

Making Education Relevant to students:
Project Method, Interdisciplinary Education, and Social Studies

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Abstract

Educational theory and pedagogy moves in cycles, particularly since the Progressive moment in the early 20th century. Pedagogical methods such as the Project Method and an interdisciplinary approach, which are enjoying a revival in the past decade, are not new. But new theorists are building on their predecessors, and putting these theories into action. Of particular note is the melding of project-based education and interdisciplinary education with an emphasis on the Social Studies. By approaching education through the avenue of the Social Studies, teachers create personal connections to subject material across all curriculum.

Educational theory ebbs and flows like the ocean tide. Decades pass, and educational theorists return to previous theories, examining them in a new light and adapting techniques for the modern classroom. We see this trend occur particularly during and after the Progressive movement of the early 20th century. Individuals such as Dewey, Kilpatrick, and countless others advanced educational theory, introducing ideas we still return to nearly a hundred years later.

Across the U.S., trends in Middle School education have moved towards an interdisciplinary (or multidisciplinary) approach. This change did not occur in an overnight change, nor did it appear suddenly or uniform across the country. This movement, like many others, comes from a meshing, rehashing, and molding of old ideas. Though no one previous idea can claim to be the sole reason for the development of interdisciplinary education, the Project Method, as proposed by Kilpatrick, certainly lays a foundation for the idea.

The Project Method

Kilpatrick's idea for the Project Method originates in his informal talks on education, which were compiled into Foundations of Method. Borrowing from his colleague and mentor, John Dewey, and building on the traditions of past institutions going as far back as the Italian Renaissance with the Accademia di San Luca-in Rome, where projects and competitions were an important of the architectural curriculum (Knoll, 1997), Kilpatrick outlined not only how projects should be used in the classroom, but more importantly, why they should be used in the classroom. The why not only sets up the foundation for the Project Method, but for Interdisciplinary education and the Social Studies as the center of that education as well. Since his arguments for the use of project-based education, project-based learning has become a part of the educational life of many, concentrated in the early elementary grades, but also including

culminating projects such as the Senior Project in American education to the Ph.D. dissertation (Beckett, 2006).

According to Kilpatrick, the Project Method requires key factors: (1) a positive attitude towards the project via the 3 Laws of Learning, and (2) that the project in question is purposeful (Kilpatrick, 1925). These factors are not only key to the Project Method, but to the overall education of every student, no matter their age, gender, or ethnicity.

Kilpatrick cites the 3 Laws of Learning as outlined by Thorndike:

- The Law of Readiness: When a bond is ready to act, to act gives satisfaction and not to act gives annoyance. When a bond is not ready to act, to act gives annoyance (p.28).
- The Law of Exercise: The more often a response is made to a situation the closer becomes the bond connecting the two (p. 33-34).
- The Law of Effect: A modifiable bond is strengthened or weakened according as satisfaction or annoyance attends it's exercise (p.30).

To explore how these laws affect the attitude of the student (and therefore, how the student approaches the project), it is important to understand the base of these laws. The Law of Readiness plays perhaps the greatest role in the process of generating and maintaining a positive attitude: there must be a sense of anticipation, a desire for something to happen for it to have meaning. The student must be ready to learn if they are to learn, or else the material, the task, everything becomes meaningless to them. The Laws of Exercise and Effect also vital to the educational process, providing for a lasting imprint of understanding and knowledge. However, without readiness, these latter two laws do not stand a chance to fulfill their end of the educational process. Simply put, a student must be ready, interested, and even eager to explore what ever it is they will be learning about. Citing Finkbeiner, Beckett adds to this idea, concluding that “action-based learning includes learners’ hearts, bodies and senses” (Beckett, 2006).

The second factor, purpose, can be seen as a mixture of all three laws rolled into one package.

The project or activity must have a purpose, a goal, a mind set-to-an-end, and the stronger the purpose, the stronger the learning that takes place. Without a purpose, the project or activity becomes nothing more than a task; without a purpose, the mind cannot be ready, and learning cannot occur. Kilpatrick, on page 214, goes on to state the four steps which make up a purposeful act:

1. Purposing: Having a goal in mind.
2. Planning: How this goal will be met.
3. Executing: Steps taken to meet the goal.
4. Judging: Evaluating if the goals were met.

