**Pascale Félizat – New Librarianship Symposia – Fall 2021**

**Fecundity of the field of environmental education for library impact in the current decade of transformation**

What can be the role of library institutions in this unprecedented context? A growing body of literature calls for action but struggles to fully clarify the specific role of libraries and, more importantly, what to focus on. This article proposes a simple way to regain confidence in our power to act and to increase our ability to make - and measure - an impact: start with the library mandates identified in the literature and recognize ourselves as part of a larger body of actors - individuals, organizations, or other institutions - working in environmental education (EE). EE is a multi-dimensional field that aims to transform the way we think and act in relation to our environment and, most importantly, in relation to each other. Over the past thirty years, this discipline has developed a set of conceptual tools that are successfully used in formal, non-formal and informal education. The EE community and the many types of partners it brings together are largely unaware of the library community today. Yet, mutual recognition would be very fruitful. It would allow, among other things, to better position ourselves in relation to the sustainable development paradigm, but also to be more aware that EE must be anchored in the local to claim any effectiveness.

Keywords: Green librarianship, environmental education, cross-sector collaboration, libraries and communities, critical librarianship, collective impact systemic change.

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# Importance of acknowledging the unprecedented nature of the situation we are in

This article recognizes, with the IPCC, the reality of the climate crisis and the fact that its cause is human. Announced more than 50 years ago, this crisis is already having serious and irreversible effects on our living conditions and on biodiversity. Its effects will undoubtedly exceed what is compatible with the maintenance of human life in 6 short years (note 1) if nothing is done to significantly slow down our global GHG emissions.

We are therefore collectively confronted with an obligation to understand the unprecedented situation in which we are immersed, but also to profoundly transform our ways of doing and thinking in a very short period. As mentioned by Bayo Akomolafe, in one of his valuable online interventions (note 2), what is now at stake for most of us (note 3) is our ability to cope with the heavy emotional burden of realizing that "we have always had an impact on the world and therefore we are not separate from the world we used to say we were part of. We are the environment /.../ we are relational beings; we are essentially non-essential /.../. And this is a radical, very disturbing, and frightening vision of what "is" a human being. Therefore, we can no longer think of ourselves as atomized industrial capitalists separated from others. We must think of the self as a connection, a conjunction of many other beings, a conjunction of ideas, geologies, biologies etc. In short, if our self-narrative has changed, we can no longer act the way we used to act."

Accompanying this kind of awareness but also the transformations that they imply in our actions and our social structures is the delicate but necessary work that we are now accomplishing, as best we can, individually and collectively. What does the mission of librarians become under such circumstances? It is no longer just about improving society through facilitating knowledge creation in our communities, it is about actively accompanying a crucial paradigm shift, starting of course with ourselves.

# A quick overview of the situation and the players involved

Many individuals and organizations are already at work, sometimes for decades, to contribute to this important movement of transformation of practices and mentalities. This movement is driven by visionary or intuitive, creative, and courageous social actors who often occupy the space left vacant by the market economy and the educational institution. Thus, there are efforts to think and implement alternative schools (note 4). There is also the transition movement (note 5), which has the global objective of creating, little by little, a resilient and sustainable culture, through experimentation and on a local scale. It is important to know that the third spaces created within the transition movement are very similar to 21st century truly participative libraries taught in our library schools (note 6).

In both the educational and library communities, attempts by our institutions to operate differently are still in the minority. In her book "Sustainable thinking, ensuring your library's future in an uncertain world," Rebekkah Smith Aldrich thus states in 2018, "There are dozens of beacons, libraries that are 'doing it right,' that are rooted in their communities, that are truly working hand-in-hand with their neighbors to create a better world through library services, but there are not enough of them."

Working on top of all these citizen and institutional initiatives is the environmental education (EE) research community. With its roots in various older nature education movements, EE was born with the United Nations International Conference on the Human Environment in Stockholm in 1972 (note 7). Still a young science attached to didactics and backed by scientific disciplines, but also fundamentally decompartmentalized and multidisciplinary, EE was structured in the 1990s with the mission of contributing to the transformation of our ways of thinking and acting in our relations with our environment but also, and mainly, in our relations with each other. Social issues, and in particular issues of equity, diversity, and inclusion, which are increasingly present in our libraries, are therefore an integral part of it. Over the years, this discipline has developed numerous conceptual tools and it so happens that Quebec (Canada) and its Montreal research center, Centr'ERE (note 8), play a leading role in the French-speaking world.

A recent bibliometric study on international scientific production on environmental education (Lopera-Perez, M. et al. (2021), unsurprisingly indicates that the subject has gained popularity in recent years and has generated interest in knowledge production, both in the educational (curricular and didactic) and research fields. This interest is reflected in the increase in the production of scientific articles, especially between 2009 and 2014 and between 2017 and 2020. In addition to testifying to the richness of this discipline, this study produces very interesting graphic representations of the concepts associated with the theme of environmental education. The terms "sustainability", "climate change", "green" appear, of course, but also many sub-themes familiar to librarianship.

