Place-Based Learning and its Importance in AFNRE

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Agriculture, Food, and Natural Resources (AFNR) Education has recently been gaining popularity for its experiential learning opportunities and leadership development. It has become an escape from the standardized monotony of core content. Yet sometimes AFNR Educators find themselves struggling to find ways to connect classroom relia with real-life or industry experiences. This is why it is important for AFNR programs to have facilities reflective of the community's needs. This literature review will examine the benefits of Place-Based learning, and illustrate how these benefits can enhance the learning experience of AFNR programs.

BEYOND THE WALLS

The educational theories of old told us that students needed a safe and structured learning environment in which to conduct their learning. A place to be instructed, taught, and tutored, but as we look forward, we can see that this method of education is failing many children. Most of today's learning experiences come from texts written by people who the students will never meet, and are about places they will never see. John Dewey, noted this disconnect between classroom and the world, he described the problem as stemming from perception. Children's minds are better adept at perceiving reality they have lived/seen, as opposed to theoretical representations of reality or the ideas expressed through reading and text. Place-Based learning provides the opportunity to place a student within an experience. A real, physical environment, that is also

safe, for them to learn. “By reconnecting, rather than separating children from the world, place-based education serves both individuals and communities” (Smith, 2002).

In the realm of Agriculture, Food, and Natural Resources (AFNR) Education, we see experiential, work based, and outdoor education all wrapped up into one neat package. Oftentimes these educational experiences occur far from the walls of the classroom. Whether they are taking place on a farm, at a woodlot, or poultry processor, we see how the learning process changes when we incorporate it with a concrete learning experience. This concept of place-based learning provides a key step to help AFNR Educators (as well as others) identify and define Land-Based Learning (LBL). The concept of LBL “is a pedagogical approach in which learners collaborate with community members to implement place-based interventions within AFNR to increase the sustainability of their community” (McKim et al., 2019). Based on theory and research in PBE and LBE, LBL is centered around the student values, and production of knowledge rather than the consumption of standardized curricula. LBL pedagogy doesn't come with a one-size fits all approach, instead we see a four point checkpoint system. These checkpoints are critical in the implementation of LBL, and defend the need for facilities.

WHO’S IN CHARGE HERE?

It has become very clear that education has become a political pawn. However, with the implementation of PBE, educators can take the reins away from the state and federal government (well just a little), and give them to the community. PBE is increasingly popular amongst rural areas and supporters of PBE describe it as a program that invests students with a sense of purpose, and engages them as producers of knowledge. Students engaged in PBE have their education enhanced by hands-on learning experiences, use of democratic practices, and

application of critical thinking skills to solve real world problems. “Studies have documented how PBE can promote civic engagement whilst ensuring and intellectually challenging education that meets national standards” (McInerney et al., 2011).

In placed-based learning we can see that it really is “Location, Location, Location”. All current pedagogy, theory, and research surrounding PBE, has a component of community service, and work within the industries within the community. PBE “challenges the authenticity of mandated curriculum and authorises locally produced knowledge” (McInerney et al., 2011). PBE theorists do not argue that the pedagogy presented here supplies all the necessary components needed by students, it just argues that it prioritizes the content that matters to students, and delivers it in a way that intrinsically motivates them.

THE ROOTS

The roots of educational models like work, land, experience, and place-based learning come from the early years of Outdoor Education (OE) which has existed for a long time. OE is truly the foundation, everyone has seemingly built off of these roots, yet still exists as its own educational model. OE takes place in all geographic areas, at all levels of education, for adults, and are organized by government, public, and private organizations. Due to this diversity, no standard curriculum or measure of competency exists. In its early years it had a simple, yet fitting definition, “Education in, about, and for the out-of-doors”. This definition focused on the who, what, and where questions and lacked the scope to encompass this enormous entity. In 1983, Priest offered up the definition *“outdoor education is an experiential process of learning by doing, which takes place primarily through the exposure to the out- of-doors.”* The author continues to place a strong emphasis on the relationships between environment and human kind.

Consider the fact that OE is a method for learning, not an instructional template. Instead it needs to be considered as a climate that is most suitable for learning things outside of the classroom. Noteworthy is the inclusion of "experiential learning". The early and great educational philosophers, Comenius, Rousseau, and Dewy were huge supporters of the importance of having experiences in education.