From this list, it is easy to see how the act of purposing combines the 3 Laws of Thorndike: each step strives to address one or more of the laws in a regimented, orderly fashion. But the burden of the process of purposing is not one which falls squarely upon the shoulders of the teacher, but on the student. The teacher, as Kilpatrick suggests, should be more of a manager of the process of purposing, with the ideas, plans, steps, and evaluations originating in the student, and guided by the teacher. The whole goal, Kilpatrick says, is for the teacher to help the child help themselves (Kilpatrick, 1925, Chase, 1925, Ferguson, 1970).

Project based education is not without its critics, particularly in the current educational climate of standardized testing. With a larger focus on test-taking skills, rapid conveyance of information and speed of progression of topics, it seems that project-based learning can only exist in what is termed “low stakes” courses (those with no standardized testing). But, “whenever high-stakes (standardized) tests rule the roost, project-based learning and similar initiatives tend to be pushed into the periphery of the educational landscape” (Beckett, 2006). With the hustle and bustle of preparing students for a test (instead of educating them according to the 3 Laws of Learning, a disservice is done to students, who neither care

about the material being studied, or about the process they undergo while studying the subjects. To the student, studying for the test is merely a task, another step in their educational rite-of-passage, and nothing more.

The Project Method, as proposed by Kilpatrick, offers the opportunity for a student to accomplish all of the steps listed above in a manner in which they control, while being guided by the hand of their teacher. This all falls in line with Kilpatrick's, and the Progressive Educational Movement in general, educational philosophy of student-centered education. In his concluding remarks for Foundations of Method, Kilpatrick touches, albeit briefly, on a possibility of expansion of the use of the Project Method outside of just one classroom through extra-curricular activities. It is through this commentary where the seeds of interdisciplinary (and multidisciplinary) education are planted.

Interdisciplinarity and Multidisciplinarity

Middle Schools across the United States have turned to Interdisciplinary Teaching Teams over the past two decades. In fact, 79% of middle school principals reported having teams in their schools in 2000, in contrast to 57% in 1998 (Valentine, 2002; Mertens, 2004). These teams work together to provide consistent reinforcement (putting into effect the Thorndike's Law of Exercise) of a subject, topic, or issue agreed to be covered. Particularly important in this endeavor is teacher cooperation and communication, so to provide consistency to the students who are members of the team.

But before discussing the merits of this approach or interdisciplinary education, and in particular, the merits of a system which incorporates the Project Method and Interdisciplinary Instruction around a core of Social Studies, we must explore what Interdisciplinary Education is, and why it is used.

There is no one true, complete, agreed upon definition of interdisciplinarity. There are, however, pieces of definitions which all seem to agree with each other. Vosskamp suggests interdisciplinarity is

merely the cooperation between individual disciplines; Tannenbaum offers up the term “holistic” education, while Klein presents the idea that interdisciplinarity’s goal is to integrate fields into a new, single, intellectually coherent identity (Klein, 1990). Klein retorts against the idea of Voskamp’s definition, arguing it defines Multidisciplinarity, and not Interdisciplinarity due to the nature of cooperation, and not a singular entity. Multidisciplinarity, Klein writes, is “additive, not integrative. There is no real cooperation, enrichment, or interaction between the disciplines” (Klein, 1990).

With Klein (and to a more simplistic vein, Tannenbaum) suggesting a singular entity for interdisciplinary education, one must ask why it be used in a school setting which demands so much more of the student than a focus on a single subject or issue. In fact, an interdisciplinary approach is anything but singular. Instead, it takes an issue, a subject, an idea, and explores it from the various angles from many disciplines. This approach has many strengths: complex questions can be answered easier and better, broad issues can be addressed across the disciplines, problems which would be out of the scope of just one discipline can be answered, and a unity of knowledge can be achieved on either a small or grand scale (Klein, 1990).

These strengths address the needs of students by broadening the scope of their education, allowing them access to a wider array of information and promoting the development and usage of skills such as critical thinking skills, organizational skills, and the ability to relate information from one content area they may be strong in to another content area they may consider themselves to be weaker in. This last point is especially important, as it addresses the 3 Laws of Education: a student whose mind is ready to act (Law of Readiness), can interact positively with the material consistency (Law of Exercise), and can draw satisfaction from that interaction (Law of Effect) will retain more information and be more comfortable using and further developing skills learned.