The study also confirms the relative independence of environmental education from the paradigm of sustainable development and its variation in a plurality of approaches, both conceptual and methodological. The sustainability and sustainable development current coexist with many others: naturalist, conservationist/resourceful, resolute, systemic, scientific, humanist, moral/ethical, holistic, praxis-based, bioregionalist, social critic, feminist, ethnographer, and eco-education, among others (Lucie Sauvé, 2017, p. 113-124). Each of these numerous currents has its leading authors, but above all its conceptions, its approaches, its educational goals, and its strategies, some of which, such as storytelling or life stories, are also familiar to librarianship.

The purpose of this article is to show that the library community - but also the transition community - is largely unaware of EE's advances as a discipline. Mutual recognition between library research, transition research, and EE research would be a real asset in improving our practices but also our shared impact in these times of urgency.

There is not only a need for recognition of the undeniable kinship of the intentions of these three sectors but also a need for mutual support. Indeed, the various actors - citizens or organizations - who are trying to find solutions to the current crisis now expect institutions - including libraries - to do more to support them. For example, here in Quebec, in his final report of the Pact for Transition, published in November 2020 (note 9), activist Dominic Champagne emphasizes the need for a "huge campaign of education, awareness, mobilization" in Quebec regarding the transition. Another Quebec activist and researcher in transition studies for sustainable development, Joseph El Khoury, stated that, in his view, "Education on climate change and social justice should be done everywhere in libraries”. Over the years, more prominent international figures have also expressed confidence in the power of library institutions to contribute to the necessary efforts: Donella Meadows, author with her partner Dennis Meadows of the famous report "The limits to growth" (1972), considered public libraries in 1999 to be "one of the seven wonders of sustainability" (Antonelli, M. , 2008); Richard Louv found in 2019, that libraries were "perfect, if unexpected, institutions for connecting people to nature." (Louv, R., 2019).

In response to these issues, professional associations are reaffirming the role of libraries as "exemplars, educators, and facilitators" of sustainability (IFLA, 2018), and several initiatives demonstrate a willingness to act:

* The engagement of a small group of New York State librarians culminated in 2019 with the adoption of the "Resolution for the Adoption of Sustainability as a Core Value of Librarianship" and the development of "accreditation standards to ensure that the topic of sustainability is an inherent part of the library curriculum" by the American Library Association (ALA) (Aldrich & Bollerman, 2019). Most of these librarians animate the "SustainRT: Libraries Fostering Resilient Communities” group.
* The program "Resilient Communities: Libraries Responding to Climate Change" implemented in October 2020 (note 10), a pilot project also supported by ALA, is funded by a generous donation from Andrew and Carol Phelps, the parents of 2 librarians. It posits that "as respected community and resource centers, libraries are well positioned to mobilize citizens to learn about climate change and take action, whether at home, in our cities, or around the world" to "safeguard our collective future by dismantling systemic oppressions, reversing the trend of overconsumption, creating visionary protective policies and empowering practices that put people and the planet at the center and prioritize a just energy transition."
* The Libraries4Future group, started in Germany on the model of Fridays4Future, also aims to position libraries and their staff, students, and library researchers around the world as climate and resource protection actors.
* etc.

But what about the reality of this power to act? How and to what extent can libraries be real stakeholders in the educational efforts needed to facilitate these socio-environmental transformations?

Indeed, despite their many efforts to respond to these issues over the years and a few happy collaborations here and there (note 11), in 2021 we can only note that libraries are still not recognized by the environmental education research community as full-fledged actors in this field (Félizat, P., 2020).

# Methodology

This paper reports the main results of an attempt to characterize the current and possible role of libraries based on some of the findings of environmental education research and on two main sources of observations:

* **A literature review on the topic of "libraries and environmental education"** conducted between May and August 2021 using Library and Information Science Abstracts (LISA), Library and Information Technology Abstracts (LISTA) and Educational Resources Information Center (ERIC) databases. Because this search was quite difficult and surprisingly unproductive, we completed it with a review of all the articles of the Electronic Green Journal (note 12). Published by the University of Idaho Library after a start-up in California in 1991, this journal could be a landmark attempt to bridge the gap between librarianship and environmental education (Jankowska and Griego, 1994. See also note 13). We also consulted the specialized database "Netzwerk-gruene-bibliothek" (note 14) set up in 2018 by German librarians for the IFLA Environment, sustainability, and libraries section (Ensulib).
* **An observation of the 12 public libraries** of my living space in the heart of Montreal in 2020 and 2021 (note 15).

These observations were combined with a mandatory reflective work: the observation of my own personal evolution as a librarian recently trained in environmental education. This personal journey is documented on an ongoing basis on the "Libraries in Transition Collaboratory" blog (note 16) since March 2020.