The philosophy of OE gives educators a direction for action, and the OE philosophy has four main directions, or goals. These goals focus on the human responsibility to care for the land and resources, and develop a respect for both. Additionally we see a focus on making ecologically sound choices, not the mandate of idealistic choices but through education on the options. Furthermore, we see the study of the interrelationship of man and environment. "It includes a set of principles for moral and ethical action" (Ford, 1989). As a prime source of recreation for man, we must educate on how to minimize an impact on the environment as it is enjoyed. Lastly we must understand that OE is not ever complete. It is a continuous process that must be taught at every level and pursued late into man's life.

If we look at OE with the addition of Priests methodology we can begin to understand the relationship between the branches. Traditionally we have seen two approaches to outdoor education, each focusing on a different relationship. Adventure education, those programs relating to thrills, focus on the intra and interpersonal. These programs have had tremendous success in improving individuals, through overcoming adversities. The other, Environmental Education, are those involving ecological exploration, and focus on ecosystemic and ekistic relationships. These have imparted a sense of responsibility into persons, to care for the environment. The Outdoor Education Tree, models how one can be involved in an experiential learning system, we see a blend of the Adventure and Environmental. Even though a branch may

focus on one relationship, it will still touch on the others simply by its nature of being outdoors. “Through exposure to the outdoor setting, individuals learn about their relationship with the natural environment” (Priest, 1986). From this statement we can extrapolate that students who engage in PBE will learn about their relationship with that place, environment, or situation.

THE HOW

It is clear to educators, and educational theorists that students learn technical skills and interpersonal skills in different ways. Technical skills are learned through instructor and student-oriented activities. While interpersonal skills were learned through a variety of ways. Students most often reported learning these skills through interactions with the environment, with peers, or from the format of the course /day. These skills are more difficult to teach, and require a large range of instructional methods and group experiences. Here we can see Vygorsky’s zone of proximal development apply to student learning. Students acquire knowledge by having a source in close proximity to guide their learning. This supports that students learn more about the outdoors, by being in the outdoors.

An evaluation conducted on four PBE locations, “revealed five domains that foster student learning of NOLS learning objectives. These etically labeled domains include structure-oriented mechanisms; instructor-oriented mechanisms; student-oriented mechanisms; student- and instructor-oriented mechanisms; and mechanisms that are a result of environmental qualities (both physical and social)”(Paisley et al., 2008). Looking at the results of the study conducted by the authors, we can see how students did on the performance measurements. The study was conducted in hopes of identifying the way that students learned through their courses. The findings overwhelmingly suggest that practice and experience will both teach and improve students skills. While this idea is not new, “learning by doing”, continued research is necessary

to help identify the most effective type of experience, and when the experience is most impactful.

WHY PLACE-BASED

Through the readings we have found multiple supporting articles that clearly outline the benefits of PBE. Research has shown that putting students in an environment that holds a connection to the contextual knowledge students are learning, helps students retain and build knowledge from. Additionally, in PBE we can see that instead of the student relying on being consumers of knowledge, it shifts the responsibility and makes them the purveyor of knowledge. This is the direct opposition of standardized curricula. The pedagogy doesn't come with a one-size fits all approach, instead we see a four point checkpoint system. These checkpoints are critical in the implementation of PBE; Identification, Understanding, Intervention, and Evaluation, create the four points. Identification focuses on the who,whate, when and where, of the curriculum. Understanding is the immersion of learners within the experience, multiple times. Intervention comes next and now we see the learners transition from consumers to producers. Now they are acting as facilitators of the learning process. Lastly we have Evaluation, a mirror to Understanding, students now identify the impacts of their interactions with the community and look at if they made a change on the sustainability of that system.

Furthermore, Place-based education has a relationship that has become fundamental to the success of all, NGSS has provided the framework for Outdoor Education (OE), OE and Agriculture, Food, and Natural Resources Education, provide realia for the students to implement NGSS standards and problem solve for. Additionally this alignment made it easy and accessible for educators to collaborate and even share resources with each other.

