

Insiders' Perspectives on Project Based Learning

A Comparison of United States and Israeli Approaches

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Abstract

High school students and teachers in two countries (US and Israel) were interviewed to ascertain their perspectives about their Project Based Learning (PBL) experiences. Perspectives were evaluated to determine to what degree PBL approaches were based on the eight essential elements of PBL and whether PBL courses contributed effectively to workplace preparedness. Differences between teachers and students and between countries were identified. Results revealed that PBL programs incorporating the eight essential elements are more effective in preparing students to enter today's work environment. Students perceive stronger benefits from their PBL experiences than teachers perceive. Additionally, the perspectives of Israeli teachers and students were more similar to each other than the perspectives of US teachers and students.

Keywords: *Project Based Learning; progressive education; Israel and United States; qualitative research*

Table 1 - Eight Essential Elements of Successful Projects

Essential Element	Description - Successful academic projects should:
1. Significant Content	<ul style="list-style-type: none"> • incorporate concepts directly related to the core of the academic subject • extend beyond academic subject to address other knowledge and skills needed by students
2. 21st Century Skills	<ul style="list-style-type: none"> • require teamwork • strengthen critical thinking skills • require problem solving • encourage higher-order thinking • encourage creativity and idea expression
3. In-Depth Inquiry	<ul style="list-style-type: none"> • require rigorous research • encourage questions to be asked • require identification and use of appropriate resources • necessitate that students answer challenging questions
4. Driving Question	<ul style="list-style-type: none"> • use open-ended questions to guide students through the project • use questions to focus work and deepen learning • use questions to frame issues logically for students
5. Need to Know	<ul style="list-style-type: none"> • culminate in a final product that creates the context for learning content • facilitate students' understanding of the need to gain knowledge and skills in order to complete the project
6. Voice and Choice	<ul style="list-style-type: none"> • allow students to have a say in some aspects of project • students have opportunity to make decisions
7. Revision and Reflection	<ul style="list-style-type: none"> • provide appropriate feedback/critiques of interim work product • allow students to respond to feedback by revising and resubmitting • encourage high-quality discussions among students to facilitate metacognitive understanding
8. Public Audience	<ul style="list-style-type: none"> • provide the opportunity for formal presentation of work product to external stakeholders • capitalize on using external audiences to increase student motivation and project authenticity

Adapted from Buck Institute of Education (Mergendoller and Larmer, 2010).

Table 2 - Data Reduction: General Observations

Elements	Students		Teachers	
	<i>Israel</i>	<i>United States</i>	<i>Israel</i>	<i>United States</i>
1. Significant Content	Primarily learned skills and content	Primarily learned emotional, technical, and communication skills	Helped students develop personally, technically, and in their abilities to revise	Helped students develop intellectually and personally
	Did not witness teacher collaboration but knew it existed	Witnessed teacher collaboration but wanted it to increase	Were mentors for future life, skills, and learning	Taught technical and soft skills
			Feel the goal of education is to prepare students for life and increase their mental abilities	Feel the goal of education is to produce functioning citizens
2. 21st Century Skills	Were taught responsibility and time management	Some were taught responsibility and time management and some were not	Taught responsibility and time management indirectly and by using suggestions	Taught responsibility and time management indirectly through project work
	Found and used technology in all classes	Found and used technology frequently but not always	Observed that project groups were positive when it came to communication and assisting one another but some negative dynamics arose	Observed that small project groups demonstrated effective communication skills; larger groups tended to be hindered by poor time management and communication skills
	Had positive experiences working in groups	Had positive experiences working in groups, but would like to see better ways to assign students to groups		
3. In-Depth Inquiry	Were provided with some information sources but also had to find their own sources	Had to find their own sources	Felt students equally used teacher-directed and self-sought resources	Felt students relied on resources that students were either provided by the teacher or directed to by the teacher
	Said they received sufficient guidance from teachers	Most said they received sufficient guidance, but some said little to no support was provided	Were always open to helping students, but students often helped each other	Were the main source of guidance for students
	Project Process = Learned background → Chose topic → Researched and designed work → Made revisions → Completed project → (Some) Exhibited results	Project Process = Learned background → Formed groups → Chose topic → Researched and designed work → Made revisions → Completed project → Exhibited results		
4. Driving Question	Were typically motivated for the life of the project	Were typically motivated at the beginning or end of the project	Believe projects enhance understanding of the course content and expose students to real-world problems (and how to	Believe projects make the content more fun to learn and easier to apply; projects encourage ownership of the
	Tended to feel a strong sense of pride in their work	Tended to feel a strong sense of pride in their work		

	Felt that projects or scenarios were sometimes realistic	Felt that projects or scenarios were usually realistic	apply what they are learning to solve these problems)	content and sometimes solidifies understanding by having students reteach the content
5. Need to Know	Typically learned about the project through a lesson or verbal introduction; felt excited but were aware the project meant hard work	Typically learned about the project through an interactive activity or verbal introduction; felt excited	Introduced the project by asking the driving question and explaining it, often using examples done in the past to help clarify	Introduced the project by teaching the content, discussing possible applications, and explaining the project verbally
	Typically felt that the project was very important because of the amount of effort that would be put into it	Typically felt that the project was very important because of the amount of effort that would be put into it		
6. Voice and Choice	Felt the opportunity for student input was limited to classes and projects	Felt the opportunity for student input was possible but very limited	Indicated students did have a voice in the topic/project selection (consistent with the course subject matter)	Indicated students did have a voice in the topic/project selection (consistent with the course subject matter)
7. Revision and Reflection	Dealt with failure by conversing one-on-one with teachers or reflecting and revising their work	Most dealt with failure by initially feeling bad but then taking actions to improve themselves, however, a few students simply made no effort to improve while others asked the teacher to solve the problem	Felt that peer critique opportunities existed but these need to be increased	Felt that peer critique opportunities existed but these needed to be improved or increased
	Learned to get academic help as well as to study on their own	Learned technical skills (note taking/analyzing text) or personal skills (open mind/motivation/being around right people)		
	Said projects experiences could be improved by either allowing for more revisions or making projects more fun	Said projects could be improved by rethinking the scope, allowing for more revisions, improving time management, and improving the structure of the project		
8. Public Audience	Felt that incorporating projects into the curriculum made their school more professional than neighboring schools	Felt that incorporating projects into the curriculum made their school more professional than neighboring schools	Believe the impact the project had on the community was visible on the homes and parents of students, as well as the students themselves	Believe the impact the project had on the community was minimal or nonexistent

Table 3 - Data Reduction: Adherence to the Eight Essential Elements

Elements	Students		Teachers	
	<i>Israel</i>	<i>United States</i>	<i>Israel</i>	<i>United States</i>
1. Significant Content	1	0.75	0.833	1
2. 21st Century Skills	1	0.667	1	1
3. In-Depth Inquiry	0.666	0.833	1	0
4. Driving Question	0.833	1	1	1
5. Need to Know	0.5	1	0.5	0.5
6. Voice and Choice	0	0	0.5	0.5
7. Revision and Reflection	1	0.833	0.5	0.5
8. Public Audience	1	1	0	0
TOTAL	5.999	6.083	5.333	4.5

Table 4 - Data Reduction: Readiness for the Workforce

Essential Skill	Students		Teachers	
	<i>Israel</i>	<i>United States</i>	<i>Israel</i>	<i>United States</i>
Technology	2	1	1	2
Creativity	1	1	1	1
Critical Thinking	1	2	1	1
Communication	1	2	2	2
Innovation	1	2	1	1
TOTAL	6	8	6	7

Figure 1 - Adherence to Eight Elements vs. Readiness for Workforce

