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The Place of Open Educational Resources in the Formal and Informal Domains and its implications to Fostering Sustainable Societies

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Abstract:

What is the role of OERs in the broader society? This paper postulates the presence of two social domain that an individual navigates throughout one's life cycle: the Informal domain, which is characterized by the family, community, and the natural environment, and the Formal domain, which is characterized by public and private institutions and industry. It explores the role of the school system as the gatekeeper of the Formal domain, serving to train individuals for their roles in the legal, public sphere as well as to eventually legitimize their entry into the world of work. Moreover, the school system trains its students to imbibe the culture of the Formal domain and progressively detaches them from the natural and devaluing the informal domain, leading to the myriad symptoms of the malaise that philosophers have associated with modernity and the unsustainable trajectory of modern society.

The internet, a generally decentralized and un-institutionalized arena, mostly follows the Informal domain in how individuals access and interact with it. However, we also find institutions creating their own spaces in the internet. Thus it is posited as a third domain. In this virtual "gray area" hovering above both domains, one can find a re-valuation and re-appreciation of the Informal domain, by providing a platform of communication for the public sphere through myriad virtual communities. This paper is an exploration of how OERs and current ICTs have made this delineation of domains less distinct, thus allowing it to act as a "keymaker" to the formal sphere. Through this platform for validation and equal valuation of the wisdom of the informal domains in interconnectedness, conservation, and sustainability, coupled with the drive of the formal domains towards progress and development, a society can balance its priorities and move towards the creation of sustainable policies and institutions.

Introduction

A systems approach to educational reform is imperative when one wishes to institute sustainable and holistic changes in society. However, it is necessary to also look at education not in isolation, but as part of the society in which it operates. Thus can we create a framework through which educational reform can be viewed, and come up with innovative policies and strategies with which to respond to perceived problems and shortcomings of the educational system. This paper is an exploration of society as a comprised of two physical and psychosocial domains, the role of education, and its impact on an individual's valuation of nature and of the human condition.

This analysis is made in the context of the Philippine society.

The case of Education in the two domains

Where does education begin? Every individual goes through more or less the same trajectory when it comes to life stages. A child is born in a family and is acculturated within the family. At this point, the main cultural unit is the family, and the child is simply a component of this unit. The family acts in behalf of the child: receives state care as a family, performs social community obligations as a family, and interacts with the natural environment as a family. The first teacher for each child is the family: parents, siblings, and extended members all contribute to the child's education. In a particularly close-knit community, all community members take on the

responsibility for the education and safety of all the children.

This initial domain is what I would call the **informal domain**. It is informal in the manner that all actions within the informal domain are not coded into ordinances and laws, and there are no formal mechanisms for ensuring that certain actions are implemented or prohibited. Diversity is appreciated and celebrated. All interactions are tacit and contextual, and the language of the informal domain is the mother tongue.

The informal domain is more natural in the sense that it is based on natural objects. It operates in a nature-based concept of time: the day is divided into periods (early-, mid-, and late morning, early-, and late-afternoon, early and late evening) and the year is divided into seasons. Activities are done within the context created by nature (i.e., by the forest, at the foot of the mountain, next to the river, etc). Thus, teaching and learning are also based on contexts dictated by nature, such as teaching and learning about agriculture, meteorology, economics, physiology, and reproductive health. The informal domain is such that it is built on interaction, connectedness, and intimacy with nature and with each other. The strengthening of networks to each other and to nature is the enabling factor in all its activities, such that it becomes the currency by which it values its outputs.

The **formal domain**, by comparison, is built from codified rules and regulations formulated by a organized group that is recognized by the community. It is comprised of institutions such as the local government, the school system, civil society, and industry. All activity done in the formal domain is driven by policy and monitored by the proper authorities, and the language of the formal domain is the official tongue.

The formal domain is more artificial in the sense that it is based on man-made concepts. It operates in artificial concepts of time, in minutes and hours, and in weeks and months (that are not based on the moon). Activities are done within the built environment: buildings and parks, classrooms and offices, malls and halls. The formal domain is built on and values the artificial/man-made environment that intends to control and subvert nature. In its bid to create order, the formal domain is restrictive of diversity and tries to stifle it by creating a dominant narrative and propagating this through its institutions. Since it is dependent on the man-made and artificial, it tends to value its output in terms of their monetary equivalents, as money is the enabler in this domain. This explains in part why the informal domain is less valued, since its outputs have no monetary equivalents.

It can therefore be argued that a systemic process of leaning towards the formal domain and devaluing the informal domain would eventually lead to the so-called malaise of modern culture, variously described as alienation, individualism, materialism, and hedonism that also extends to the the devaluation and wanton use of nature. The dichotomy is usually put forward as one of traditional community as against modern society (Frank, 1987). This paper posits further that this may be explained by the unique position occupied by the school system.

Education creates the Individual

The entry of the child to the formal educational system is a milestone. It is the one event that signals the introduction of the child into the formal domain. It sets the child separate from the nurturing unit of the family to become a singular unit: an individual. Thus as an individual, the child navigates through the formal domain and is assessed through his or her individual achievements and failures. The formal domain gives the child a new identity and place separate from her or his identity in the informal domain. The child is not seen as a member of a family or of a community, he or she is appraised as a student of a grade level of a school, and is bound to the responsibilities and prescriptions of such a condition.

