The fellowship was a part of a programme aimed at building a capacity in science and mathematics education at the American University of Beirut in order to form a centre for science and mathematics education there. At the time I accepted the offer, the Science and Mathematics Centre had already been established and had four science educators who completed the fellowship programme at the University of Wisconsin-Madison but had no mathematics educator.

My education at University of Wisconsin-Madison helped expand my technical and professional knowledge but fell short of making a transformation in my basic conceptions of education and its role. At UW-Madison I was initiated, for the first time, into research issues in mathematics education and research methods in social sciences. I had also my first opportunity to engage in ongoing research projects there. However, my experience did not add to my understanding of the social aspects of education. For example, my dissertation which was based on a teaching experiment of mathematical structure was conducted in Lebanon in two school systems which accommodated students with diametrically opposite socioeconomic and even cultural backgrounds: One was the UNRWA school system which served the children of the Palestinian refugees in Lebanon and the second was the most exclusive school in the country. However, the dissertation did not try, in any way, to explain the learning of students in terms of their socioeconomic or cultural backgrounds but focused on the effect of teaching mathematical structure on mathematics learning. The study as conducted did not take note of the social context and assumed it could have been conducted anywhere with the same methods and probably with the same conclusions.

Q. What are some of the key educational 'problematics' that currently preoccupy you? How are these linked to the broader preoccupations you may have about society? What is your response to these problematics and preoccupations, as a scholar and as a citizen?

Almost all the critical educational issues that have preoccupied me in the last decade emanate from my conviction that it is through reflection and action upon the world (praxis) that individuals and communities achieve transformation and emancipation. For me, education ought to be driven by praxis in order to be meaningful and empowering. The educational 'problematics' that has preoccupied me most are: The role of the Arabic language, problem solving in school and life, equity and quality of education in the Arab countries.

Achieving literacy in the Arabic language is problematic. First, the large gap between spoken Arabic and formal Arabic as taught in schools results in extremely limited use and practice of the academic Arabic learned. Second, Arabic is the language of the Qur'an which for Muslims is not simply a revelation but the very words of God communicated to the world through an immutable text in Arabic. The widely held conception of Arabic as a sacred language dismissed or resisted, mostly on ideological grounds, the many attempts to bridge the gap between classical Arabic and Arabic as used in the real world. This led to an odd situation where the Arabic taught in schools is perceived as an academic language and as a cultural carrier whereas spoken Arabic (or a foreign language, mainly English) is the one used for expression, communication, and thinking in real life.

Another live issue in Lebanon is the use of a foreign language, instead of the native Arabic, as a language of instruction in mathematics and sciences. Foreign languages took such a stronghold that mathematics and sciences continued to be

taught in a foreign language even after independence in 1943 and despite laws and regulations to limit such practices. The social implications of the use of foreign language are obvious. Mathematics and sciences are often described as critical filters to university education in general and to scientific occupations in particular. The foreign language adds one more filter since the socially and economically disadvantaged have less opportunities to learn a foreign language and practice it in their home milieu. Consequently, mathematics and sciences taught in a foreign language tend to discriminate educationally and economically against students coming from low socioeconomic classes. There is also a divergence among Lebanese on the implications of teaching in a foreign language to individual and collective identity. There are those who believe that Arabic is a carrier of the Arab-Islamic culture and hence should be maintained as the language of teaching on one hand, and others who believe that the foreign language is a carrier of the western culture through which they want to maintain cultural ties with the west. Obviously, the social and national divisiveness becomes more complicated if the lines of social divisions due to the use of a foreign language coincide with cultural issues. I expressed my thoughts regarding these issues in a lecture (Jurdak, 1989) given at the International Conference of Mathematics Education (ICME).

The second educational issue which has pre-occupied me for some time is the apparent discrepancy between problem solving, particularly in mathematics, in the school and real life contexts. My research of this issue led me to discover Leont'ev activity theory and Engestr_m activity system as powerful constructs for looking at school and real life as two different sociocultural activity systems which in turn helped in understanding the discrepancy in problem solving between school and real life. My research in this area resulted in a series of three articles all published in the journal *Educational Studies in Mathematics of Education* (Jurdak & Shahin, 1999, 2001, and Jurdak, 2006).

