VOCATIONAL SCHOOLS IN TURKEY: AN ADMINISTRATIVE AND ORGANIZATIONAL ANALYSIS

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Abstract – The data used in this paper were derived from a larger project which had the aim of critically evaluating the Turkish vocational education system on a number of different levels. This article examines the administrative and organisational practices in a selected group of secondary vocational schools in Turkey from the point of view of school administrators, teachers and industrial managers. The results indicate that the Turkish vocational education system is characterised by a centralised, top-down bureaucracy, which inhibits innovative capacity. The authors argue that a degree of decentralisation is necessary at various levels of the system.

Zusammenfassung – Die in diesem Artikel verwendeten Daten wurden einem größeren Projekt entnommen, das das türkische Berufsbildungssystem aus unterschiedlicher Sichtweise kritisch bewerten sollte. Vom Standpunkt von Schulverwaltern, Lehrern und Industriemanagern aus werden administrative und organisatorische Praktiken in einer auswahl von weiterführenden Berufsschulen in der Türkei untersucht. Ergebnisse zeigen, daß das türkische Berufsbildungssystem von einer zentralisierten, stark hierarchisierten Bürokratie beherrscht wird, die innovative Fähigkeiten bremst. Die Autoren sprechen für eine notwendige Dezentralisierung auf unterschiedlichen Ebenen des Systems aus.

Résumé – Les données présentées dans cet article proviennent d'un projet plus vaste dont le but était d'effectuer une évaluation critique du système d'enseignement professionnel en Turquie à ses différents niveaux. L'article analyse les pratiques dans le domaine administratif et organisationnel observées dans un groupe sélectionné d'écoles secondaires professionnelles de Turquie, considérées du point de vue des directeurs d'écoles, des enseignants et de gestionnaires industriels. Les résultats signalent que le système de l'enseignement professionnel turque se caractérise par une bureaucratie centralisée et hiérarchisée qui freine la faculté d'innovation. Les auteurs concluent qu'un certain degré de décentralisation est nécessaire aux différents niveaux du système.

Resumen – Los datos usados en este trabajo se han extraído de un proyecto de mayor envergadura, realizado con el objetivo de evaluar críticamente el sistema turco de formación profesional en diferentes niveles. A base de un grupo selecto de escuelas profesionales secundarias de Turquía, el artículo examina las prácticas administrativas y organizativas desde la óptica de directores de escuelas, de docentes y de ejecutivos del área industrial. Los resultados indican que el sistema turco de formación profesional está caracterizado por una burocracia centralizada y verticalista que inhibe la capacidad de innovación. El autor sostiene que el sistema requiere un cierto grado de descentralización en varios niveles del mismo.

Резюме – Данные, используемые в этой статье, были получены из проекта, направленного на критическую оценку системы профессионального

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образования в Турции на различных уровнях. В данной статье рассматривается административная и организационная практика в отобранных средних профессиональных школах в Турции с точки зрения школьных администраторов, учителей и менеджеров. Результаты исследования указывают на то, что система профессионального образования в Турции характеризуется централизованной, вертикальной бюрократией сдерживающей инновационную деятельность. Авторы статьи утверждают что необходима относительная децентрализации системы на различных ее уровнях.

Vocational education has recently been one of the primary policy areas of governments, industrialized or developing alike. As Reich (1991) argued, in the future three major types of jobs will be available: routine production jobs, in-person service jobs, and symbolic-analytical jobs. Only the jobs in the last category will be well paid. Nations that wish to maintain or attain a high standard of living will have to capture a high percentage of the world's symbolic-analytic jobs for their citizens. Success will depend upon developing a suitable infrastructure, including an appropriate educational system. As a result of all these factors, fierce economic competition has developed among both developed and less-developed nations (reported in Jacobson and Berne 1993).

In relation to this dramatic pressure stemming from new economic realities, national vocational education systems, individual schools and companies alike are experimenting new and innovative educational and training practices. There are provoking examples from the US. For example, Hudson Community College started a program that guarantees employment to students following graduation ("Degree with a Money-Back Guarantee Program"), Miami-Dade Community College developed a similar program through which "the college will guarantee a refund of tuition and fees to participating students if, after meeting specified conditions, they are unable to obtain employment upon graduation" (Leitzel 1991: 175). The Motorola Corporation founded the Motorola University in 1989. The need for such an institution stemmed from Motorola's need for better trained workers and experience with an effective in-service training program (Wiggenhorn 1990). Further, following the German apprenticeship model, some institutions are trying to collaborate with industry to train and educate their students better.

