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Please note that this literature review does not adhere to APA formatting as it was not submitted for any academic requirements

Introduction

In 2021, Livingstone Range School Division made place-based education (PBE) one of the division's five core values along with leadership, integrity, wellness and student-centeredness. LRSD furthered its commitment to PBE acquiring over five acres of land at the headwaters of Crowsnest River including a decommissioned Alberta Tourist information center which LRSD converted into an experiential learning campus. The school division created two Place-Based Learning Supervisor positions and tasked my colleague Joel Gamache and I, with overseeing programming at the experiential learning campus and building capacity among staff around PBE throughout the school division. Time, resources, and a dedicated space for programming have been provided to ensure that PBE will become a foundational piece of what we do in LRSD. Prior to embarking on this large-scale and impactful educational effort, it was determined that a basic literature review focused on PBE, needed to be completed to ensure that a clear understanding of PBE was defined. This literature review also serves as a rationale that PBE can, and will, elicit the positive benefits for students that we are hoping to achieve. Furthermore, this literature review will be utilized as a working document that will be added to, continually refined, and referenced to help ensure that best pedagogical practices around PBE are incorporated into our programming as we build it.

Literature collected for this review was done so in a non-traditional manner. Instead of relying mainly on database searches with specific search terms, leading researchers and industry professionals were contacted directly either via email or over the phone. A number of virtual meetings were held and community leaders such as John Taylor, the division's off-campus coordinator were called upon to help fill out a robust body of research. Professors from several universities, whose work surrounds PBE, send articles and provided

insights during meetings including Michael Corbett, Kevin O'Connor, Darron Kelley, Andrew Foran, and Sharon Pelech representing faculties from Acadia, Mount Royal, Memorial, St. Francis Xavier and the University of Lethbridge.

This literature review is organized thematically around three central pillars: academics, culture and leadership. Evidence gathered in this literature review demonstrates that PBE, when implemented with fidelity, can improve student academic performance, improve student culture and help connect students to the community in a way that empowers them to become more engaged leaders within their communities.

A Definition of Place-Based Education

In order to grow PBE throughout the division, a shared understanding of what PBE is needs to be articulated. One of the forefront proponents of PBE, David Sobel (2013), provides the following definition, "Place-based education is the process of using the local community and environment as a starting point to teach concepts in language arts, mathematics, social studies, science, and other subjects across the curriculum" (p.11). Sobel also clarifies that there is an element of timeliness that defines "The new idea here is that we're not preparing students for tomorrow, we're preparing them to solve the problems of today. You don't learn about ecology so you can help protect nature in the future. You learn so you can make a difference here and now" (2013p. 18). Several other experts mirror this definition. Place-conscious pedagogy is an approach to teaching and learning that focuses on using the local community and environment as a focal point for teaching the school curriculum (Gruenewald, 2003; Lescure & Yaman, 2014; Piersol, 2010; Powers, 2004; Smith, 2007; Sobel, 2005). The concept of fragmentation vs systems thinking. Fragmented curriculum is compartmentalized versus interwoven curricular outcomes based on real-world systems of interaction as found in PBE (Sobel, 2013, p. 28). Gruenewald futhers this definition of connectedness, "It also must embrace the experience of being human in connection with the others and with the world of nature, and the responsibility to conserve and restore our shared environments for future generations" (2008, p 315). This view of PBE as a pedagogical approach that connects the learner with their built and natural environmental context explained in detail by Kelley and Pelech who state, "Place-based education is an approach to teaching

and learning that focuses on using the local community and environment as a focal point for teaching the school curriculum. Place-based education takes a cross-curricular approach to teaching and strives to diminish the boundaries that exist between schools and their social and environmental settings” (2019, p. 732).

“Place-based education teaches about both the natural and built environments” (Sobel, 2013, p.13). This comprehensive pedagogical approach is furthered by Webber (2021), who insists that PBE should include focuses on psychological, sociocultural, political, and economic factors (p. 20).