# Is EE a specific area of library activity in library databases?

There are no articles in the 2019 Encyclopedia of library and information sciences, Taylor & Francis, 4th edition that specifically address EE, or even environment or education, but there are related articles such as "Learning and information retrieval" or "storytelling". When attempting to isolate articles that specifically address environmental education within the production of library science articles, several difficulties are encountered. First, only LISA and ERIC report a controlled vocabulary for "environmental education" and for "sustainable development”. In the case of ERIC, the two terms are associated, but this is not the case for LISA. Above all, even when controlled terms exist, they seem to be little used. The use of the terms "green library" and "sustainable library" is more established, but the context of using one expression or the other is not stable and does not allow to isolate articles dealing specifically with environmental education. For some authors these two terms overlap different realities, for others they do not. Thus:

* Fedorowicz-Kruszewska (2020) and Frederiks (2020), recommend the use of the term "sustainable library" rather than "green library" when describing educational activities as it would "reflect an integration of sustainability into all dimensions of the policy" of the library. Indeed, it seems that green buildings are not necessarily accompanied by educational practices. One of the very first studies that develops indicators to evaluate Korean green libraries goes in this direction by indicating that these libraries rather underperform in educational programs and campaigns (Noh and Ahn, 2018).
* Other authors advocate instead for expanding the usual acceptance of the term "green library":
  + Aulisio (2013) claims the right to use the label "green library" for his library even though his building is not eco-responsible (note 17) because of the wealth of activities that are deployed to educate students.
  + Scherer (2014), on the other hand, states that the "Online Dictionary of Library and Information Science (ODLIS)" does not differentiate between the terms green and sustainable library, but also argues for the usual acceptance of this term to be extended to designate a "library designed to maximize positive impacts on the social, cultural, economic, and environmental aspects of a community".
  + Sahavirta H. (2019) also proposes that the term "green library" be expanded to include "green librarianship" and “green information services” and reports on the criteria used by Ensulib to judge the best green libraries from this perspective. Several of these criteria include educational activities, but also the possibility for citizens to organize environmental events or to demonstrate their projects in the library space.
* French authors, such as Le Guennec M. (2018), sometimes avoid these two expressions in favor of the term ecology.
* Others - in India and Asia in particular - such as Noh and Ahn (2018) also use the term "eco-friendly library" and most probably use all these expressions and, a few times, do not even use any of them.

In short, the terms "green library" and "sustainable library" do indeed allow to identify documents that describe - sometimes - activities concerning EE, but without any guarantee of exhaustiveness.

As things stand, it therefore seems difficult to use library databases on this multifaceted subject without being able to specify sub-topics. The keyword "Outdoor education", for example, already appears in the LISA thesaurus and could constitute one of these sub-topics, but a query with this term shows that it is probably under-used, probably also due to a lack of awareness that it is one of the identified currents of EE. It seems, therefore, that greater recognition by librarians of EE as a true discipline is now required.

We assume that librarians publish many articles that have a direct or indirect link to EE but that this link is not made but would benefit from being made.

# What portrait of EE in libraries can be drawn from the literature?

Two recent literature reviews on the topic of libraries and sustainable development (SD) confirm the dominant role of this paradigm in librarianship but also some interest in educational activities in this context:

* Meschede and Henkel's (2019) focused on the role of SD for library research. It provides a graphical overview of the topics covered in the 81 publications selected as relevant out of 295 initially reviewed from 102 top-rated journals and conference proceedings in information science. Nine of these publications focus on green libraries, and a small subset of these (Townsend, A.K. 2014; Jankowska M.A. et al., 2014) address the dissemination of information to raise users' awareness of environmental sustainability or education for sustainability. The authors note that the topic of green libraries is well established. They suggest that future research could consider two subjects in particular:
  + Education and opinion-forming on sustainability and the dissemination of information about it (e.g., via social media or information systems),
  + SD measurement and evaluation frameworks (e.g., via open data).
* Khalid, A., Malik, G. F., Mahmood, K. (2021) also note that SD "is a relatively new area of research in library science" and that "the trend of publications is on the rise and has received the attention of a remarkable number of library researchers over the past two decades." They note, with Binks et al. (2014), that the terms "sustainability" and "green" can be used interchangeably. Because their study was designed to identify the challenges for libraries to engage in SD, they apply strict conditions on the 674 documents initially retrieved to ultimately select only 33 of them. Of all the issues identified in these articles, the lack of awareness among users and librarians themselves is found in most of these publications. This difficulty, also described as a difficulty in adapting (note 18), is considered the major limiting factor. Several of the other issues identified directly target the educational issue: the lack of sustainability education, the transdisciplinary nature of sustainability, collection development issues and even the lack of specific "sustainable librarian" positions. Two other issues identified also indirectly affect the ability of libraries to engage in EE: the speed of technological and digital advances and the lack of funding for public libraries.

The study published in France on "libraries and ecology" (Le Guennec, M., 2018) shows a growing over the last ten years of library activities in this area. Some barriers are identified: difficulty for libraries to work with partners, to position themselves and to communicate on the subject, but also fear that their commitment will be perceived as too prescriptive or too politically marked.