These practices indicate a clear departure from the traditional-industrial administrative and organizational forms of vocational-technical education (Handy 1990; Simsek and Ammenstorp 1993). The move shows a clear orientation towards a closer tie between individual schools and companies, administrators use more latitude and autonomy to initiate innovations and take risks.

As one of the most advanced economies of the Middle East, Turkey is at

a crossroads in terms of reforming its vocational-technical education system. It makes the case even more urgent that Turkey has achieved customs union with the European Community, and now is pressing the Community for full membership. The most advanced sectors of the Turkish economy (textile, automobile, construction and electronics) already feel the pressures of fierce economic competition as they prepare themselves to play in the league of the world's most advanced economies. They openly express their desire for a better educated and trained workforce. Departing from this need, the purpose of this paper is to critically evaluate the administrative practices and organizational structure of the Turkish vocational education system from the perspectives of school administrators, teachers, and industry managers. As a second step, the paper will present a framework to make the system more compatible with new domestic and international pressures based on the findings of the study.

For this, the following research questions were designed to guide the research process:

- Currently, what administrative practices and organizational form(s) are most characteristic of the vocational high schools sampled in the study?
- What are the dominant organizational forms that describes the relationship between the schools included in the sample and the central organization?
- To what extent are the schools included in the sample organizationally tied to the related industries?
- What are the most common in-school administrative practices and staff appraisal/development activities within the sampled schools?
- What are the profiles of school principals in terms of their administrative/leadership practices within the sampled schools?
- To make the system more effective, in what ways the current administrative practices and organizational form(s) can be altered from the perspectives of principals, teachers and industry managers?

Method

As stated earlier, this report is part of a larger project that was designed to assess the general status of the Turkish secondary education system. The data used in this study were derived from this larger data base. To answer the research questions posed above, the study included a total 14 vocational high schools and 12 companies that hire graduates of these schools in four different cities in Turkey (namely Ankara, Istanbul, Izmir and Bursa). These schools and companies were visited to carry out interviews and observations over a period of four weeks. Two to four vocational schools from each of these cities were involved in this study. Four of these schools house a four-year technical vocational school as well. Most of the 14 vocational schools are con-

sidered large scale schools covering many specializations and serving more than a thousand students. These schools were selected based on the following criteria:

- relation of the school curricula to relevant industries within the province,
- the number of schools visited within a province should be proportional to the relative population within the province,
- both boys' and girls' vocational high schools should be represented,
- different vocational areas should be represented in the sample (e.g., textile, construction, furniture making, electric-electronics).

The companies were selected based on two criteria: 1) they should have a relation with one of the schools sampled (e.g., providing on-the-job training to students, employing graduates), and, 2) both small and large-scale companies should be represented.

The researchers spent approximately one day in each site for interviews and observations in schools and industries. The school principals were interviewed individually, and group interviews were carried out with teachers. Approximately, five teachers from each school were interviewed. In the industry sites, managers were interviewed individually. As a result, a total of 14 principals, about 70 teachers and 12 industry managers were involved in the study.

Mainly two data collection instruments were used to collect data: interviews and observations during site visits. Field notes were taken during observations and interviews. The researchers took notes during the interviews and right after each interview, they went through the interview notes, added and revised them to have more complete descriptions of experiences of the interviewees.

The interview data were subjected to content analysis (Patton 1987; Spradley 1979; Miles and Huberman 1994). The researchers first coded all the data using a predefined set of categories which are roughly equivalent to the research questions presented earlier. The researchers coded the data both deductively and inductively. Both researchers went through all the notes to check each other's coding, and this process established consistency in the assignment of codes to the same phenomenon. Second, the descriptive codes were grouped in categories which fit together meaningfully. These categories allowed to identify the main themes present in the data. Third, by using thematic codes, the interview data were examined again and restructured according to these themes. Then, a third level thematic coding was carried out to determine the general descriptive themes for the data.

The Turkish vocational education system: an overview

Many resources on vocational-technical education generally admit that the history of vocational technical education starts with the history of the modern

Turkish Republic founded in 1923. Prior to this, Ottoman Empire did not have a vocational-technical education tradition, except one or two cases, since there was not a strong indigenous industry. Moreover, general academic education was valued more over the vocational and technical education because of the fact that most available jobs were clerical in the government bureaucracies (Olkun 1995: 14).

