



STEM Education in Gülen Inspired Schools through Extra Curricula Activities

Dr. Mehmet Evrim Altin

International University of Bad Honnef, Germany (m.altin@iubh.de)

Abstract

STEM education has been one of the most important subjects in college entrance exams in Turkey and therefore it has been an initial target of the private school sector for decades. Through various channels, Turkish Islamic Scholar Fethullah Gülen's and his followers schools, which are named Gülen Inspired Schools according to different scholars [1], have achieved remarkable success in STEM education. Their graduates are now among Turkey's leaders in science and math and are very well represented at the country's top universities, as well as in master's and doctorate programs throughout Europe and in the United States [2]. Through the internationalization process of the movement after the Soviet Resolution, different Gülen inspired schools were founded outside of Turkey and they also followed the same path and expanded this type of STEM education to the world [3]. The purpose of this paper is to examine the methodology of Gülen Inspired Schools in STEM education. A qualitative research design is used to study this issue. Semi-structured expert interviews are conducted with managers of the Gülen Inspired Schools from three continents: Europe, Africa and the US and the experts of the subject. The results show that, in addition to the full-day concept and modern facilities with science labs, these schools conducted three types of extra curricula activities such as tutoring programs for the weak students, preparing good students for science Olympiads and coaching or mentoring students [4]. These types of extra educational activities have a supporting role in the STEM education in these schools. On the other hand, the detractors of these schools described these extracurricular activities as a tool in which Gülen followers conducted indoctrination and missionary activities to gain new followers [5]. Schools defended themselves against these approaches by demonstrating the secular structure of these activities and contribution to their students. Such discussions and the controversial structure of these extra curricula activities are also analyzed from different perspectives in this paper.

Keywords: *Gülen Inspired Schools, STEM Education, Extra Curricular Activities*

1. Introduction

Higher education institutions and interest in higher education has been an important subject since foundation of the Turkish Republic and the demand for these institutions increased rapidly in the last four decades [6]. Because of this issue, the Ministry of National Education in Turkey founded several central exams, such as High School Entrance Exam *LGS (liselere Giris Sinavi)* or Student Selection Examination *ÖSS (Öğrenci secme ve yerlestirme sinavi)*, to select the best students for these schools. Despite several changes in these exams since its foundation, the STEM courses always have had a crucial role in these exams and schools compete with each other in this sector. What is striking in this competition is the success of the private schools and tutorial centers which were founded by Turkish Islamic Scholar Fethullah Gülen. He saw this trend in the early seventies and motivated his followers to found STEM based private tutorial centers and private schools in Turkey. It is not clear what percentage the GISs share in the total number of private schools in Turkey; however, until recently, the Movement was considered the dominant player in the private market in both primary and secondary education [7]. Later on, the movement expanded these institutions outside of Turkey and founded more than a thousand similar types of STEM based schools all around the world [8]. What is the common features of these schools in STEM education, what kind of methodology did they conduct and how did they expand so rapidly were some of the research questions of the researcher in his PhD studies from 2016 to 2020 [9]. This paper is an expansion of the results of this research and adds several new perspectives to this controversial subject. Unfortunately, because of the political disorder in Turkey after the coup attempt in 2016, all Gülen inspired schools and tutorial centers were closed immediately after the event [10]. Therefore, the researcher of the study decided to focus on Gülen inspired schools outside of Turkey to research his research question.



2. Results

As it was mentioned above, the major difference of this type schooling is its strong structure based on STEM education. The first remarkable feature of these schools in STEM education is their modern facilities with high tech labs. All nine schools have laboratories and they use modern technology like smart boards in their classrooms. In this way, they are promoting research activities, especially in natural sciences, and self-learning in their schools. All participant experts in the field study also highlighted this issue and suggested that quality has a crucial role in Gülen inspired schools and that differentiates them from other schools in their region.

In addition to high technology, the whole-day school concept is another remarkable feature of these schools worldwide. According to different researches and during the visits in three parts of the world, it was observed that all GISs practice a whole-day school model in their institutions. In this way students spend more time at the school and, in comparison to other students, they have more classes.