Interdisciplinary education does not just occur. Interdisciplinary education takes a lot of coordination, trust, cooperation and planning on the parts of the teachers and the administration in order to

be successful. Studies have shown that teacher teams that have been working together for longer periods of time, who plan together, coordinate assignments, and have a positive relationship, contact, and involvement from parents are more likely to succeed (Flowers 2000, Mertens, 2004). The biggest factor from those listed above, however, involves the coordination of student assignments (Flowers, 2000). This makes sense when thinking about the goal of interdisciplinary education: teachers who give assignments that are not coordinated either by or time, are less likely to have students complete the assignment with a high standard of quality.

The interdisciplinary team approach is one that itself contains many benefits. Coordinated assignments, assessments, and instruction allows for students to approach subject matter from multiple angles, allow for more consistent and informative feedback to both students and parents when appropriate, and foster a sense of community among the students (which is particularly effective in larger schools, where students may feel lost in the flow) (Mertens and Flowers, 2004). Core values agreed upon by the teachers to guide the students are an important aspect of teams to ensure consistency, balance, and direction throughout the course of the curriculum (Wormeli, 2000).

Social Studies at the heart of education

So why Social Studies? At the time of this writing, we are in the midst of another cycle of political attitude towards education focused on Math, Science, and Technology. This cycle can be seen in US educational history in the early 20th century, and even more pronouncedly, in the post-Sputnik 1950's and 1960's. But as pointed out by Thorndike, reiterated by Kilpatrick and countless other educational philosophers and theorists, a student must be interested in the material, they must be ready to create that bond. In order to do this, students need to be able to relate to the material inside and outside of the classroom. The Social Studies provide ample opportunity to explore different angles on issues, content,

ideas, and subjects that matter to the students. By addressing subjects that matter to students, either they be general interests, or issues which have a real life, tangible effect on them, the 3 Laws of Learning have the opportunity to be fulfilled, and learning can take place (Westheimer and Kahne, 1998).

Furthermore, the Social Studies encompass such a breadth of subjects and disciplines, including History, Philosophy, Economics, Psychology, Sociology, Politics, Anthropology, and others, that it becomes difficult to not have a segue into other disciplines, subjects, and issues. So it is easy to imagine how the Social Studies could become the core of any interdisciplinary educational program.

Theory is fantastic, but theory must be able to be applied to real life situations. So, how would an interdisciplinary curriculum centered on the Social Studies be structured and executed? For this, we look to the example of C. Wright Mills Middle School. At CWM Middle School, “the Core Curricula was designed to place a multidisciplinary/interdisciplinary analysis and action regarding social problems and themes from social life at the heart of students’ school experience” (Westheimer and Kahne, 1998). Major issues that faced the students and community were explored in all of the core classes, but based in the Social Studies, with the goal of the interdisciplinary groups to investigate issues and topics related to the thematic idea based in the Social Studies Classroom. This was accomplished in Challenges to the students, and were formed around a central question.

Let us explore an example presented in Westheimer and Kahne’s article “Education for Action: Preparing Youth for Participatory Democracy” (1998). Students were asked the following question at the beginning of the thematic unit:

Challenge Question

How can you empower yourself and peers to address violence your life in a positive way?

To answer this question, students first had to explore the topic at a macro level, which was done in their

core classes. After a week of study, the core classes were split up based on interest, and asked to complete a “sub challenge” which addressed the overall Challenge Question in some way:

<u>Content Area</u>	<u>Sub-Challenge</u>	<u>Activities</u>
Social Studies	Explore violence in the media	Watch TV and movies, and chronicle observations and statistics on what they see, and interview experts to critically analyze media portrayals of violence
English/Language Arts	Explore Gang violence	Read, discuss, and write about the causes and impacts of gang membership
Physical Education	Explore violence in Sports	Explore how society encourages or discourages violent sports activities
Math	Explore the economic costs of violence in their city	Compile and analyze statistics of these costs, and develop solutions to the problems
Science	Explore violence in the family	Explore causes, physiological effects, and societal reactions of

		familial violence
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(Table created from information in Westheimer and Kahne, 1998).