After the proclamation of the Republic, nine vocational schools were opened between 1923 and 1927 with a total of 1060 students. As part of general reformation of education under the new leadership, vocational schools were redesigned to enable students gain more vocational skills and knowledge. The first vocational teacher training institute was also opened in 1937 to raise qualified teachers especially for these schools (Olkun 1995: 15).

First series attempts to orient students to different educational tracks in order to reduce the load of general/academic track and as well as strengthening the vocational courses to satisfy the need of future industry, a commission was formed in 1934, and made the following points:

> Children graduated from primary schools were expected to be an officer in the government with a diploma of university, lycee, or at least a secondary school certificate. Since having a degree for everyone is rather difficult, some students should be directed to have manual skills. And this can be made possible with a rationally planned technical education. (Ministry of National Education 1990: 23, reported in Olkun 1995: 15)

Between 1924 and 1962, vocational and technical education usually took 5 or 6 years of education following the compulsary primary education. Sometimes the first two years, sometimes three years were devoted to general academic preparation and the remaining time was devoted to vocational-technical education.

Vocational and technical education's purely "vocational-techical orientation" was strictly followed in some periods of the Republic and the graduates of these schools were not allowed to pursue higher education. If they wished to do so, they required to finish a general lycee after graduating from a vocational lycee. However, since the early 1980s, vocational-technical lycee graduates have a full right of taking the university entrance examination like a general/academic lycee graduate. Since then, vocational-technical education in Turkey has had a dual purpose, both general/academic preparation for university entrance examinations and vocational-technical preparation for the world of work.

In general, most observers of the system agree that, until 1986, a school-based vocational-technical education became dominant with less industry training and work-based experience. To a great extent, the 1986 Law of 3308 altered this philosophy. The 3308 Apprenticeship and Vocational Education Act substantially reduced the time spent in school in favor of practical experience in industry settings. Students spend three days a week in the industry for practical training and two days a week in school for general academic or

theoretical preparation. Since the initiation of the Act, the cooperation between vocational schools and the industry has slightly improved in terms of internships, teacher and resource exchanges, teacher training, and technology transfer.

As of 1995, 336,000 students enrolled in 700 vocational-technical schools instructed by about 11,000 technical teachers in Turkey (State Planning Agency 1995).

Results

The presentation of results are organized under previously presented research questions and subquestions. The first set of research questions is about the assessment of current administrative and organizational status of vocational education followed by proposed remedies to problems detected within the system.

Currently, what administrative practices and organizational form(s) are most characteristic of the vocational high schools sampled in the study?

What are the dominant organizational forms that describes the relationship between the schools included in the sample and the central organization?
The interview data with school principals and teachers indicate that the schools sampled in the study are under strict control of the central organization of the Ministry of Education. All the principals interviewed agreed that it takes much time to get attention of both the provincial level and the national directorates located within the central administration in Ankara on their requests about program revisions, material needs, and other areas. As one principal remarked: "During the past several years, there have been changes in our programs and regulations by the ministry. However, we are not given any information about why those changes were done or we have not been asked if we have had any opinions before implementing them."

They feel that especially at the provincial level, staff of the education directorate have no understanding of vocational and technical education and they are not attentive to their problems. Information flow is usually one way, from the center to the schools.

Most principals generally agree that the information flow is only one way, from schools to the Ministry of Education (MOE). They do not receive any response or reaction from the top on their reports. The content of communications from the ministerial offices (provincial or central) is usually in the form of ordering or sending new procedures to schools. There is no consultation or deliberations with the schools on educational matters or to make the system more effective and efficient. Principals of three vocational-technical schools in three different provinces complained that each year they inform the MOE about the number of students they can admit to their schools for the

new academic year based on their physical capacity, but the MOE usually doubles their quota or increases it at least 25%. The event here itself is interesting but most importantly this event also points out the most serious problem at the base: The system is strictly centralized and the admission quota for each school in the country is specified by the central organization (MOE) through its provincial directorates. This reminds us the French education minister in the early 1970s who once told a UN delegate that he instantly knew what is being done in a typical French school at any time of the day since each French school had followed the same curriculum with exact precision.