In December 2020, the magazine of the Association des bibliothécaires de France, BIBLIOthèque(s), devoted a 52-page dossier to the theme of ecology ("Vert-ueuses bibliothèques"), emphasizing that libraries can "inform and raise awareness of ecological and environmental issues, host and propose cultural and civic actions related to sustainable development and make available documentary resources on the subject" and that these actions "should be carried out in partnership with other actors, particularly associations, and with the territory in which the library is located. The file also specifies that: "the libraries also organize, and increasingly so, numerous workshops with users, or even organized by users". The Bibliothèque nationale de France (Baratta Y., 2020), the Médiathèque de la Canopée (Bobet, S., 2020), the Médiathèque Marguerite Yourcenar (Fonteneau and Malavieille, 2020) as well as the Châlons-en-Champagne library network (Pérard L., 2020) notably report on their educational actions over the last three years.

Among the 200 or so documents selected in the literature as dealing in some way with EE activities in libraries, very few are attempting specifically to analyze this aspect. Moreover, we can observe that, when they do exist, these analytical efforts show a great variability, not to say inconsistency.

# Identified analysis attempts

Fredericks (2020) proposes a conceptualization in three mutually influencing components: the library, the librarians, and the community:

* The library as a place of learning and transformation for the employees themselves.
* The librarians as educators of the public through the provision of information and the organization of events.
* and finally, the community, which in turn influences the environmental culture of librarians.

This - very embryonic - attempt to think about the "system" joins more robust attempts used in transition and social innovation such as the one of Franck W. Geels (2020) who conceptualizes socio-technical transitions as evolutionary, interpretative, and conflictual processes. Geel's representation is relevant to think about the evolution of library services, often driven - or even led - by social economy actors, but also to think about organizational transformations under the influence of major disruptions such as the pandemic (note 19).

In the set of selected articles, we did not find any article that address the topic of systemic transformation requirements even though this topic is increasingly present and has begun to be taught in universities in recent years (Papi-Thornton, D., Cubista, J. 2019; Birney et al. 2019). Increasing our knowledge of the tools available (note 20) and our understanding of these complex social landscapes and the special role that institutions play in them could also allow librarians to better understand what is at work within their own workplaces but also within their communities and ultimately to better conceive what they can really do.

The most notable attempt to characterize library EE activity identified in the literature is the one of the polish researcher and librarian Małgorzata Fedorowicz-Kruszewska: "Environmental education in libraries - theoretical foundations and practical implementation", 2020. This study analyzes twenty case studies from the award-winning libraries of the "Environment, Sustainability and Libraries section” (Ensulib, IFLA) between 2018 and 2019. The author proposes to categorize the educational activities implemented by these award-winning libraries across continents into three broad categories: people, artifacts, and processes, noting that, from her point of view, environmental education is an emerging area of research in library and information science. The article does not conduct a literature review but includes 49 references, 11 of which were published after 2017 (note 21). In addition to be one of the very first attempt of this type, one of the strengths of Fedorowicz-Kruszewska's study is that it considers activities for employees as well as for library "users," both of which are effectively part of the same community to be "educated." However, the value of this study is limited by several confusions listed in the next paragraph.

Beside these courageous attempts of Fredericks and Fedorowicz-Kruszewska, librarians borrow heavily from the dominant concept of sustainable development to describe, in a synthetic way, EE activities in their libraries (note 22).

* The activities are presented according to the three interrelated spheres of SD (economic, social and environmental), thus borrowing from the associated concept of the "Triple Bottom Line" of the business world (note 23);
* They are also classified according to the 17 Sustainable Development Goals. Under the impetus of their professional associations, many countries have set up collections of activities in the form of databases or publicity brochures, their primary and declared objective being to promote their actions to their hierarchy and government. R. Bats (2020) notes, however, that "*in these lists of actions only a minority is related to climate awareness and mediation*".

All these attempts to conceptualize library activities involve several difficulties identified by EE research, which we will now detail, drawing also on our own observations of EE activity in Montreal public libraries.

This non-exhaustive list is mainly intended to encourage a reflective attitude on our practices and to illustrate the interest in making more use of the conceptual tools developed by EE research.

# Attention points derived from EE research

1. *To better discriminate eco-civism and EE*

EE researchers clearly separate eco-civism and environmental education. Eco-civism or eco-responsibility of the institution corresponds to the efforts made so that the institution itself does its share of socially prescribed deeds: eco-gestures of the staff, responsible management of supplies, events, building... There is a distinction to be made but also an understanding of the links between eco-civism and educational actions that is seldom clarified in the library science community, which often groups the two indistinctly under the umbrella of "green libraries" or "sustainable libraries". A notable exception is the article by Berlin librarian Tim Schumann, whose library in Bad Odesloe has won two Ensulib awards. He makes a good distinction between internal (eco-civism) and educational (external) actions and formulates clear educational targets (Schumann, T. 2020). Interestingly, another recent article, this time on Australian school libraries, also makes this clear distinction and adds an interesting third term, supporting formal education: "We need to ensure that we support and empower our schools and teachers to integrate environmental sustainability into both the curriculum and their teaching practice." (Mindum, Katalin, 2020).