"For example, a normal public school starts at eight and ends at two, two-thirty...Yes, we have an all-day concept, so we give two math lessons, one morning and one afternoon. Science can be like that. So, we have chance to teach more subjects and to do more exercises because we have more time." (First School Manager in the US)

Based on these two common features, all participant managers highlighted that extra-curricular activities have crucial role in their STEM education. During these visits and interviews, researcher of the study observed three type of extra-curricular activities based on students' academic level.

2.1 Tutorial Courses for Weak Students

Private tutorial centers were first founded as institutions of the movement in the seventies, much earlier than Gülen inspired schools, and the movement achieved remarkable success with these institutions in Turkey [11]. It was observed during the research that the followers of the movement uses their experience in these centers and made tutorial activities a part of their teaching activity in their schools.

Especially students who are weak in STEM courses are encouraged to attend these extra courses. In Africa, GIS organized these activities by themselves and offered these extra courses on Saturdays or evenings in their dormitories. In Europe, such a kind of schools have cooperation with some private tutorial centers and lead their weak students to these institutions. In the US, the practice depends on the school but it is more and less a mixture of the Europe and Africa approaches

In these courses, teachers or sometimes older students who are very good in STEM courses explained these lectures to weak students at a slow pace with individual care. By this way, weak students have more of a chance to ask their questions and better focus on these subjects.

2.2 Consulting and Coaching Activities for Average Students

The second type of common practice in Gülen Inspired Schools are consulting and coaching activities in these schools. These type of activities targeted average students in their schools. In GIS there are one or two people with an education and experience background who are employed for this job and they report directly to the school manager. These people are called *Rehber* or "PDR" (which means psychological counselor in Turkish).

"For example, we have a PDR (Psychological counselor and guidance) work in our school, and there is no such understanding in other schools. Maybe for the first time there is a PDR in this country who is working in a school." (Second School Manager in Africa)

The people responsible for this duty cooperate with other teachers, especially class teachers, and conduct their mission. In these coaching sections, class teachers or PDR meet with a group of students, mostly consisting of three or four students, and talk about their grades, their study methods and personal issues which could affect their grades every week or every two weeks. Students talk about their difficulties and try to find solutions for these problems together with their teachers. In these meetings, students also decide on some goals and plan several strategies to improve their grades. Class teachers or PDR follows these decisions and motivate students to achieve their goals. The second goal of this kind of coaching activities is to find out personal problems or concerns of the students, especially because of adolescence, and help them to solve them before these issued darkens their academic success in their school success.

From both perspectives, setting targets and removing obstacles depending on different private reasons, help these schools, especially in STEM education, which needs more focus and concentration.