CONCLUSION

In conclusion, the current research, theory, and literature support the need for PBE for a well rounded and balanced education of students. The readings overwhelmingly suggest that practice and experience will both teach and improve students skills. While this idea is not new, “learning by doing”, continued research is necessary to help identify the most effective type of experience, and when the experience is most impactful. the most crucial educational theories have strong connections to PBE. Educational theorists like Piaget, who stressed the importance of focusing on the students “intrinsic motivation”, and describing education as “the child must be active to learn”, fully support the basis of PBE. While PBE supporters believe it is an important part of the educational system they do not believe it is the standalone answer for the world's educational problems. Instead PBE activists and theorists hope the pedagogy can shine light upon the strengths of other educational methodologies, and fill in the gaps missed by others.

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Raising the Barn: Foundations for Securing Funding and Support for the Construction of Agricultural Education Facilities

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CSUS 898: Master's Professional Project

Dr. Aaron McKim

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Abstract

This project examines the pedagogy, educational theory, and empirical support of Place-Based, Work-Based, and Outdoor education to develop a proposal for the construction of Agricultural Education Facilities at St. Louis High School. The need for this proposal stems from a lack of proper facilities to conduct safe and impactful agricultural education at St. Louis High School. Furthermore, the proposed facilities will better align the provided courses with school goals. The result of this project was the inclusion of a Livestock Facility, Greenhouse, Classroom and Laboratory space renovations on the St. Louis Public Schools August 2021 Bond Proposal. In this impact project, I explore the student learning benefits that stem from conducting educational experiences in facilities that allow the learner to be immersed in an experiential learning environment.

Chapter 1: What

Agriculture, Food, and Natural Resources (AFNR) Education, and many other Career and Technical Education (CTE) programs, has a reputation of providing experiential learning opportunities and leadership development, through its curriculum model. For some students it has become an escape from the standardized monotony of core content. Yet sometimes AFNR Educators find themselves struggling to find ways to connect classroom realia with real-life or industry experiences. Therefore, it is important for AFNR programs to have facilities reflective of the community's needs. *Raising the Barn* is a proposal project born out of my struggles as an AFNR Educator. The struggle of having proper facilities, to conduct safe and effective instruction of AFNR content. Through the review of literature on place-based, outdoor, and work-based education, the presentation came to life to give structure and support to educators who are working to convince administrators, school boards, and community members the value of having proper facilities.

Chapter 2: Why

Every teacher will tell you that the educational environment needs to be safe and structured. This has created a standard educational setting across America, desks, texts, reading, writing, in a strongly controlled environment. These environments are a place to be instructed, taught, and tutored, but as we look forward, we can see that this educational environment [MA1] is failing many children. Most of today's learning experiences come from texts written by people who the students will never meet and are about places they will never see. John Dewey noted this disconnect between classroom and the world, he described the problem as stemming from perception. Children's minds are better adept at perceiving reality they have lived/seen, as

opposed to theoretical representations of reality or the ideas expressed through reading and text. Place-Based learning provides the opportunity to place a student within an experience. A real, physical environment that is also safe for them to learn. “By reconnecting, rather than separating children from the world, place-based education serves both individuals and communities” (Smith, 2002).

In the realm of Agriculture, Food, and Natural Resources (AFNR) Education, we see experiential, work-based, and outdoor education all wrapped up into one neat package. Oftentimes these educational experiences occur far from the walls of the classroom. Whether they are taking place on a farm, at a woodlot, or poultry processor, we see how the learning process changes when we incorporate it with a concrete learning experience. This concept of place-based learning provides a key step to help AFNR Educators (as well as others) identify and define Land-Based Learning (LBL). The concept of LBL “is a pedagogical approach in which learners collaborate with community members to implement place-based interventions within AFNR to increase the sustainability of their community” (McKim et al., 2019). Based on theory and research in PBE and LBE, LBL is centered around the student values, and production of knowledge rather than the consumption of standardized curricula. LBL pedagogy doesn't come with a one-size fits all approach, instead we see a four-point checkpoint system. These checkpoints are critical in the implementation of LBL and defend the need for facilities.

It is clear to educators, and educational theorists that students learn technical skills and interpersonal skills in different ways. Technical skills are learned through instructor and student-oriented activities. While interpersonal skills were learned through a variety of ways, students most often reported learning these skills through interactions with the environment, with peers,

or from the format of the course /day. These skills are more difficult to teach and require a large range of instructional methods and group experiences.