But these are exceptions: Even when targeting only EE as Fedorowicz-Kruszewska does, we see this very common confusion in the literature: Many of the activities she categorizes do not fit within the notional scope of environmental education. The eco-civism of the institution engages its public credibility. It's about "walking the talk" by taking responsibility for the impact of what we do in our own libraries and, in doing so, avoiding the "Do as we say, not as we do». It is therefore important from an EE perspective, but it is an indirect link. For example, the fact that the organization's building and management is environmentally responsible is one thing, but it is of no interest from an EE perspective if it is not intentionally associated with a pedagogy of place, educational actions, or specific demonstration or experiential learning spaces or devices (e.g., a nurturing garden that could be cared for by employees, or better yet, by all community members).

1. *To know the different modalities of the notional network of education*

EE research identifies a notional network of education that focuses on how educational actions are taken (Sauvé, L., 2017 p. 56-65). In EE and in education in general we speak of formation, information, sensibilisation, communication, vulgarisation, animation and mediation, mobilisation, or conscientisation. Each of these EE modalities has its own particularities and good practices (Goffin, L., 2001). These nuances still seem to be poorly understood by the library community, which seems to struggle to grasp their specific potentials but also their constraints.

Currently, specialists in EE identify specific educational challenges. For Edgar Gonzalez Gaudiano of the University of Veracruzana in Mexico (note 24), for example, these challenges are currently to 1) Naming the human causality of climate change 2) Avoiding the most frequent errors identified such as the belief that the increase of Co2 in the atmosphere creates a hole in the ozone layer 3) Facilitating the understanding of the complexity of the phenomenon while it is sometimes counter-intuitive but also difficult to locate and understand in time 4) Restoring all its dimensions to the phenomenon and especially its social dimensions (note 25) 5) Fighting against insidious denial. All these educational targets could very well be addressed in our libraries as well, but only if we master the how.

1. *To develop a situated and critical approach to the Sustainable Development paradigm*

The Sustainable Development (SD) paradigm is dominant in our institutions. Over the last thirty years, the concept of sustainability has occupied a growing space in economic, political, and social life. However, this concept is very ambiguous. The concept of sustainability comes from the concept of sustainable development, brought by the Brundtland report in 1987, but with the flood of criticisms it has provoked, sustainability has gradually diverged from sustainable development and taken a different meaning. The criticisms of SD are mainly focused on the association of two notions considered antagonistic (development and sustainability), which generates an oxymoron (note 26), but also on the fact that SD has rapidly lost its socio-environmental transformation potential. SD has been criticized by many researchers (e.g., Sauvé L. 2011; Stein S. et al, 2020). It has also been criticized for the fact that EE, marked by multiple historical paths specific to each country, is a discipline that stands apart from both the UN discourse and the SD paradigm. In Quebec, for example, SD has even introduced a harmful break precisely dated - 1995 - in the national efforts, started in the 1970s and then very active, to structure EE. For several countries and cultures in which the relationship with the living space depends on a completely different cosmology, this break was of course even more acute.

Fedorowicz-Kruszewska is very representative of the positioning of the library community when, in her "definition of concepts" section, she gives prominence to SD and presents SD, SD education, environmental education, and environmental literacy as nested concepts (note 27). As she points out, environmental education has much older roots than SD but, contrary to what she suggests, the field of EE encompasses rather than underlies education for sustainable development (note 28). Moreover, and contrary to what is suggested by the authors she cites, "environmental literacy" presented as an ability to "take individual responsibility for repairing and preventing environmental degradation" is probably not "the main objective and outcome of environmental education". EE aims to transform the way we think and act in our relationships with our environment, but primarily in our relationships with each other.

Also, we should be more aware that when we talk about sustainability, we usually talk about " nature as a problem" or "nature as a resource", but much more rarely about other ways of relating to it, which are also present - although perhaps in a more hidden way - in our library collections and practices, and which are just as important.

An expert in EE, such as E. Gonzalez Gaudiano, also notes that, although, in theory, sustainability is seen as a dimension that articulates aspects of maintaining environmental quality and ecosystem integrity with those of social and economic equity, there is still a general perception that sustainability refers only to environmental aspects, as Fedorowicz-Kruszewska's positioning clearly demonstrates.

Sustainability and especially SD evacuate social issues and, by this very fact, cannot have an impact because they deprive us of a true reflection on the social nature of the observed problems. According to E. Gonzalez Gaudiano (note 29), the SD paradigm, by making these social issues peripheral, would even support a form of "systemic negationism", for fear of change, of confrontation with disciplinary traditions, often outdated, as well as with institutional customs and habits that resist innovation, because they are considered threats to work niches and comfort zones. Gonzalez Gaudiano cites Henderson (2017) to support his thesis that universities and educational institutions in general have thus backed away from the challenge of addressing climate change education. We may well be in that same place in our libraries as well.

For information professionals at this stage, it is not a matter of recognizing an emerging practice specific to their proper domain or, as R. Bats (2020) wrote, a new “offer from libraries in response to a new crisis”, but rather to revisit their use of SD and to recognize that they have been participating for decades, with their own means and as actors among others, in a discipline already constituted and much broader than SD, with its own particular national histories, its own currents and its own vocabulary. The oldest article identified that talks about the role of the school library in environmental education (Armstrong, H., 1971) was written 50 years ago and is still remarkably relevant.

