Education under Siege and Fire: Experiences of PBL for Leadership Skills Development from Gaza

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Abstract

Designing and implementing emergency education solutions during an ongoing crisis is a significant issue. Since 2007, the Israeli blockade and the ongoing conflict have had a significant negative impact on the education sector in Gaza. This field note addresses the issues affecting the education sector in the Gaza Strip and outlines Project-Based Learning (PBL), an education technique for developing leadership abilities that could serve as an emergency response to education. This intervention was done with 76 third graders from Al Zaitun Coed Elementary C School in Gaza and two classes of third graders were selected at random. The participants were separated into two groups of equal size, each containing 38 pupils. The experimental group was taught English using the project-based learning strategy, whereas the control group was instructed using the traditional way. The research instrument was an observation card on which the student’s leadership qualities were scored prior to and after application. On the post-application observation card, the experimental group’s leadership skills were rated higher on average by the results. These findings were attributable to the project-based learning technique, which the researchers advocate for developing leadership abilities in English classes.

Keywords: Education Under Siege, Project-Based Learning, Leadership Skills.

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Introduction

In the following paper, we will highlight the political context, the geography and demography, the population density, the socioeconomic context, and especially the educational context caused by the protracted crisis in the Gaza Strip. After that, we will present experience from the field with Project-Based Learning (PBL), an education strategy to develop leadership skills, with suggestions and research perspective.

Background

More than 1.4 billion people live in countries affected by violence and conflict (World Bank, 2020). During the last two decades, many political events and humanitarian crises have occurred in the Gaza Strip. The Palestinian people in the Gaza Strip live in continuous conflict and clashes, having witnessed the consequences of three wars, a continuing heavy siege, and the Great March of Return protests. All these conditions obviously affected different humanitarian aspects such as the socioeconomic, psychosocial, and educational wellbeing of students and teachers, as well as the quality of education (Joma et al., 2021; Thabet et al., 2011; Qouta and Odeh, 2005).

Setting and population: Since 2012, some parts of Palestine are considered as occupied territories according to the United Nations General Assembly Decision 67/19. The country is known for the extreme tensions taking place on its soil because of Israeli violations against the Palestinian people in Gaza, the West Bank and East Jerusalem. Israeli settlements and the racial apartheid wall in the West Bank, as well as frequent wars and the constant blockade in the Gaza Strip, have contributed to the insecurity prevailing since the establishment of the Palestinian Authority in 1993.

The state of Palestine is a geographic region in western Asia located on the eastern coast of the Mediterranean Sea. Based on population estimates prepared by PCBS, there are about 14.3 million Palestinians live around the world in mid-2022 and about 5.35 million live in the State of Palestine. The estimated population of the West Bank was 3.19 million (1.62 million males and 1.57 million females). While the estimated population of Gaza Strip was 2.17 million in the same year (1.10 million males and 1.07 million females). (Palestinian Central Bureau of Statistics, 2022). The Palestinian population is relatively young: 38 percent of the total population is aged 0-14 years, while only 3 percent is aged 65 years and above.

Figure 1: Palestinian Population by Country of Residence (PCBS 2022)
**Living Conditions in Gaza Strip:** Gaza is a narrow piece of land on the coast of the Mediterranean Sea between Israel and Egypt. The Gaza Strip covers an area of 365 square kilometers and is very densely populated with two million people. Gaza is split into five Governorates (North Gaza, Gaza, Deir Al-Balah, Khan Younis, and Rafah) and eight refugee camps which house two-thirds of the Gazan population. Most of the people living in the Gaza Strip are refugees, with about 73 percent of the population living in the camps managed by the United Nations Relief and Works Agency for Palestine Refugees (UNRWA), established in December 1949.

![Over 12 Years of Israeli Land, Air and Sea Blockade](image)

Figure 2: Over 12 Years of Israeli Land, Air and Sea Blockade

The election for the second Palestinian Legislative Council was held on January 25, 2006 and won by the Hamas movement. Since the Hamas movement took control of the Gaza Strip in 2007, Israel has imposed a land, air, and sea blockade on the territory, restricting the movement of goods and persons in and out of the Gaza Strip. The continuing Israeli blockade and border closures led to a clear humanitarian crisis and a deterioration of the socioeconomic situation in the Gaza Strip. Unemployment reached 26.4 percent in 2021—15.5 percent in the West Bank and 46.9 percent in the Gaza Strip—, with the poverty rate in Gaza exceeding 53 percent.