So to speak, all principals describe a type of organizational form which is top-down and very bureaucratic in nature. The analysis yields that the most pervading organizing paradigm that describes the relationship between schools and the central organization is a top-heavy functionalist-mechanistic form (Morgan 1986; Bolman and Deal 1990).

To what extent are the schools included in the sample organizationally tied to the related industries?

According to both industry managers and school principals, there is no systematic way of information flow between schools and industry. The industry managers feel that there is a need for systematic coordination and information flow on new developments in both institutions. Often, the graduates lack certain skills, perspective and creativity (especially in advanced or high-tech sectors), but there is no coordination on giving feedback to the school. It is even more imperative that the industry does not know the kind of curriculum in the school and industry managers are not sure whether or not they can influence the curriculum.

For example, according to school principals and teachers, student placement to industries is done through informal contacts with the industry. What is needed, as they argued, is a placement center or office either in each school or in the provincial/county level educational directorates to organize student placement, follow up, needs assessment and monitoring of the industry practice as well as documenting feedback from the industry.

School-industry relations seem so vital for an effective vocational and technical education. This collaboration is especially critical for public schools owing to their centralized, buraucratic nature and limited finance capacity. Students often get used to new technology during their industry training. As one company manager indicated, her company is far ahead of the schools in terms of technology, and their personnel know more than the teachers in schools know in the same field. In this sense at least, school-industry partnership must be deliberately sought to renew the knowledge base in schools. One teacher mentioned the lack of technology and knowledge base on the part of schools by saying that "in terms of technology, our school, for example, is far behind the industry. Students go to industry without any prior orientation. Even worse, sometimes students ask us some questions about the machinery they see during their practical training which we do not know. We

somewhat get ashamed." On the other hand, the industry is hesitant on school collaboration because this collaboration and partnership was not designed to include some incentives for the industry.

On the issue of communication and collaboration between the schools and the industry, the manager of the largest furniture maker in Bursa province mentioned that they had just started acquiring a really cutting-edge technology in furniture manufacturing, and although they need about 200 vocational and technical school graduates, none of the technical schools in Bursa had done a needs assessment to explore the needs of the industry. One or two schools in the sample seemed quite effective in this regard, and we will discuss them later when we present the findings on the importance of leadership in public vocational and technical education. In the final analysis, the data reveal that, on top of an functionalist-mechanistic organizational form, schools show "closed system" characteristics.

What are the most common in-school administrative practices and staff appraisal/development activities within the sampled schools?

All the schools included in the sample were public vocational schools. It seems that the general functionalist-mechanistic organizational form dominates the in-school practices as well. The principal is the sole authority who is responsible for running the school within rules set by the central administration. The principal is the most powerful individual in the school. Authority and power is concentrated at the top of the hierarchy. There is divisional pattern where each division (department in the schools) extremely isolated from each other. Except two cases that we cited in our discussion on leadership, most of the schools did not have a strong, tightly-knit organizational culture based on collaboration.

Moreover, critical decisions are made at the central level, the principals are responsible for operational issues. There are no systematic, regular meetings, seminars or similar activities that may facilitate communication between teachers and administrators.

A teacher reported the following: "We had an equipment in our school which had not been used for years because no one knew how to use it, and even worse, there had not been any attempt by any one to learn how to use it. I participated in an in-service training on the use of equipment for analyzing, and in that training I also learned the use of that equipment. When I came back to school, the principal did not ask me anything about the training or how it was, what I learned, if I could share what I learned with the other teachers and staff in the school." This clearly indicates the lack of administrative and leadership skills of the school principals.

Almost all the principals interviewed for the study accepted that there is no systematic effort or plan for teacher development in their schools. Most principals complained about the quality of teachers, especially the new graduates. They think that the new teachers lack practical skills, industry procedures and knowledge, and one of the ways of acquiring it is through industry

experience. As one teacher said, "we (teachers) need industrial experience more than the students do."

Sometimes teachers are sent to the Ministry of Education's in-service training programs but these are not found very effective in responding to teachers' instructional and professional needs. These in-service training activities are not organized well in terms of time, place and content. For example, courses are offered in places which are not convenient for teachers. The selection of teachers is based nominations by the school administration or by the provincial directorates which often creates favoritism. The in-service curricula are uniform in spite of wide regional, local and individual differences. Teachers mentioned that there are courses offered by companies which might be very useful for teachers, however, they are relatively expensive, and teachers can not find support to pay for them. Schools do not have such resources, because the school funding in the Turkish public education is called "incremental line item budgeting" which does not permit administrators to channel resources for important and relevant areas for their schools.