1. *To focus on reconnecting with the concrete local situation*

To take a university course in EE is to discover - with the Quebec EE specialist Lucie Sauvé - that EE is necessarily situated. Above all, it is a matter of "guiding an environmental journey towards an "interior landscape", which allows us to ask ourselves questions such as what is this place where I live in? With whom do I share this living space? ... humans and non-humans, where do I come from, where do we come from? Who am I here, who are we in this place together? What is my story in this place ... our story? What are we doing here, what do we know about these houses, about this river? The importance of giving prominence to what is HERE - a specific pluriverse and the result of historical struggles within a very specific territory - emphasizes the importance of working on and with the local context.

The observation of EE activities in Montreal libraries shows that the special needs and problems of the socio-ecological context of the concerned territory are largely to be identified, made known and exploited. Even though many of the libraries' activities take place outdoors and activities to discover the living place are increasingly proposed, the relationship with local realities is rarely mentioned in the programming. It seems that activities are considering current trends but little or not at all the socio-environmental needs identified locally nor the territory itself, even though libraries have an important role as "guardians of cultural heritage". There are, however, excellent examples of libraries as active partners of these local explorations (Thompson, Acacia. 2021; EIFL, 2020; Peet, L., 2018...). Activities supporting reconnection with the territory, its special facts, and features, should be undoubtedly documented to generalize them as soon as possible in our libraries.

1. *To know the requirements of adult education*

Adult education has its own particularities (note 30), which require the active participation of those concerned. This observation, which would deserve many developments, puts into perspective the interest of the still very common conferences or dissemination of information in libraries.

According to Villemagne, C. and Sauvé, L. (2021), when addressing adults, it is more "a critical approach education to socio-ecological realities and the world of information that should be favored, as well as the exploration of means of action within their individual and collective reach. But more than that, at the foundation of their relationship with the world, it is important to invite them to discover or rediscover the territory where they live, their living environment, and all that nature of which they are a part of.

1. *To clarify the educational paradigm in which we operate*

The educational question as such is also little questioned in the articles consulted, as for example, the question of the educational paradigm(s) in which our actions are taking place. More study is needed on this subject, but it seems that several of these paradigms coexist within a single library without our noticing (Félizat, P., 2020). Whether we are concerned with qualifying our educational actions or simply with qualifying the type of relationship that members of a library team have with the rest of the members of the community, as D. Lankes (2019) does for example, the question of the relationship in which we situate ourselves in relation to one another is indeed far from facultative in environmental education practices.

A few librarians, however, are developing rich reflections on the modalities of the educational activities they are implementing, such as Madeleine Charney at the University of Massachusetts to find new ways to facilitate conversations about climate change (Charney, M., 2019), or George J. Aulisio (2013) to find inventive ways to educate visiting students in the library, or Tim Schumann in Germany who identifies the affinity of makerspaces and community gardens with environmental education due to more suitable learning styles.

1. *To specify our goals and evaluation methods*

An action that aims to be educational and even transformative must of course make the effort to clarify its objectives and be subject to an evaluation, which is often an evolving evaluation. This requires a clear definition of why things are being done, the means of intervention chosen, the use of evaluation methods that are as varied as they are participatory and, of course, the sharing of all this with those concerned. We did not find much evidence of these essential practices in the literature.

This is important since our own observations in Montreal confirm that the actions of libraries are often expressed through isolated and discontinuous actions, even though the permanence of this formal and non-formal educational resource that libraries constitute, their structuring effect and their potential as sounding board when deployed on a national scale and bringing together all types of libraries - for the scaling up of isolated but innovative citizen initiatives in particular - clearly constitute one of their greatest strengths.

In conclusion, for libraries, all these formal and non-formal educational activities must therefore be pursued with greater strength and awareness, but also with greater collaboration and consistency.

# A huge potential

As we have seen, the few existing attempts to conceptualize library EE activity are still limited but our own observations confirm nonetheless that libraries are doing a lot, and more than they usually think, in EE.

Indeed, SD seems to obscure entire sections of relevant activities that libraries do not tend to associate with environmental education. This is particularly true of supporting self-expression in all its forms, as an encouragement to reflective autonomy, but also and above all as a vehicle for being born to oneself and to one's community, which is very much used in EE. Thus, on an individual basis, the life story, and in particular the exercise of "environmental autosociobiography" (Berryman, T. 2007), is a powerful tool for becoming aware of one's own personal journey, which facilitates the transition from passivity to acting. Other less intimate but equally familiar EE techniques could also be used to good effect in the context of libraries, with adults (e.g., Hansotte, M. 2021. See also note 31) as well as with children (e.g., Planche, E. 2017. See also note 32). In this regard, the ongoing doctoral research by Hanna Kleemola (2017) on literary arts activities in Finnish, Swedish, Danish, Norwegian, and Icelandic public libraries that promote "socially sustainable development, sense of community and social inclusion" is very interesting. This work highlights not only the value of producing literary works of all types (rap and comic workshops, creative writing groups, etc.) but also the importance of offering this service on an ongoing basis in our libraries.