![Unemployment Rate Among Labor Force Participation 15 Years and Above in Palestine by Region, 2005-2021](image)

Figure 3: Unemployment Rate Among Labor Force Participation 15 Years and Above in Palestine by Region, 2005-2021

The UNRWA, the largest organization supporting Palestinian refugees in the camps in the Gaza Strip, faced budget cuts in 2017-2018 after the United States of America, its largest donor, interrupted funding. Thus, the UNRWA has reduced its services for Gazan refugees in all programs, including education, health, and social services. The emergency program has been suspended, school counselor positions were turned into part-time jobs, and hiring teachers has become a day-to-day system.

Wars Waged in Gaza: Palestinians in the Gaza Strip have endured three wars in the last two decades. It began with "Operation Cast Lead" in 2008-2009, which lasted three weeks and ended with 1,385 fatalities, 5,300 injuries, 719 disabilities, and 386 children who lost one or both parents. It was followed by “Pillar Deafens Operation” in 2012, which lasted 8 days and ended with 168 fatalities, 242 injuries, 719 disabilities, and 17 children who lost one or both parents. The 2014 war on Gaza, "Defensive Shield", was the worst, largest, longest (51 days), and most aggressive. It ended with 2,251 fatalities, 11,231 injuries, 2,073 permanent disabilities, and 270 children who lost one or both parents. Over 100,000 people were displaced from border areas and approximately 18,000 houses were destroyed or severely damaged (OCHA, 2019).

**Ongoing Electricity Crisis:** The Director of the West Gaza Educational District declared to the Ma’an News Agency (2013) that electricity outages have hampered the educational process, in particular the performance of students. When there is no electricity in schools, classrooms are dark, especially in the afternoon shifts, and school activities that depend on electricity, such as computer and science labs, are disrupted. He added that the shortage of electricity has led to communication difficulties between schools, Education Directorates, and the Ministry of Education, which hampered instructions, reports, official emails, and daily statistics. On the other hand, the Director-General of Counselling and Special Education at the Ministry of Education believes that the power cuts have had behavioral and psychological consequences for students, as they have interfered with the daily school system, students’ daily routines at home, study habits, and homework completion.

**Protracted Crisis Impacts on Education Sector in Gaza:** The education sector in Gaza was severely affected by the Israeli siege and attacks. The OCHA (2018) reported that 327 schools were partially or completely destroyed during Israel’s 2014 military offensive and 44 United Nations schools were used as emergency shelters for internally displaced persons. The shortage of school buildings in 2014 also created major challenges for the quality of education in Gaza. One out of four children requires psychosocial support because of the trauma and losses experienced during the conflict, including physical injury, fear of bombing, and deaths of family members or friends (OCHA, 2018). Reports and research studies recently indicated that over 520,000 school children across Palestine face challenges in accessing quality education in a safe, child-friendly environment, while 52,000 people, including 26,000 children, need mental and psychosocial health support because of Gaza’s ongoing tension (OCHA, 2018). Moreover, 9 500,000 children and youth need education assistance (UNESCO, 2017), 70 percent of UNRWA schools and 63 percent of the Ministry of Education schools operate on a double or triple shift system in Gaza (OCHA, 2018), and 95 percent of children displayed symptoms such as feelings of depression, hyperactivity, preference for being alone, and aggression (Save the Children, 2019). Studies have also reported that the Non-governmental organization that provides psychosocial support for traumatized Palestinians in the Gaza strip are facing many challenges such as the continuation of the escalation and blockade, difficult economic
conditions, Children's parents' lack of awareness of ways to deal with their children's problems, a huge number of traumatized persons, The lack of specialists within the institutions and fund for psychosocial support projects (Joma et al., 2021).

Furthermore, the given high rate of poverty and unemployment in Gaza, many children have entered the labor market. According to the PCBS (2018), out of 372, 600 children aged 10-17, approximately 4,840 were involved in full-time labor, and 1,490 were working while attending school in Gaza in 2018. In total, this represents two percent.

**Education System: General Education in Gaza**

The Ministry of Education and Higher Education (MOEHE) in Palestine manages and supervises all education sectors in the Gaza Strip: preschools/kindergartens; general education; vocational and technical education; and informal education and higher education.