To interviewed teachers, there are not adequate professional development opportunities within the system. There are too many students in classrooms, and they have to teach many hours a week. On top of crowded classrooms and heavy teaching load, they do not have new equipment and materials to improve themselves. They are not able to keep up with the recent professional literature in their fields. Our analysis yields that there is no significant human resource development perspective consistent with the developmental and professional needs of teachers within the vocational schools involved in this study. Schools internally resemble many typical characteristics of bureaucratic, functionalistic-mechanistic organizations. Principals also do not have necessary professional skills and knowledge commensurate with their administrative and leadership roles and responsibilities.

What are the profiles of school principals in terms of their administrative/leadership practices within the sampled schools?

Among 14 schools visited, most principals feel that the system sees them as caretakers of the schools representing the central administration. They openly say that they do not have academic training or required professional qualities to manage their schools. This is a generic problem of the Turkish education system. Administration is not a professional area of formal training. School principalship is based on a number of years of apprentice-like administrative experience as assistant principal. The nature of principalship is both a case and a result of administrative philosophy in Turkey: A centralized bureaucracy prefers administrators as caretakers, and caretaker administrators lock the system into inflexible, top-down, strictly regularized bureaucracies.

In two instances, however, the researchers found two school principals with strong leadership qualities. Although the system constrains them to a great degree, they were able to create a strong school culture that breeds collaboration with the industry and innovation and cooperation within the schools.

We found that administrative skills and leadership qualities of principals are critical in effective schools. To mention just one of these two examplary leadership cases, this particular school is located in Turkey's third largest province, Izmir, on the Aegean cost. It is a Girls Vocational School. We interviewed the principal, three assistant principals and teachers in separate occasions in the school. Assistant principals and teachers told us that the school's identity shifted dramatically with the arrival of the current principal four years ago. The school aggressively ran after industry representatives to strengthen the ties between the school and the industry. She relentlessly tried to get hold of two local garment commerce chambers, trade unions, hotel and secretarial unions and chambers in Izmir. Finally, she managed to draw their attention to the school and they established an advisory council to get industry's feedback on the school curriculum and outcomes. For example, the Hilton management did not like the school program. She invited them to the school to review their program and promised to change it if needed. One teacher was sent to the Hilton for training. As a result, the curriculum was revised based on the recommendations which focused on less theory and school time, and more practice and industry experience.

During our interviews with the principal, and assistant principals, besides of her having close relations with the industry, she achieved positive relations with the ministerial administrators both in the provincial directorate and in the central administration in Ankara. We asked her if it was that easy to change the curriculum based on the feedback from the industry under the usual threat of heavy hand and eye of the Ministry, she said the following:

> Well, I think two strategies should work well. You have to be nice to the Ministry people. At the end, some of them are sincere about education and they like and support us if we do something positive here. Second, you don't have to tell exactly all the things you do here. You don't have to be honest all the time. Sometimes, we go with the book, never mention a change in curriculum. Periodic monitoring for supervision is sometimes a ritual, we report just what the book says.

Overall, teachers were optimistic and enthusiastic about their work in school. We found the school well cared for and pleasant place to work at. We also sensed a positive authority of the principal on teachers based on respect and admiration. This finding convinced us that even in a strictly centralized system, leadership makes a difference in terms of creating a better school climate and an effective school-industry cooperation.

To make the system more effective, in what ways can the current administrative practices and organizational form(s) be altered from the perspectives of principals, teachers and industry managers?

Teachers and principals interviewed anonymously agree that the decision making should be moved down to the levels closer to the individual schools. As one principal said, "the schools should be more independent in their

governance and affairs rather than checking every procedures with the provincial and central MOE directorates." To make the system more effective, school principals should be given additional power and responsibility to make changes in the areas of curriculum, research, organizational development, supervision, staff promotion and development.

Similarly, teachers and administrators generally agree that schools should be governed by local authorities. Moreover, in each school, there should be a governing board involving industry people, parents, teachers, local education authorities and school administrators. "Especially industry should be in the school, not outside of it," they said. Only in this way, can industry feel that schools are there to provide a good vocational and technical education. An effective vocational-technical education, in turn, may substantially reduce the time and money they spend to retrain the graduates of these schools. It may be equally good for schools because they would teach the necessary and the most important skills to the students, their teachers would benefit from the experiences of industry. This configuration would also reduce bureaucracy in schools allowing more administrative responsibility to the school administration.