These EE-relevant activities are therefore activities that libraries are already doing, but which they could improve or do more strongly if they could better identify them as belonging to the EE field.

But they are also activities that libraries do not do but could do. For example, environmental education is also done by mobilizing all our senses. Sonic environment education, for example, is one of the rich sub-fields of EE that would have many affinities with libraries (note 33). And there are many more.

# An alternative to characterize EE in libraries: using David Lankes' 8 libraries mandates

The exploration of the writings retrieved from bibliographic databases seems to point to a triple difficulty in perceiving oneself but also in explaining one's activity in a simple way to other stakeholders:

1. To conceive oneself as library institution
2. To conceive oneself as part of the EE actors
3. And even to conceive the interactions between the different parties involved

In the articles consulted, the activities commonly referred to are generally in the form of a simple enumeration. For public libraries, for example: seeds libraries, DIY workshops, educational gardens, support for the sharing economy, awareness of eco-gestures, celebration of Earth Day and other environmental weeks. We can add, for some of them at least: offering a place for citizen deliberation and to meet experts, building projects with the neighborhood, organizing guided tours of the city, organizing exhibitions, events, and campaigns in collaboration with partners...

The use of the 17 sustainable development objectives to classify these activities does not change the feeling of a lack of a coherent and, above all, communicable representation of what libraries do in EE. Faced with this complexity and the difficulty of dealing with it, the practical recourse (or imposed by authorities) to the simplifications of sustainable development seems to lead to a dead end from the point of view of EE. Underneath their simple and colorful appearance (note 34), and contrary perhaps to their stated intention to provide a common framework for evaluation, one may even think that the abstraction of the SDGs - by disembodying actions from their local context, isolating them from each other but also from their belonging to the better-known education field - may even divert attention from what is really at stake and, ultimately, could inhibit the ability of libraries to have a real impact.

How can we build a more complete picture of the field of possibilities that is communicable to non-specialists and that can facilitate understanding and evaluation, including by restoring a certain control over these activities to the professionals but also to the citizens that we are?

We propose to use the eight mandates of libraries established by David Lankes in "Expect-More, Demanding better libraries for today's complex world". This publication, reissued in 2015 and translated into several languages including French in 2018, indeed allows us to go back to the “why” of libraries activities and thus to encourage discussion and collaboration with other stakeholders who share similar intentions.

These eight mandates for libraries are: Collective buying agent (or shared resources); Economic stimulus; Center of learning; Safety net; Steward of cultural heritage; Third space; Cradle of democracy; Symbol of community aspirations.

We have successfully used these 8 facets to classify both the activities observed in libraries, the evoked activities by librarians during brainstorming sessions, and activities observed in the alternative structures set up by transition organisations. These alternative third spaces can be considered, from our point of view, as EE pilot structures for libraries. Some good practices identified here and there in the literature have also been listed, as well as a certain number of analysis resulting from EE research.

This work should of course be further developed, ideally in a participatory way, to plainly clarify the portrait of the specific current and potential contribution of libraries to EE. With all the data we have been able to gather, all the 8 facets already seem promising and offer a great potential for improving current practices. We cannot develop all this work in this article, but we provide an excerpt as an example in the next paragraph.

These eight facets can be used to show the reality of a particular library's EE activity in relation to others or in relation to a particular target. The relative importance of the sub-themes of each of the facets can be represented graphically by linking them to their importance in the annual programming. It is also possible to transform them into UX evaluation criteria.

We were also able to demonstrate that these facets can also be used to better explore the realm of possibilities around a particular theme such as GHG reduction related to digital sobriety. This example, treated in the form of a one-hour training workshop, made it possible to illustrate that by mobilizing all these modalities and by repeating them in time and space, libraries can collectively have a measurable impact on collective practices to be changed.

# An example of analysis: The “Symbol of community aspirations” mandate

***Definition of the mandate from an EE perspective:*** *The building can be exemplary from a sustainability perspective and be itself be a source of learning and inspiration. It can also offer facilities such as a recycling point for batteries, eyeglasses, etc., bike racks, carpool parking, and electric vehicle charging stations. Ideally, this place also reflects the culture and particularities of the territory. Some libraries (e.g., in Sweden and Brazil) also set up permanent interactive "green corners" to draw attention to eco-gestures and innovations, and to showcase the sustainability efforts of residents. The library also reflects these aspirations by relaying and partnering with significant events.*

Several authors mention, of course, the educational power of the building itself (Boyden and Weiner. 2000; Barnes, L. 2012; Aulisio, G. J. 2013; Townsend, A.K. 2014, Binks et al. 2014...) including through devices that allow, for example, real-time readings of a building's exemplary energy consumption or the presence of demonstration spaces (e.g., showing what a zero-waste kitchen or bathroom should look like). Of course, some of these authors acknowledge that, despite existing standards and efforts over the past 20 years, libraries are and will remain far from exemplary from a sustainability perspective, but that they can still inspire and educate in this regard. (Aulisio, G. J. 2013; Binks et al. 2014).