An evaluation conducted on four PBE locations, “revealed five domains that foster student learning of NOLS learning objectives. These domains include structure-oriented mechanisms; instructor-oriented mechanisms; student-oriented mechanisms; student- and instructor-oriented mechanisms; and mechanisms that are a result of environmental qualities (both physical and social)” (Paisley et al., 2008). Looking at the results of the study, we can see how students did on the performance measurements. The study was conducted in hopes of identifying the way that students learned through their courses. The findings overwhelmingly suggest that practice and experience will both teach and improve students’ skills. While this idea is not new, “learning by doing”, continued research is necessary to help identify the most effective type of experience, and when the experience is most impactful.

Current research, theory, and literature support the need for PBE for a well-rounded and balanced education of students. The most prominent educational theories have strong connections to PBE. Educational theorists like Piaget, who stressed the importance of focusing on the students “intrinsic motivation” and describing education as “the child must be active to learn”, fully support the basis of PBE. While PBE supporters believe it is an important part of the educational system they do not believe it is the standalone answer for the world's educational problems. Instead PBE activists and theorists hope the pedagogy can shine light upon the strengths of other educational methodologies and fill in the gaps missed by others.

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Chapter 3: How

First, identified appropriate, relevant, and impactful, research-based literature. Second, carefully read, and annotated the most pertinent information. Third, constructed a literature review of the sources. This served as a guide in the formatting and organization of the project. Fourth, connected the findings to the mission/goals/ideals of the school and community for relevance and significance. Fifth, drafted a proposal with key talking points and significant information. Throughout this step, sought out review from district peers and fellow AFNR educators across the nation. Finally, presented to the administration of St. Louis Public Schools for consideration.

Chapter 4: Results

The results of this project at St. Louis resulted in the following things being added to the August 2021 Bond Proposal: New Greenhouse, Construction of a Livestock Facility, Classroom and Laboratory expansion and renovations.

See Attached Proposal & Literature Review

Chapter 5: So, What

Throughout the duration of this project, I have learned a plethora of things about educational pedagogy and theory. Not only were these lessons helpful to the outcome of the project, but they also had unintentional benefits to my instruction. Mainly how to use the resources I currently have, to make a stronger impact on student learning. Additionally, this project kept me inspired and motivated to push for the needs of my students and focused on the WHY of this project. I think people are often swept up in the "Cool" factor of having a big barn or greenhouse, it's easy to do. They are visible and, in our minds, we think "wow they must really have it going on", or "man it must be nice to have that kind of funding". I know I'm guilty of those thoughts, who isn't? However, through the readings and research, I have been re-centered, focused on the priority. Student Growth Opportunities. The pedagogy, theory, and pretty much every teacher, tells us that students learn better when they practice. Hands-on experiences solidify the abstract thoughts and ideas that come from classroom content.

If I were to continue this project, and expand on it, I would look at collecting data from test scores of students who receive Agricultural Education at a school with facilities and a school without facilities. One thing I would have done differently would have been research into self-sufficiency and whether facilities bring in enough revenue to offset their costs. This could also be an extension of this project.

It is my recommendation for any educator, of any discipline, who is seeking upgrades or new construction of facilities to read the provided literature review, sources, and proposal. Use this information to help you create your own proposal tied to your school goals and objectives. This information will be available at the Google Drive Folder.

Attn: St. Louis Public Schools Administration and Board of Education.

Mr. Matthew S. Bernia, Agricultural Educator and FFA Advisor is submitting the following proposal for the consideration of Administration, Board of Education, and Community Stakeholders. This proposal is designated for the construction of facilities to expand student learning opportunities, and better align the Agricultural Education Curriculum with the St. Louis Public Schools Mission. This proposal highlights the benefits of the proposed ideas, and provides academically researched support.

Whereas, St. Louis Public Schools mission statement is. “The St. Louis Public School District exists to prepare literate, career and college ready graduates”.

Whereas, St. Louis Public Schools states the following in support of their mission statement: “In pursuit of this mission, SLPS will: Always place children first, provide a safe, caring educational environment, involve the community in the educational program, integrate technology into the learning process, & keep the district fiscally sound.

Whereas, St. Louis Public Schools currently has limited Agricultural Education facilities for conducting high quality, impactful, and safe Agricultural Education.

Whereas, St. Louis Public Schools current Agricultural Education facilities no longer meet the mission statement goals.