**Preschools/Kindergartens:** Pre-schools extend over two years for children aged 4-5 and are optional. This stage aims to develop the child’s personality in physical, psychological, and social terms. The private sector and non-governmental organizations manage the kindergartens directly, but the MOEHE is indirectly responsible, by issuing authorizations, specifications, and conditions and establishing guidelines for education programs. Table 1 shows the number of kindergartens in Gaza.

### Table 1

**Number of Kindergartens by Region and Supervising Authority, 2019-2020**

<table>
<thead>
<tr>
<th>Supervisory Authority</th>
<th># of Kindergartens</th>
<th># Classrooms</th>
<th>Density of students at classrooms</th>
<th># Educators</th>
<th># of children in Kindergartens</th>
<th>Male</th>
<th>Female</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Government</td>
<td>1</td>
<td>5</td>
<td>17.20</td>
<td>5</td>
<td>45</td>
<td>41</td>
<td>41</td>
<td>86</td>
</tr>
<tr>
<td>Privet</td>
<td>695</td>
<td>2697</td>
<td>24.87</td>
<td>2810</td>
<td>34545</td>
<td>32889</td>
<td>67434</td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>696</td>
<td>2702</td>
<td>24.99</td>
<td>2815</td>
<td>34590</td>
<td>32930</td>
<td>67520</td>
<td></td>
</tr>
</tbody>
</table>

(Source : MOEHE, 2019)

**General education (basic and secondary education):** General education consists of the following stages: (basic and secondary)

1) Basic education stage: grades 1 to 9, divided into two stages:
   - Lower basic stage (grades 1 to 4): A foundation stage in education, it aims at developing a child's character in all aspects. The child acquires basic skills in Arabic and math, learns how to employ them in daily life, and strengthens national values.
   - Higher basic stage (grades 5 to 9): An empowerment stage, it aims to empower students with different knowledge and scientific backgrounds.

2) Secondary education stage: Including grades 10 to 12, it offers various academic, vocational, and technical branches, according to students’ abilities and averages.
Afterwards, learners can pursue higher education or begin work life. Table 2 shows the number of schools in Gaza.

Table 2
Number of Schools by Region and Supervising Authority, 2019-2020

<table>
<thead>
<tr>
<th>Supervisory Authority</th>
<th># Buildings</th>
<th># Schools</th>
<th># workers</th>
<th># of students in Basic and secondary schools</th>
<th>Density of students at classrooms</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Male</td>
<td>Female</td>
</tr>
<tr>
<td>Government</td>
<td>291</td>
<td>409</td>
<td>15940</td>
<td>127425</td>
<td>138384</td>
</tr>
<tr>
<td>UNRWA</td>
<td>178</td>
<td>274</td>
<td>10040</td>
<td>143821</td>
<td>134979</td>
</tr>
<tr>
<td>Privet</td>
<td>54</td>
<td>54</td>
<td>1512</td>
<td>10676</td>
<td>6527</td>
</tr>
<tr>
<td>Total</td>
<td>523</td>
<td>737</td>
<td>27492</td>
<td>281922</td>
<td>279890</td>
</tr>
</tbody>
</table>

(Source: MOEHE, 2019)

Overview of Education Barriers in the Ministry of Education Schools:
Numerous obstacles and challenges for education arise from the siege, occupation, and ongoing escalation in the Gaza Strip. Namely, around 50 percent of the 5 to 17-year-olds have suffered from deteriorating school performance and low academic achievement due to ongoing crises and siege (Ministry of Education and Higher Education 2017, 2020). Furthermore, about 50 percent of schools hours are completed without power electricity. Around 43 percent of employees and teachers receive their salaries every month, while the rest do not get paid regularly and receive 40 percent of their salaries every 50 days. More than 7,000 students are faced with psychological, behavioral, and academic problems resulting from the successive wars on Gaza in 2014, which destroyed approximately 1,245 schools for an estimated cost of more than $82 million. Delayed delivery of textbooks to West Bank students due to the closure of the crossings also hampers the educational process (Ministry of Education and Higher Education 2017, 2020).

Gaza Education Gaps and Needs in MOE Schools: The crippling circumstances and significant shortages led to many gaps and needs that affect the quality of the educational process in Gaza schools. For example, MOE Schools lack school stationery, printing materials, sports items, and cleaning supplies and struggle to maintain canteens, water bars, water tanks, toilets, water pumps, and supplies. Schools need 26,000 liters of fuel per month to operate generators due to the daily power cuts and more than 1,600 teachers need transportation to get to school because they have not received a regular salary. Schools are faced with a shortage of 600 teachers and need capacity building for teachers, counselors, and supervisors. Schools need furniture, laboratory equipment, computers, recourse rooms for special needs students, and more parental engagement with school (MOEHE 2017, 2020).