##### Importance of the pedagogy of place

This is the "pedagogy of place" that is well known in EE and was well described in the 1970s by Washington State School Librarian Howard Armstrong. He wrote: "*We must cease to think of students as products rolling off an assembly line called education, cease to suppress their individuality and their unique creative flair, and begin to draw these positive qualities to the surface if the next generation is to appreciate what beauty is left in the world for, they must appreciate if they are to save. A good school is a human school; a good environment is a pleasant environment. It is only in such an environment can environmental education thrive*”. He invites us to consider three attention points in his article: the adequate treatment of noise; the pleasant character of the furniture combined with the presence of works of art and plants; the quality and interest of the offer in this space. All these criteria remaining of course useless without a friendly and helpful librarian.

Nowadays, it is not uncommon to see individual or collective artistic productions exhibited or produced in libraries spaces, including those related to transition, and some libraries even constitute cultural and artistic places of their own, offering exhibition rooms, performance halls and other rooms dedicated to creativity in all its forms. On the other hand, other criteria, which anchor the "human" or simply "living" character of a library, have been added to those put forward by H. Armstrong: the presence of natural materials and natural elements, the ability to reflect and make room, at least symbolically for the community itself, human and non-human, the permission to freely transform at least some of these spaces, to make noise, to eat there... in short, to express life, in addition to offer views on the territory but also a quality of silence for inner calm and introspection, environmental conditions that have become increasingly rare. It is also the new trend of "biophylia" and "biophilic design" whose objective is to promote well-being and creativity (Lee and Park, 2018; Gierbienis, M., 2019; Peters and D'Penna, 2020; Wijesooriya and Brambilla, 2021. See also note 35).

But to consider the "pedagogy of place" is also to ask, with Yaprak Hamarat (2019), whether the aesthetics of the library promote civic engagement. The author notes that the concept of sustainability has tended to consolidate the aesthetic properties conveyed by the modern movement, properties that are strongly standardizing, anthropocentric and unhistorical, and that these are "contrary to the program of change promised by environmental policies that enjoins civic engagement, the construction of common between individuals, and with others, humans and non-humans”. She identifies thus, with the main criterion of the wear, 12 aesthetic criteria which would be more favorable to this engagement.

The capacity to create well-being but also trust and citizen engagement, at the heart of the impacts to be generated, is therefore closely dependent on what the library environment itself expresses and a greater awareness of this aspect is essential.

##### Importance of the choice but also of the constancy of celebrations

Another aspect of this mandate that should be given more consideration is the nature of events and other celebrations that are regularly implemented. For example, we celebrate Earth Day, World Environment Day, but also water, bees, cycling, junk food, etc. In Canada, we also celebrate National indigenous peoples day, and all sorts of local days, months and festivals. My own observations of Montreal libraries show, however, that these choices of celebrations are not very consistent from one year to the next, which seems to indicate a certain lack of reflection about their use in terms of measurable impact. The ability to celebrate is an asset of library institutions that could be better exploited, including in the context of joint celebrations by several libraries and, of course, in close resonance with the actual recognition needs of a unique community.

**Conclusion**

This article invites to identify the unique strengths of libraries as actors among others of the large field of EE, based on a better knowledge of the research data on this subject. To better understand our power to act from this perspective and to know how to explain it in simple words to a third party is to awaken our courage and creativity and to improve our chances of being understood by other actors with same intentions.

By adopting this posture, new perspectives emerge, such as a greater awareness of the uniqueness of a particular team and the interest of a greater synergy of actors on the scale of a space of life. Identification of the obstacles to adopting this posture leads to a broader reflection on our capacity to transform ourselves as an institution and as a society.

The difficulty of tackling these issues, which touch on profound socio-cultural transformations (note 36), seems to be an unspoken issue in the library community. We have now, bitterly, and collectively, become more aware of this after 50 years of ineffective actions including in our libraries: the call to action is hardly enough to really change the course of things. As the American poet and essayist, Wendell Berry, and many others have said: If a cause is championed exclusively as a public cause and is not also embraced by millions as a private cause - that is, as intimately as it is firmly rooted in social vision, firm conviction, and deep reflection - it is inevitable that it will become a flash in the pan.

It is this reflexive and critical posture that will allow us to tackle the large-scale problems we collectively face with the greatest success. In times of crisis, it is indeed more necessary than ever to slow down and become aware of the "soup" in which we are immersed and, above all, of ourselves in this "soup". In this respect, the recent work of the librarian Meredith Farkas (2021) on slow librarianship is particularly inspiring.

Reflexivity (looking in the mirror to become more aware of one's own impact in the system and of what one is doing very concretely to contribute to it) is therefore the first step to take. It is our best weapon if we really want to have an impact. Collaboration - especially at the very local level - and giving support to our neighbours who are already working on these issues is the second.

The necessity of more reflecting and collaborating, both require a greater recognition by libraries that they are part of a larger group: formal and non-formal EE actors.

In Finland, the nationwide "Project Environmental awareness of public libraries for the 2020s" is a step in this direction. It calls for libraries to play their full role as agents of change by "expanding the local acts of passionate individuals into structured and strategic progress. (Pötsönen et al., 2020). The challenge now for that type of initiative is to go mainstream as quickly as possible.

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