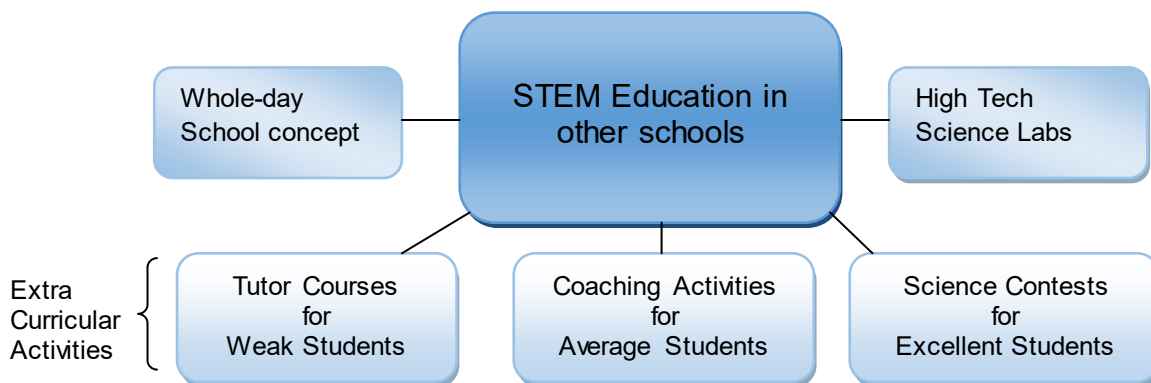


2.3 National and International Contests for Excellent Students

One of the most remarkable common points of the Gülen inspired schools is their active participation in national and international science contests [12]. In all visited GISs during the field study, many medals and prizes from different contests are located in the most seen parts of the school. As a very concrete example, the third visited school in the U.S. put their students' picture with Ex-president Obama in the White House at the entrance of their main building. These students achieved a success in a national contest and therefore President Obama invited them to the White House to award their efforts.

It was observed in the field study that GISs mostly select their excellent students from STEM courses and prepare them for national and international science contests. After finding a suitable contest for their teachers and students, GISs post a teacher who has a deep knowledge about the subject, and group of students who have talent in that course and prepare themselves for the contest. Such kind of cooperation will not just increase the knowledge of these students in their strong skills and prepare these students for University studies, besides it will also become a challenge for these students who already have enough above average knowledge. Therefore, management in the GISs take these activities very seriously and they follow these kinds of contests or projects at both a local and a global level for their excellent students, especially in STEM fields.

All above mentioned additional educational activities could also be practiced in other schools too, but the difference in GISs is the attention and approach of the management to these activities. During the field study, all school manager participants mentioned that they have all these three types of activities outside of class and they are all organized by the management of the GISs. The figure below explains the difference between traditional teaching and how Gülen inspired schools cover these activities:



3. Critiques

These three types of additional educational activities cause some criticisms too. The movement's detractors suggested that the schools and their curricula is outwardly secular, which is utilizing *taqiyya* (hypocrisy) and that the schools are a front, where behind the scenes in informal classes (*gayrı resmi* in Turkish) and in extracurricular activities, the followers of the movement conduct brainwashing, indoctrination and missionary activities [13]. According to Tittensor, behind the scenes, though, there is a carefully executed informal religious curriculum that is carried out by handpicked proxies [14]. In the same way, some detractors also mention that the other goal of these activities are to recruit new participants and gain new followers for the movement [15].

In contrast to these approaches, especially school manager participants of the study, debated on this issue and said that their goal is to use students' time more efficiently. According to them, school hours are not enough because of the wide range of their curricula and these kind of activities are necessary for the students. That is why they only try to expand their education by cooperating with students and their parents after school hours. Besides, they underlined that one of the major factors behind their success is their close engagement with their students in these activities.

Related to this point, Alam also suggested that Gülen's educational discourse is a contribution to western-modern educational system based solely on professionalism, through culture, spirituality, global moral and ethical values [16]. Besides interreligious and interfaith activities of the movement also contradict to these critiques [17]. Why the movement intends to cooperate with Catholic, Protestant and Jewish congregations and why do these congregations accept such an offer, if the movement's educational activities are solely based on expanding Islam and gaining new followers?



4. Discussion

It is very difficult to analyze the mentioned criticisms from different reasons. First of all, there is a lack of research about the Gülen inspired schools, their school concept, their students and graduates [18], especially because a quantitative research method has never been conducted on the students and graduates of the Gülen inspired schools before. Besides, current research which are only based on qualitative research methods conflict with each other. According to Tittensor's qualitative research, the movement is a missionary organization like other Christian churches [19], however depending on Dohrn's qualitative research, she is reluctant to consider the GM's educational engagement as being solely missionary in intent and impact [20]. Similar conflicts were also observed in different studies and depending on the researcher, the place and the time, results are changing, which is a big obstacle to analyze this issue.

All criticism aside, the quantitative growth of these schools in the last four decades inside and outside of Turkey, their successes in STEM based central exams and science Olympiads and also the interest of the parents to these schools, demonstrated that such kind of extracurricular activities help the students to understand the STEM courses. Therefore, such a concept will be a good example in total or in particular to the other STEM based schools all over the world.

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