On the other hand, many teachers, administrators and industry representatives agree that the provincial level education directorates should be given a substantial degree of autonomy to make the system more flexible. This would allow more curricular diversity in terms of responding to the needs of the local industry in their regions. As one principal indicated, "school curriculum should be consistent with the local needs sensitive to the variation of geographical regions rather than a uniform curriculum for the whole country."

The industry managers feel that there should be appropriate legal and administrative motivators to get the industry involved in the vocational education. To allow them to have a say in shaping the vocational education curriculum, an effective program of teacher and professional exchanges between the schools and the industry will increase the amount of information flow between the schools and the industry and it will, no doubt, create a positive approach on the part of industry to the schools.

So to speak, a degree of decentralization at various levels within the system is inevitable as it seems. On the other hand, one school principal indicated that, besides a degree of decentralization within the system, vocational and technical schools should be put under the Ministry of Industry and Technology. According to him, the 3308 Vocational and Technical Education Act is potentially a very important initiative to make the vocational-technical education attuned to the realities of work, industry training is not working well because of bureaucracy, limited authority of schools in managing and organizing industry training, etc. However, the Ministry of Industry and Technology can use its authority on industries for more collaboration with the schools. "In the current system," he said, "industry does not give much credit to the Ministry of Education, but they are more careful about their relations with the Ministry of Industry and Technology."

Discussion and policy implications

The results of this study based on extensive interviews with teachers, administrators and industry managers indicate that the Turkish vocational education system is beset by a number of serious administrative and organizational anomalies today. The findings become even more relevant and important by considering a potentially pivotal role for vocational as well as technical education in the eyes of higher education policy makers in Turkey. The crisis of higher education in Turkey stems from a higher percentage of young population in demand of higher education and a very limited capacity of higher education institutions to admit them (only 10% of total high school graduates can get access to higher education through a highly competitive nationwide university entrance examination). To remedy this, higher education policy makers today are seriously considering vocational and technical education as the only viable alternative to match some of the young population to the job market right after the secondary certification. How viable this option is remains open to discussion, because vocational and technical education is considered inferior to general academic education. Today about 35% of all secondary enrollment is in the vocational and technical education component, but it no way curbs the number of applicants to higher education institutions.

Perhaps the secret lies elsewhere. Almost all the studies done in Turkey indicate that the relevance of vocational and technical education in schools to the realities of the job market is not well established. Except in some fields (e.g. electronics), for example, less than 1/3 of all vocational and technical school graduates work in jobs relevant to their preparation. Employers also find the graduates of these schools incompetent (Olkun 1995). So, all these factors indicate that vocational education in Turkey needs to be reconfigured to satisfy the needs of students, employers and of the Turkish economy in the long run. Our findings highlight some of the areas of difficulties from the perspective of teachers, administrators and employers.

We think a reform initiative based on a careful analysis of the insiders' perspectives is critical. Some recent perspectives on organizational change and reform propose two things essentially. First, participants should be well aware of the problems that trouble the system. A careful analysis of their understanding and analysis of the problem areas and their solutions are critically important for reform ideas. Second, a careful analysis of accumulated anomalies (types of serious problems that threaten the core functions, values and beliefs of a system) sometimes draw a clear-cut future policy path for any typical organization (Simsek and Aytemiz 1996). Consequently, we will do two things: document the areas of problems that beset the vocational educational system in Turkey, and then draw a policy outline to reform the Turkish vocational and technical education system by primarily relying on the analysis of the participants in the system.

Administratively and organizationally we have detected four areas of

problems in the vocational and technical education system in Turkey. First, Turkish vocational schools as they seem are little tentacles of an enormous octopus unable to move, sense and exercise control. Yes, the octopus itself is very big and impressive, but little tentacles are improverished although they are the only points of touch and sense for the whole system. The metaphor is clear and explicit, but organizationally speaking, individual schools feel the extreme pressure of a heavy bureucracy and centralized control of the Ministry of Education.