One issue that has pre-occupied me for a while is the question of educational equity in quality education. In my book *Toward Equity in Quality in Mathematics Education* (Jurdak, 2009), I argue that educational equity and quality are inseparable constructs and that the challenge is to move towards equity-in-quality. In Part 1 of the book, I provided an analysis of the theoretical underpinnings of the construct of equity-in-quality and made the case that education is a purposeful collective activity enacted in a specific social-cultural context and constitutes a global nested hierarchical multi-factor system and that inequities in quality education result from multiple interactions of the multifactor system thus rendering inequities amenable to change. In Part 2 of the book, I used the theoretical framework to analyze TIMSS 2003 contextual data across a sample of 18 countries in order to identify, compare, and interpret student, teacher, school, and country related factors which account for variation in mathematics achievement within and across the 18 countries. Based on the analysis, I suggest a multifactor strategy for moving towards equity-in-quality in mathematics which I believe may be relevant to education as a whole.

Q. What are your reflections about the major forces that are shaping educational practice in your country/region? What are the dynamics and interests that underpin these forces, and what kinds of challenges do they represent for the articulation of an education project in your country/region?

One of the forces that has shaped educational policy and practice in Lebanon is the accumulation of its modern history. Lebanon has been and still is a cross-road of different cultures. In its recent history, Lebanon has become a bridge between the western culture and the Arab-Islamic culture. In the 19th century, Christian missionaries started to establish schools which reflected western values through several means, the most important of which was using French or English, not only as a foreign language, but also as a medium of instruction. In the last three decades there was an unprecedented growth in Islamic schools that were founded by charitable organizations and even political parties. Because the religiously-sponsored schools promote different value systems they tend to deal with educational issues from different perspectives. This situation makes the approval and implementation of urgently-needed forward-looking educational policies a tedious job which normally ends in consensual policies that continue the *status quo* in one way or another.

The nature of the political system is a major obstacle in the development of the educational system in Lebanon. The socio-political history of Lebanon has produced a confessional political system based on what is called consensual democracy based on the consensus of the different Lebanese confessional groups. Confessional groups exercise their political power through constitutional provisions, key laws, and unwritten political conventions. The constitution which is based on the Taif accord of 1990, stipulates among other things that the parliamentary seats and the key administrative posts should be divided equally between Christians and Muslims. Furthermore, the election laws since 1990 stipulated quota representation for different dominations of Christians and Muslims. With regard to education, the Taif Accord called for unified textbooks in history and civic education and re-emphasized the principle of 'freedom of teaching' which is generally intended to safeguard the right of the Lebanese groups to open schools and other educational institutions.

The political system is frequently paralyzed when faced with critical sensitive issues and education is not immune in that regard. For example, in 1997, the Ministry of Education undertook a national curriculum project from grades K-12. The formation of the curriculum committees was a delicate exercise to balance the representation of different political and confessional groups. In certain sensitive subjects, like history, different groups lobbied strongly to include their discrepant conceptions of the history of Lebanon to the extent that the history curriculum has yet to be issued. Another example is what happened to the higher education sector in the last three decade. The number of universities and colleges mushroomed from a handful of long and well-established universities, including the Lebanese university, to more than forty private universities and colleges many of which belong to confessional groups and are hardly subjected to any standard of quality control or

assurance. The weak political will renders the government's role in education more as a referee than a decision maker.

The historical accumulation produced a two-tier educational system of public and private school which acts as a potent force that has dampened the equitable development of the education in Lebanon. The public school system in Lebanon is inferior to the private system in terms of size, quality, and efficiency. One unusual feature of the educational system in Lebanon is that the private school system accommodates the majority of students (60% compared to 40% for public school system). The general perception, supported by evidence from international comparative studies, continues to be that the quality of education is much better in private schools than public schools because of the relatively superior quality of human and material resources in private schools on one hand, and the inefficient and bureaucratic public education system on the other hand. Because the private schools are tuition-based they can afford to attract higher quality human resources and to obtain better facilities and equipment. The public schools operate within a centralized system controlled by the ministry of education and consequently have little autonomy in their instructional decisions to enable them to adequately respond to student needs. One latent danger in the two-tier system is that the public schools accommodate low socioeconomic students, whereas the majority of students in private schools come from middle and high socioeconomic classes. This situation is a threat to social and national harmony particularly when the line of division between public and private schools coincides with social or confessional divisions.

Q. Which recent developments/innovations in the education sector in your country fill you with hope in terms of furthering the agenda of democracy, and of equity? Which recent developments do you feel most critical of, and why?