Sobel, insists that “there is a sensitive period during the elementary years when children are predisposed to bond with the nearby natural world” (2013, p. 29) and therefore learners should begin exploring their immediate communities in the present to build foundational knowledge and cater to their desire to learn about their immediate context prior to expanding their knowledge base over distance and time which can take place as they grow academically. “From here-and-now to long-ago-and-far-away as a developmental guideline” (Sobel, 2013, p.29).

In essence, PBE is a pedagogical approach in which curricular outcomes are taught cross-curricularly within the context of learners built and natural environments and the systems within those environments. This creates relevance to scaffold learning to, building upon learners' lived experiences, while connecting the learner to their community by promoting awareness and ability.

The Distinction between PBE and Land-Based Education

“Superficially, land-based education and PBE work towards the similar ends of social and ecological justice; however, where PBE supports students in developing positive relationships 19 Webber, McVittie, Miller, & Hellsten with “their” places, land-based education addresses issues of sovereignty from Indigenous perspectives” (Webber et al, 2021, p.19). Seawright (2014) noted that where settlers claimed individual ownership of land, Indigenous peoples felt they belonged to the land. Simpson (2011) explains that the land is mother, and thus, no one can own the land, and we must all respect and care for the land. “This fundamental difference between PBE and land-based education creates tension between the two potent pedagogies” (Webber et al, 2021, p.19.) According to several subject experts, land should be seen as the source of life in

Land-based education. Land-based education sees all lands as being indigenous lands. “Land-based and place-based education share the goals of decolonization and reinhabitation; however, inattentiveness to epistemological and ontological approaches 20 Brock Education Journal 30 (1) may perpetuate oppression, rather than foster reconciliation, among Indigenous and Eurocentric worldviews” (Webber et al. 2021, p. 19-20).

Given these differences, we must be mindful of how we speak and plan for these two pedagogical approaches as both are of value but should remain distinct when implemented with fidelity.

The Origins of PBE

Webber et al. (2021) explain that early influences of PBE came from the outdoor education movement that began in the 1940s. Sharp (1943) advanced his philosophy of education as, “that which ought and best be taught inside the schoolrooms should there be taught and that which can best be learned through experience dealing directly with native materials and life situations outside the school should there be learned” (p. 363-364).

Webber et. al. (2021) point to experiential learning as a main influencing predecessor to PBE tracing this notion all the way back to John Dewey (p.15). “At its most basic level, the idea behind PBE is that place is a resource as well as a location for all learning which is the foundation of John Dewey’s critique of traditional, transmission-oriented pedagogies” (Corbett, 2020, p. 279).

Several experts state that environmental education has had an influence on PBE, but make the distinction that environmental education often looks at global phenomena and is not intrinsically tied to local context. (p.16). “Smith and Sobel (2010) noted that the first time the term PBE appeared in a book title, it was associated with environmental education: *Stories in the Land: A Place-Based Environmental Education* Brock Journal 30 (1) Education Anthology (Elder, 1998)” (Webber et al, 2021, p. 12). Webber further ties the origins of PBE to environmental Education by explaining that PBE is a reconceptualization of environmental education to include built environments, ecological and social systems to be more comprehensive. (Webber et al, 2021, p.12)

According to Webber (2021) PBE grew in popularity during urbanization as a means of revitalizing small communities and therefore was picked up by rural schools before being adopted by larger centers. Today, research demonstrates that not only can PBE help revitalize communities, but it has demonstrated benefits of increasing relevance curriculum for learners and therefor can increase performance.

Academics Benefits

David Sobel (2013) points to several studies commissioned by The State Education and Roundtable (SEER) and the National Environmental Education and Training Foundation (NEETF) which demonstrate that schools who implement place-based learning pedagogy see significant academic achievements. “In the SEER study, seventeen comparisons of reading scores on standardized test indicated that students in EIC programs outperform their peers in traditional programs” (p. 38). Sobel furthers the case for that PBE has positive outcomes on students’ performance by stating that, “Standardized testing of students in schools studies showed that: reading scores improved, sometimes spectacularly, math scores also improved. Students performed better in science and social studies” (p.40). “Using a wide array of indicators, Basile found that while both groups were able to transfer their knowledge from the learn8ping situation to a similar situation, only the environment-based group of third graders could transfer their learning to vastly different contexts” (Sobel, 2013, p.45).