Whereas, St. Louis Public Schools has seen an increase in enrollment in Agricultural Education.

Whereas, the St. Louis Community supports the following proposal.

Whereas, the Literature Review conducted by Mr. Matthew S. Bernia, shows the multitude of benefits this proposal could provide the St. Louis Student Body.

Let it be proposed, St. Louis Public Schools will work with Mr. Matthew S. Bernia, Agricultural Educator, the St. Louis FFA Alumni Association, and the St. Louis Community Stakeholders to construct facilities which will aid in the schools goals.

Let it be proposed, St. Louis Public Schools will construct a Greenhouse with technology reflective of the current state of the Industry, and opportunities for student immersion within an experiential learning environment.

Let it be proposed, St. Louis Public Schools will construct a Livestock Facility that is adaptable to house multiple species of animals, ample space for safe engagement in experiential learning, and be built to reflect current industry standards.

Let it be proposed, St. Louis Public Schools will provide ample support in securing funding for these projects.

Let it be proposed, the construction of these projects will be funded by Bond, Grant, Donated (or any combination of) monies, raised in a joint venture by St. Louis Public Schools and the St. Louis Agricultural Education Department.

It is recommended that the administration review the provided information, and direct questions to Mr. Matthew S. Bernia (Agricultural Educator) or Mr. Brian Devine (St. Louis FFA Alumni President). The following information was constructed with St. Louis students and industry needs in mind. Examples were taken from similar size schools across the state of Michigan, with many conversations held discussing the pros and cons of each facility. These proposals are open for deliberation, and can be changed through discussion and collaboration.

Proposal for New Greenhouse

Greenhouse: High Tunnel with Aluminum Frame and Poly Walls/Roof

- 30ft X 50ft
- Door with keypad or electronic entry - MUST HAVE

Flooring: Concrete with non-slip texture

- Drains with removable covers
- 30” Kneewalls

Gas Heat

- Large unit

Electrical

- Power for 4 Stir Fans / Switch control for all
- 2 Exhaust Fans on Rear / 2 Exhaust Vents on front
- Electronic Environmental Controls (Smart controls - able to view access from phone)
- Overhead Lights
- Outlets at every 8 ft (overhead)
    - GFI
    - Covered

Water

- High Volume in
- Overhead hose reels for hand watering
- Automatic/Drip Irrigation
- Powerwasher
- Fertilizer Injection System

Proposal for New Livestock Facility

Livestock Facility: Freestanding Barn

- 60ft x 80ft
- Overhead Doors
- Keypad Entry
- Vinyl Walls
- Sliding ventilation panels
- Single Unisex Bathroom
- Adaptable stalls
    - Post holes in cement with interlocking gates

Heat

- Forced Air Heat - most people use Gas

Electrical

- Outlets
- Stir Fans
- Overhead Lights (LOTS)
- Camera System
- Environmental Controls

Water

- Hot Water is a MUST HAVE
- Powerwasher
- Hoses on Reels
- Sink
- Rainwater collection system

Loft Space

- Hay Bale Storage
- Feed Storage
- Supplement Storage

Fencing

- Access to fenced-in “Pasture”

Proposal for Classroom and Laboratory Space Improvements

Classroom

- Storage closet needs updated shelving
- Current creates anxiety as the shelves fall randomly
- Wardrobe that closes to protect FFA Jackets and Official Dress Apparel
- New Projector with wireless connectivity
- New flooring (Not carpet or tile)

Laboratory (Old Shop)

- Lab stations with Gas & Water
- Large countertops with storage
- Cement flooring?
- New Projector with wireless connectivity
- Aquaponics Unit
- Hydroponics Unit
- Overhead door where old greenhouse connected to building.
- Upgrade Sink

Ideas and References

Short Video: Reflection of Program Tours

https://drive.google.com/file/d/13Oi_aflxX2oI50bo0JGTENGvU3qfmXmr/view

Presentation: Reflection of Program Tours

https://docs.google.com/presentation/d/1RcgLCDCPFMF1mQfdI3qvZ-LEbTmuE3hpRRq39FyoHKQ/edit?usp=sharing

Literature Review

https://docs.google.com/document/d/1IxHGPWraH-ZMJUK7a-WpCV4SxOro_CGfMlccbGD50Xk/edit?usp=sharing