Lebanon adopted a number of macro, grand policies and measures in an attempt to further the educational reform agenda such as the educational revival plan in 1994 and the development and implementation of national curricula for all school subjects (except history) in 1997. However, these developments have yet to produce tangible improvements in the quality of education in the country, especially in public schools. This is because of the rigid top-down and bureaucratic educational system which allows only a little to 'trickle down' from the policy making at the top to the reality of public schools.

One development that I find promising is a small little publicized project called *School net Lebanon* whose ultimate goal is to interconnect all primary and secondary public schools and private schools and available libraries with the Ministry of Education and Higher Education using a state-of-the-art telecommunications infrastructure with a gateway to the global internet, supported by the latest information and communications technologies. The reasons I find this project promising are many. First, the project's goal, scope, and modern technology make it an unprecedented innovative educational project in Lebanon. Second, it is the first time in the educational history of Lebanon that there is a shared developmental

project between private and public schools under the umbrella of the ministry of education. Admittedly, the system has yet to be interactive and dynamic and to connect students and not schools. The third reason is that public schools and hopefully their students will have access to the internet which, if implemented properly, may present a challenge to public schools and their students as well as the educational system itself. Connecting to the internet is likely to develop student critical thinking through engaging students in searching for answers to their questions thus providing them with the opportunity to challenge the prevailing students' conception that the teacher and the textbooks determine the source and validity of knowledge. This is particularly important for public schools which accommodate students coming mainly from lower socioeconomic classes who normally do not have access to internet. On the negative side, the internet may be used by teachers to maintain their power to control students' knowledge by using it simply as a source of factual information to fulfil purely academic assignments.

There are many threats to the success of this project. First, the unstable political system in Lebanon does not provide any guarantee that the school net project will go beyond its pilot phase of about 130 public and private schools. Second, if the high-risk national external examination system is not aligned with the kind of learning that ICT may provide, the chances of empowering student learning through ICT will be dampened.

Q. What comments would you care to make about the impact of globalisation and/or regionalisation (e.g. Europeanisation) on educational development in your country/region?

I was one of the few mathematics educators who wrote quite early on globalisation in a lecture entitled 'Mathematics Education in the Global Village: The Wedge and the Filter' (Jurdak, 1994), given at the International Conference of Mathematics Education (ICME). I still believe that globalisation has a negative impact in terms of divisiveness (wedge) and exclusion (filter). I would like to add, however, that globalisation can have a positive impact on education as an incubator for emancipation. Globalisation is reinforcing the historically accumulated divide between developed and developing countries, which is reflected in a two-tiered global education system of different modes of educational development which I referred to as the optimal mode of development (moderate or high equity-in-quality education and integration with the global educational community) and the separate mode of development which I refer to as apartheid (low equity-in-quality education and marginalisation at the global level) (Jurdak, 2009). Globalisation has positioned developed countries at a highly favourable competitive edge in the global economy and this is likely to reinforce the educational advantage in terms of quality of their education as reflected in the results of international comparative studies (Jurdak, 2009). On the other hand, because the developing countries control two potent forces that shape global education, mainly the internet and English, globalization has helped marginalize developing countries from active participation and contribution

to global educational community. These two forces put developing countries at a disadvantage in terms of the quality of their education particularly in comparison to international standards and also in terms of preserving their valued local cultural values and practices. The positive effect of globalisation is in the empowerment it provides individuals and communities to challenge the establishment through the unrestricted instant access to information that the global communication system provides. Experience has shown that this empowerment has to start at the larger social context before it filters into the educational system.

Globalisation is likely to impact rich and poor Arab countries differently. Most oil-producing countries have invested vastly in globalising their educational systems through importing the latest educational technology and highly trained experts and introducing grand plans to modernise their curricula and instruction and at the same time were determined to preserve the ecology of their culture. However, these efforts have not so far grown roots and have yielded little in terms of the promised quality improvement in educational outcomes. One possible reason may be that these countries face the dilemma of appropriating the western technological aspects of education while closely protecting some valued aspects of their culture. Another reason may be the inherent weakness in the base of human resources in these countries. On the other hand, education in most poor Arab countries is likely to remain isolated from the effects of globalisation. Both rich and poor Arab countries will be waiting for ‘Godot’ or for praxis and emancipation!

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