Objectives
The main objective of this study was to address the issues affecting the education sector in the Gaza Strip and outlines Project-Based Learning (PBL), an education technique for developing leadership abilities that could serve as an emergency response to education.
Project-based learning (PBL) is a promising new learning strategy that respond to children's needs for active learning. Researchers have defined (Hallermann et al., 2011; Migdad et al., 2021) PBL as a systematic teaching method that engages students in learning important knowledge and 21st-century skills through an extended, student-influenced inquiry process structured around complex, authentic questions and carefully designed products and learning tasks. PBL has been shown to benefit a variety of students in developing collaborative skills. For example, through PBL, elementary students were able to understand multiple perspectives and acquire conflict resolution skills.

**METHODODOLOGY**

**Participants and Study design**

The researchers purposively sampled 76 third graders from Al Zaitun Co-ed Elementary C School in Gaza and randomly sampled two groups of 38 students: an experimental group and a control group (both taught by the researcher). The PBL was applied for teaching the experimental group, whereas the traditional method was used with the control group. The experiment lasted for six weeks. The researchers used PBL to teach the experimental group for six weeks. They managed to have most of his teaching project-based learning during the experiment. They prepared lessons depended on projects and included a poster presentation at the end of each lesson. Each group of students worked together to achieve the goals of their project, then they presented their work. The population of the study consisted of all third graders at UNRWA schools in Gaza enrolled in first semester of the school year.

**Data collection and Instrument**

An observation card was prepared by the researchers to measure the impact of the PBL strategy on third graders’ leadership skills. This observation card was used before and after the experiment for both the experimental and control groups. It was composed of eleven domains, involving thirty-seven items. A five-point Likert scale was used to measure teachers’ observations. Here is the observation card domains and number of items:

<table>
<thead>
<tr>
<th>Domains</th>
<th>Number of items</th>
</tr>
</thead>
<tbody>
<tr>
<td>Planning skills</td>
<td>4</td>
</tr>
<tr>
<td>Communication skills</td>
<td>4</td>
</tr>
<tr>
<td>Problem solving skills</td>
<td>3</td>
</tr>
<tr>
<td>Decision making</td>
<td>3</td>
</tr>
<tr>
<td>Self-confidence</td>
<td>4</td>
</tr>
<tr>
<td>Presentation skills</td>
<td>3</td>
</tr>
<tr>
<td>Time management skills</td>
<td>3</td>
</tr>
<tr>
<td>Teamwork / group work</td>
<td>3</td>
</tr>
<tr>
<td>Personal effectiveness skills</td>
<td>4</td>
</tr>
<tr>
<td>Initiation</td>
<td>3</td>
</tr>
<tr>
<td>Opportunities for responsibilities</td>
<td>3</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>37</strong></td>
</tr>
</tbody>
</table>
Leadership skills are conceptualized in the present paper as the set of skills that children should have to enable them to influence others to achieve common goals. These skills include project planning, communication skills, problem solving, decision making, self-confidence, presentation skills, time management, teamwork, personal effectiveness skills, initiation, and opportunities for responsibilities (Migdad et al., 2021).

These steps were followed to implement PBL strategy with students:

1. Create teams of three or more students to work on an in-depth project for three to eight weeks;
2. Introduce a complex entry question that establishes a student’s need to know, and scaffold the project with activities and new information that deepens the work;
3. Calendar the project through plans, drafts, timely benchmarks, and a presentation to an outside panel of experts drawn from parents and the community;
4. Provide timely assessments and/or feedback on the projects for content, oral and written communication, teamwork, critical thinking, and other important skills.

Data Analyses

The observation card was applied before the intervention on both groups. Then, it was reapplied after the intervention on the experimental group only. The scores of each item were calculated as 1 is the minimum and 5 is the maximum. Mean scores were calculated and analyzed using SPSS program. Results revealed higher mean scores in leadership skills for the experimental group in the post-application observation card. The researchers attributed these findings to the PBL and recommend its use in teaching English to develop leadership skills.