Sobel (2013) also highlights academic improvement on Florida State standardized testing across all four core subjects, but perhaps more importantly marked improvement in lower performing groups, particularly minority and lower socioeconomic demographic effectively helping to close the so-called achievement gap (p.116). Professor Kevin O’Connor (personal communication, February 16, 2022) backs up the evidence mounting to support the positive academic effects of PBE on underperforming, or at risk groups. O’Connor explains that often PBE and experiential education can not only render positive benefits for students but that these positive benefits are often exaggerated in students considered to be at risk of not graduating. O’Connor reported that even in a group of students, among whom many were at risk, ninety percent of the cohort went on to post-secondary after completing the Wood Street Experiential Science West Coast trip in grades ten and

eleven. Furthermore, students involved in the program score, on average, between fifteen and twenty percent higher than the student average in the Yukon Territories.

According to the 2010 report published by the Place-Based Education Evaluation Collaborative, “Since forming in 2001, the Collaborative has instituted individual and cross-program evaluations of ten place-based education programs representing more than 100 schools (rural, suburban, and urban) covering twelve states wide body of evidence reflects more than 1,000 adult interviews or focus group participants; more than 250 student interviews; more than 900 educator surveys; more than 2,700 student surveys; extensive document review; and dozens of on-site observations” (np).

According to the PBE Evaluation Collaborative (2010), “The findings are clear: place-based education fosters students’ connection to place and creates vibrant partnerships between schools and communities. It boosts student achievement and improves environmental, social, and economic vitality” (p.2). “For instance, in 137 out of 179 (77%) assessments, higher test scores and GPAs were reported when the local environment is used as a curriculum integrator. In a Dallas elementary school, reading scores increased 9%; writing scores increased 13% (statewide gain in writing was only 1% during the same period). One Minneapolis school reported a 16% increase in median math comprehension scores among low achievers, 13% among mid-level achievers, and 7% increase even among hi-level achievers. Among eight sets of California schools, students in schools using the local environment as integrator outperformed their traditional counterparts in language arts (in 76% of the compared assessments), math (63%), science (64%) and social studies (73%)” (Chin, 2001, p. 9).

The field of education is congested with programs and pedagogical practices that are not substantiated by evidence, however, the growing pool of peer reviewed evidence to support the academic effectiveness of PBE on achievement indicators is substantial and would indicate that PBE is not a passing bandwagon but rather the direction we should set and maintain.

Effects of PBE on Student Leadership and School Culture

Sobel (2013) explains that were cross-curricular gains as well as improvements in engagement and decrease in behavioural referrals and suspensions (p.37). According to the results of the Place-Based Education

Evaluation Collaborative (2010), almost all of the one hundred schools involved in reporting data on PBE showed tremendous gains on several indicators of school culture. The report states that at the Boston area school Dennis C. Haley, “Parent involvement at Haley has increased. Students and teachers report a new enthusiasm for teaching and learning science. Haley has gone from being under-enrolled to being a “top choice,” model environmental school—with all available slots filled by students whose families indicated Haley as their top or second choice school in Boston” (2010, p. 5). The evaluation found that teachers’ enthusiasm was boosted and many teachers reported feeling energized after three consecutive years of PBE implementation. One teacher from a New Hampshire school stated, “I’ll never again be the same teacher...It’s transformed my whole vision about how I teach my kids. It gave me the tools, it gave me the vision, it gave me the opportunity. The results are just phenomenal” (p. 4). Several schools reported significant decreases in both student conduct reports and suspensions. Chin (2001), reported that during a study of over 60 Bay Area schools that were, on average, in their seventh year of PBE programming initiatives, a majority of the schools reported significant decreases in student truancy as well as increased student achievement on several measures of engagement.

“Emphasizing hands-on, real-world learning experiences, this approach to education increases academic achievement, helps students develop stronger ties to their community, enhances students’ appreciation for the natural world, and creates a heightened commitment to serving as active, contributing citizens. Community vitality and environmental quality are improved through the active engagement of local citizens, community organization, and environmental resources in the life of the school” (Sobel, 2013, p.11).