Within each of these sub-challenge groups, students were asked to keep personal learning logs throughout the challenge, create and perform oral and/or visual presentations to explain information explored in the sub-challenge to the other groups, and to evaluate their group process. This type of interdisciplinary, project-base approach is the sort that stands out in progressive education. But does it work?

While there is no definitive proof that this method is effective relating to standardized test scores, the attitudes of both students and faculty suggest that this strategy is in general, a positive one. Because the students are constantly engaged in projects and activities which are relevant to their personal lives, they retain more information, and have a higher change of participating in addressing other issues within their community. Furthermore, the use of these types of interdisciplinary projects masks the actual process of education, as exemplified by one student:

It was fun. Like well, it was a lot of hard work because you had to do a lot of research, calling up people....We did all the things on our own. And you know, it wasn't like sitting in class and listening to the teacher talk. It was just like doing things on our own. (Westheimer and Kahne, 1998).

The actual learning process came from the students. The students were the actors throughout the projects, guided by the teachers (which is a clear example of the purposeful activity stated by Kilpatrick). These

sentiments are echoed in other areas of research on Project-Based learning, where students in a foreign-language class who engaged in a video project and presentation had a more favorable view not just of the material covered (in this case, a written and videotaped dossier of a contemporary French topic), but of the French language as well. By engaging in the projects, “student participants in this study learned a tremendous amount of knowledge and skills by conducting projects.” Teachers in this same study seemed pleased at the levels of achievement and interest from their students, noting that “students were pushed to consider increasingly broader perspectives, instead of narrowing their thinking as the unit progressed” (Beckett, 2002). Other studies echo this statement (Wurdinger 2007, Liu 2002,)

The benefits of this type of activity are enormous. Student are able to create a deep, personal, and meaningful connection between course content, become proactive members of their community, be encouraged through the excitement and interest that experimental education offers, and become empathetic to the plights of others not only in their community, but across the world and across history (Westheimer and Kahne, 1998). The skills gained during these types of projects can translate across curriculum, subjects, and for the utilitarian, directly translate into marketable skills valued by employers in the public and private sectors of the workforce.

At the Rachel Carson Middle School, a similar, but not as extreme approach is made. Instead of focusing on social justice issues, content and subject matter are king. To address the content, the teachers, as a team, develop coordinated activities which all address similar content matter from across disciplines, while still addressing the standards of all disciplines. Ricky Wormeli, teacher of English and Language Arts at Rachel Carson MS, explains how their team approached the Dawes Act of 1887:

...the history teacher...asked students to write letters from the American Indians to the Bureau of Indian Affairs protesting the Dawes Act. As the team’s English teacher, I taught students how to write persuasive

business letters. Going further, the math teacher asked students to enclose a population bar or line graph to support their arguments.

(Wormeli, 2000).

In this example, we see how teachers can coordinate activities and instruction, surrounding the Social Studies, in a more content-driven system. The coordination and completion of one overall project, instead of several projects across the team which are not connected is important, as it allows students to focus, explore, and create without additional stress of managing several projects at once.

This is not to say it is a perfect system, as each educational system has its positives and negatives. For this particular model, two obvious challenges are portrayed, which can be considered challenges to both Interdisciplinary education and Project-Based education in general as well. The first deals with the development of academic skills. Traditional education has a priority of creating a regimented, organized set of skills for students, accomplished in a set pattern. With this experimental form of education, which focuses on research and social development, skills such as note taking, test taking, and other academic skills have the possibility of being neglected. In order to combat this neglect, educators must provide opportunities for students to address these needs as well within the classroom, be it through project-based education, or traditional educational methods (Wurdinger 2009, Wormeli, 2000). Secondly, there is the ever present issue of Indoctrination vs. Education, and the role of the teacher in guiding a student one way or another. With projects surrounding topics of activism, civic participation, and controversial issues, there are always worries about a teacher disturbing the educational development of the child by imposing his or her ideals upon the student. However, this issue can be remedied through peer reviews across groups, as well as a focus group work covering a broad scope of answers to a particular question (Westheimer and Kahne, 1998).