**RESULTS**

The activities and tasks that the students were asked to perform involved a lot of movement and interaction, which helped the students perform and complete them easily, promoted self-confidence, and encouraged them to express their opinions and feelings without hesitation. Implementing projects gave the students the opportunity to set goals and prepare materials needed for each project. This strategy helped to improve their planning skill, which is one of the most important leadership skills. The domain items were used as performance indicators for the domain. For example, the first domain which is planning has four items that represent four performance indicators:

1. The student can set the main goals of the project.
2. The student can determine and prepare the materials.
3. The student can use alternative materials and procedures to achieve the goal.
4. The student can rearrange the activities according to their importance.

The fifth domain, for instance, self-confidence, has three items that were also dealt with as performance indicators:

1. The student says opinion confidently.
2. The student expresses feelings without hesitation.
3. The student accepts the constructive criticism.

The last domain, Opportunities for responsibilities, also has three performance indicators:
1. The student depends on herself to complete the mission.
2. The student does best to achieve the goal.
3. The student is responsible of behaviors and decisions.

Two teachers were observing the students in the pre and post observation cards. The means then was calculated. Each item was set a score out five on the Likert scale text to the item. This way helped the observers have a clearer idea of the project-based learning. It also provided data that was analyzed and treated to find out mean scores.

During the projects, most students communicated with each other positively, politely, and friendly to achieve the main project goals. They shared and exchanged ideas and information using effective written, verbal, and nonverbal skills, and were more involved in discussing their projects with members of the group. Communication skills were thus developed through the PBL strategy.

Students were asked to complete each activity within a set time frame, which led them to divide each task or activity into smaller tasks to finish them in time. The teacher trained them and encouraged them by creating a competitive atmosphere that enhanced their time management skill.

All the students, even the low achievers, were motivated and excited by the activities. They all raced to participate effectively by bringing the needed materials, helping each other, acting different roles inside the class, and asking the teacher any questions they had. This helped promote an initiative mindset, which is necessary to be an effective leader.

Every group had to choose a leader to present the project to their peers, giving many students the opportunity to play that role. The presenters were aware to use body language and gestures properly and to face the audience confidently to explain their project. These presentation skills, which are essential for effective leaders, were clearly developed among many students in the experimental group. Students expressed interest in practicing in activities as they were totally involved in tasks. The observer noticed how active students were during the PBL.

**DISCUSSION**

Based on the overall experience with PBL strategy with Palestinian students in Gaza, we consider PBL activities applicable for students in emergency settings: they can be adapted and teachers working in emergency circumstances can use them regardless of the kind of subject.

The most serious problems the researchers faced while implementing PBL strategy were that some students did not use the target language for communication, but their mother tongue instead. The researchers dealt with this by modeling, simplifying the language they should use, and encouraging them to use English. In addition, although clear roles for group members were assigned, some students dominated the work, and the large number of students inside the classroom affected the opportunity for all these students to participate. The researchers overcame this problem by dividing the class into small groups and assigning a role for each group member.

Thus, we suggest the following recommendations to educators, researchers and educational policymakers: (1) enrich the curriculum with different projects adapted to the students’ age, needs, and abilities and that address different topics and skills; prepare and design guiding content to help teachers apply PBL and other new strategies; (2) conduct other studies on the effect of PBL on developing different
Thinking skills for the future; similar studies on different school subjects; studies on the effect of PBL on the development of kindergarten children’s leadership skills.

CONCLUSION & RESEARCH PERSPECTIVE

Considering the above, education officials, policymakers, researchers, and education workers—from both governmental and non-governmental sectors—should focus on providing high-quality education in emergency contexts. Therefore, special emphasis should be placed on four main areas. First, providing early education for children in preschools by developing early childhood care programs and plans. Second, improving access to education and safe learning by working hard to overcome school drop-out and child labor for both men and women, and providing them with additional protection. Third, improving the quality of educational services so that Palestinian curricula meet the needs of the labor market and provide students with twenty-first century skills; building the capacity of teachers, counselors, school principals, and educational supervisors; expanding school buildings and facilities to create a safe learning environment; and promoting active learning styles. Fourth, improving the well-being of students by providing psychoeducational support to students who have been affected by the wars and conflict in Gaza.

Researchers are looking forward to studying the psychological well-being of Palestinian students and the effects of the conflict on cognitive functions and academic performance in the Gaza Strip. Linking data on student well-being to other relevant variables in the Gaza Strip would help design appropriate interventions for education in emergencies.

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