O’Connor (personal communication, February 16, 2022) pointed to evidence resulting from the Yukon Territory Department of Education Wood Street Center Programming which offers Yukon high school students a variety of experiential, outdoor learning opportunities. According to O’Connor, students who complete the science courses offered through the Wood Street Centre demonstrate significantly higher rates of leadership and community activism, on specific indicators, when compared to their non-Wood Street counterparts. For example, in longitudinal studies, Wood Street students were found to be involved in community and

environmental activism groups at much higher rates than their peers after graduation. Furthermore, these same studies have found that Wood Street students are more likely to vote and participate in the democratic process. O'Connor also asserts that a disproportionate amount of students who participated in the experiential science courses offered by Wood Street enter science-based post-secondary education programs after graduation. According to O'Connor, they do this as a means of being better equipped to solve local problems in their communities. "As a result, Avery and Hains (2017) argue that students experience learning in a way that is real and meaningful (p. 133). While such practices are shown to improve academic performance (Harvard Graduate School of Education, 1999a, 1999b; Liberman & Hoody, 1998; Nichols, Howson, Mulrey, Nashua, & Gately, 2016; Smith, 2007), they also increase student ties to the community and the natural world – thereby supporting the development of informed, active, and engaged citizens" (Kelley and Pelech, 2019, pp. 732-733).

"In keeping with a critical perspective, a crucial aim of place-conscious pedagogy is to enhance the agency of students for learning, self-determination, and transformation. This is an emancipatory and transformative sense of student agency that relies on engagement with the local as a means of revealing and affirming the ability of students to meaningfully restructure, rather than simply reproduce the world" (Kelley & Pelech, 2019, p. 738).

Possible Confounds of PBE

"how do rural teachers balance calls for locally responsive pedagogies that support community cohesion, stewardship, and belonging, and at the same time respond to parallel demands that they support individuals to maximize their personal choices in a mobility-oriented economic system? And what is place today anyhow? As real and technologically-mediated "non-places" proliferate (Augé 2009; Berlant 2011), creating both incoherences, partial understandings, echo-chambers and radicalization, the Deweyan and invocation that education must begin with experience in place requires a return to a critical sociological sensibility" (Corbett, 2020, p.295).

Gruenewald (2008), highlights another possible problem with PBE that can occur when urban spaces are neglected to be considered. Gruenewald points out that when thinking of PBE many educators think of

outdoor education or environmental education and therefore and unintended emphasis is placed on non-urban spaces. Doing this limits the scope of PBE and may lead to a lack of connection-making for students who predominantly exist in urban settings. Deep and connected learning must be rooted in the surroundings of student experience that is repeated and regular. Parachuting an urban dwelling student into a field study in a foreign eco-system is not representative of PBE and will not have the desired effect of heightening one's connection to their community. An example of an urban-based field study or problem-solving experience reflecting the true nature of PBE may have urban students determining how the municipal department of transport might select the newest route for public transport. Demographics, population density, economics, equity, traffic patterns and other factors at play in the community would become elements of student learning. PBE must be made relevant to the learner's actual place and lived experience otherwise it fails to deliver the benefits that are promised. In this sense, PBE is far different from traditional forms of outdoor education as it can take place anywhere and must be rooted in learner relevance. "I would go further and say that valuable knowledge for most children is knowledge that is directly related to their own social reality, knowledge that will allow them to engage in activities that are of service to and valued by those they love and respect" (Smith, 2002,p. 586).

Best Practices for PBE

K. O'Connor (personal communication, February 16, 2022) has highlighted many best practices for implementing PBE. O'Connor insists that PBE learning must consider the curricular aims of teachers. O'Connor explained that finding a problem in the field and then working with students and community partners to solve the issue was a powerful way to connect learning with the community and students' context within the community. The learning must therefore be cross-curricular and integrated rather than compartmentalized. Sobel (2014) stresses the need for innovative community partnerships and community involvement at various steps of the planning, implementation and review/refinement process. Sobel also calls for perpetual professional development for teachers.

For a complete guide to best practice implementation refer to Teton Science School Implementation Guidelines.

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