Second, although the Vocational and Technical Education Act 3308 legislated in 1986 laid the foundation for an effective school-industry cooperation and collaboration, the inherent problems of the vocational and technical schools we mentioned above do not allow an effective implementation of the Law. As all the participants of the system we interviewed agree, sending students to industry three days a week does not reflect the whole spirit of the Act (even this does not work smoothly as they reported). Schools' hands are tied just because of being a part of an archaic administrative machinery and they cannot freely engage in industry and employers to pursue the spirit of the Law still further for an effective vocational-technical education. Some employers, on the other hand, are not just concerned about vocational education at all, either because of simple ignorance or because of a short sighted business mentality. Also, there are no solid incentives for the employers to cooperate with the schools.

Third, the system is holographic in a sense. The top-down, authoritarian, bureaucratic nature of the national system is literally replicated in many schools we visited. The principal is the most powerful individual in the school. Authority and power is concentrated at the top of the hierarchy. There is a divisional pattern where each division (department in the schools) is extremely isolated from the others. Except in two cases that we cited in our discussion on leadership, most of the schools did not have a strong, tightly-knit organizational culture based on collaboration. Moreover, many critical decisions are made at the central ministerial level, and school principals are just caretakers of the school responsible for overseeing the attendance, protecting the physical facilities, filling out promotion reports for teachers, etc. Very consistent with this general interpretation is the fact that to be principal does not require a professional/academic training on top of experience.

Our results indicate that teachers complain about the lack of professional development opportunities within the schools. Let's not just limit this problem to the vocational and technical teachers, this has traditionally been one of the maladies of the Turkish education system. Like principals, teachers are never perceived as professionals, they are just given the curriculum to follow, exams to administer, topics to teach by the central education authority. In such a system, you don't really need professionally well-rounded individuals. Without any room for school administrators for resource use, new resource generation, authority to hire and fire staff, professional development and staff appraisal just stays with the central education authority, the Ministry of

Education. Teachers find these development activities ineffective and somewhat useless.

As we discussed earlier, our findings indicate that leadership skills of administrators make a difference no matter how centralized or bureaucratic the system is. They are more or less entrepreneurial in their dealings with the employers and industry. They have managed to create a positive school culture that breeds collaboration, innovation and partnership. We found them also very creative in their dealings with the central authority.

Policy implications

Departing from our earlier statement, these are the main anomalies of the Turkish vocational education system we have drawn from our research in 14 carefully sampled vocational schools. Again, departing from the participants' ideas on how to make the system more effective and efficient, we come to perhaps the most widely repeated buzzword of education reform in many parts of the world today: *decentralization*.

Lee (1994) identifies three major models of vocational education in the world systems: the schooling model which emphasizes full-time schooling until age of 18 (for example, Taiwan, Netherlands and France), the dual model which involves mainly work-based apprenticeship training with some school-based general education (for example, Germany), and, the mixed model (UK). As Lee reports, Netherlands has started a reform initiative to get away from the schooling model in favor of encouraging more employers' organizations, trade unions, and industry involvement. Turkey achieved this reform in 1986 by the 3308 Vocational and Technical Education Act. It involves almost all the necessary measures to get schools and labor market close to each other. However, the central machinery of the national education bureaucracy creates the single biggest obstacle to an effective implementation of the Act.

The nature of anomalies within the system and the analysis of the participants of the problems indicate that the central education authority should engage in a series of decentralization activities throughout the system. Starting with the schools, each school needs to be granted a degree of autonomy in staff appraisal, finance and external funding, curriculum matters, procurement of equipments, etc. Considering the fact that Turkey exhibits wide regional differences, local needs of the labor market can better be assessed and necessary precautions can be taken by individual schools. This would create a better and more effective school-industry partnership based on local needs, student and employer demands.

The second tier of the decentralization attempt should be at the provincial levels. In order to impose a degree of standard on the system, provincial educational directorates should be full-fledged educational authorities supported by professionals in various fields of education (curriculum specialists, measurement specialists, inspectors, data processing and management centers, and other relevant support staff). Up to now, in any reform initiative, the Ministry

of Education has been very keen on the national educational standards, this jealous interest in the standards can be maintained and overseen by the provincial educational directorates.

According to Lundberg (1996), a similar decentralization of public vocational education has been done in New Zealand and two states of Australia (New South Wales and Victoria). The author reports, curriculum development was fully devolved to the institutional level in New Zealand. In three cases, decentralization so far appears to contribute to responsiveness to the labor market.

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