Conclusion

Educational theories ebb and flow like the movements of the ocean. During different periods of history, these theories come to the forefront of the minds of theorist and practitioner alike. Project-based theory and interdisciplinary-centered education are paramount examples of this cycle, particularly since the progressive movement in the early 20th century. By merging these theories into a curriculum centered around the Social Studies, teachers give the students the ability to focus on content across disciplines that have address issues relevant to them, which, according to Thorndike's 3 Laws of Learning, are key in assuring that the skills and content are retained by the student. Practical application of the skills learned in the project-based, interdisciplinary educational approach to address social justice issues only furthers to strengthen the bonds created during the educational process. With further exploration and use of this approach, perhaps students will be able to retain more than just the low percentage typically retained during public school.

References

Beckett, Gulbahar. "Teacher and Student Evaluations of Project-Based Instruction." *TESL Canada Journal* 19, no. 2 (2002): 52-66.

Bechkett, Gulbahar H. *Project-based second and foreign language education: past, present, and future*. Gulbahar H. Beckett, Paul C. Miller. Information Age Publishing Inc., 2006.

Flowers, Nancy, Steven Mertens, and Peter Mulhall. "What makes interdisciplinary teams effective?." *Middle School Journal* (2000): 53-56.

George, Paul, Gordon Lawrence, and Donna Bushnell. *Handbook for middle school teaching*. 2nd ed. Reading: Addison Wesley Longman, Inc., 1998.

Hosic, James F., and Sara E. Chase. *Brief Guide to the project method*. Chicago: World Book

Company, 1925.

Katz, Lilian G., and Sylvia C. Chard. *Engaging children's minds: the project approach*. Norwood: Ablex Publishing Corporation, 1997.

Kilpatrick, William H. *Foundations of Method*. Paul Monroe. New York: Macmillan, 1925.

Klein, Julie T. *Interdisciplinarity: History, Theory, & Practice*. Detroit: Wayne State University Press, 1990.

Knoll, Michael. "The Project Method: Its Vocational Education Origin and International Development." *Journal of Industrial Teacher Education* 34, no. 3 (1997)

Liu, Min, and Yu-Ping Hsiao. "Middle school students as multimedia designers: a project-based learning approach." *Journal of Interactive Learning Research* 13, no. (2002)

Martinello, Marian L. and Gillian Cook. *Interdisciplinary inquiry in teaching and learning*. 2 ed. Des Moines: Merrill, 2000.

McMurry, Charles A. *Teaching by projects: a basis for purposeful study*. New York: The Macmillian Company, 1920.

Mertens, S.B., & Flowers, N. (2004). Research summary: Interdisciplinary teaming. Retrieved 4/15/2011 from <http://www.nmsa.org/ResearchSummaries/Summary21/tabid/250/Default.aspx>

Tenenbaum, Samuel. *William Heard Kilpatrick: Trailblazer in education*. New York: Harper & Brothers Publishers, 1951.

Valentine, J. W., Clark, D. C., Hackman, D. G., & Petzko, V. N. (2002). *A national study of leadership in middle level schools. Volume 1: A national study of middle level leaders and school programs*. Reston, VA: National Association of Secondary School Principals.

Vars, Gordon F. *Interdisciplinary teaching: why & how*. Columbus: National Middle School Association, 1993.

von Bothier, Hermann. "On the theory and practice of project-method teaching." *International Journal of Political Education* 3, no. 2 (1980): 123-139.

Westheimer, Joel, and Joseph Kahne. "Education for Action: Preparing Youth for Participatory Democracy." *Teaching Social Justice* New York: Teacher's College Press (1998): 1-20.

Wormeli, R. "Middle School teams: Not in name only." *Middle Ground*, 3(4): 21-23 (2000)

Wurdinger, Scott, Jean Haar, Robert Hugg, and Jennifer Bezon. "A qualitative study using project-based learning in a mainstream middle-school." *Improving Schools* 10, no. 2 (2007): 150-161.

Wurdinger, Scott, and Jennifer Rudolph. "A different type of success: teaching important life skills through project based learning." *Improving Schools* 12, no. 2 (2009): 115-129.