To be a member of the school system means acquiring the discipline of the daily grind. For five days in a week, the child, mind-body-and-heart, is required to attend to activities within the school building, to be inside a classroom, preferably sitting in a chair with a desk, and quiet. Thus the child learns ordered movement and restraint, and the capacity to work quietly within large organizations over long periods of time. So the child is brought to a walled room full of children of the same age, made to pay attention to the only adult in the room (and not to each other), and told to be still for the next two hours.

Classes are held on the dot, and through forty minutes the child is told one thing, and the next forty minutes the child is told another, totally different and mostly unconcerned with the first. Thus thinking is trained to be jumpy, erratic, and disjointed. After a period of time, the child is asked to report back what has been "learned", and is rated (and valued) based on the child's capacity to hold on to and give back this information.

So for longer and longer periods of time, the child is trained to be away from the home, and to stay indoors without regard to the vagaries of nature. Thus the child begins to lose his or her connection with nature, and would later on end up devaluing nature, as the best hours of the day are spent cooped up in a classroom and engaged in a host of "other, more important things" which are dictated by a central authority figure. Moreover, the child is trained to sit still without regard to the needs of the body, whether for activity, or sleep, or pleasure, or comfort. Thus the child begins to lose intimacy with her or his body and emotions, and may eventually proceed through life without self-knowledge and body-knowledge.

Corollary to that is the express objective of the school system to produce good citizens and good workers. As such, curriculum competencies targeted are mostly for content, skills, and values useful to the formal domain. This is more pronounced in the tertiary level, as one of the functions of the academe is to prepare its students for the world of work. Even concepts about nature and the body are discussed through the lenses of the disciplines of Western science. Thus, one can say that the school system has the capacity to legitimize knowledge through the time and manner that it chooses to present such knowledge as lessons. Because the informal domain is not so highly valued, it follows that the knowledge of the informal domain is also not valued, and thus remains largely unvalidated and untaught.

Exiting the domains

The child may then exit the school system, either having finished basic education or by dropping out. It is notable that by dropping out, the child is removed not only from the school system but from the formal domain as a whole, and thereby relinquishes the identity and status given by the formal domain. This is the reason why dropping out is considered a heavy burden by the state, not because the child ceases to learn outside of the school system, but because the state has ceased to exercise its authority over the child. By dropping out, the child reintegrates him or herself fully into the family unit and thus moves back exclusively into the informal domain.

An individual who exits from the school system may remain in the formal domain by entering the world of work. If one has exited after completing his or her schooling, then one is considered for skilled or semi-skilled labor. If one has exited with college units or with a college degree, one is considered for sub-professional or professional labor. One may also become a licensed entrepreneur. Within the formal sector, one is assured of worker benefits, rights, and access to other institutions of the formal system such as banks and lending institutions, hospitals, and government services.

Can one exit the informal domain? I believe that one not so much as exits the informal domain but

rather allows the individualistic mindsets of the formal domain to bleed into the the interactions and functions of the informal domain. This refers to the progressive dissolution of family and community ties, the devaluation of community culture, the individualistic appreciation of nature (usually, devoid of the connectedness and knowledge of context and rhythm that characterizes one who works with nature). Thus one might find institutional means for relating with self, family, and nature that is different from the intimate, connected, and relational manner that is borne by the informal sphere.

Where do the domains meet?

The fulcrum of both domains is the individual, who learns to navigate between two separate, if not disparate, domains that have different values, ways of knowing, knowledge systems, and codes of behavior. For many, their identities at the formal and the informal spheres are held distinct and separate, and they create different personas to deal with the demands and cultures of the two worlds.

In the case of the Philippines, a country which was a former colony of both Spain and the US, the formal domain is patterned from policies and institutions of its former colonizers, that even the worldview that built the formal domain is vastly different from that of the indigenous, informal domain. Thus, the disjoint between formal and informal domain is made even more evident.

As the formal domain holds legal authority and resources, it is critical to remake its dominant narrative to be able to create the psychosocial environment that is critical to building a sustainable society. To be able to do this, a shift in the educational system – the gatekeeper of the formal domain – is needed.

A Third Domain

The formal and informal domains meet with the individual, and it is the individual who then enters a third domain which is the Internet. Advances in ICTs have lowered costs as well as increased power and speed of the machines that allow for access to the internet. Thus, it has become quite ubiquitous in most of the developed world and fairly distributed in the developing world.

The internet is a decentralized system that depends on an extensive backbone of volunteer organizations by which autonomous networks are connected. It is an open platform that was designed in a way that makes it easy to overlay new kinds of technologies to the network. It has grown through the inputs of individuals and organizations acting independently. Its lack of a centralized authority figure, openness, appreciation of diversity, and capacity for social networking and crowdsourcing makes it reminiscent of interactions within the informal domain. On the other hand, the presence of institutions as well as industry makes it an equally ideal platform for the formal domain. In this manner, the internet acts as a platform for engagement – either as individuals or as communities or as institutions -- for both domains, a de facto DIY soapbox for all who wish to engage.

The internet is different from the the first two domains where the individual's membership and subsequent interactions within it is neither by birth (as in the informal sphere) nor by necessity (as in the formal sphere), but rather by preference or desire.   In the web, an individual can create a new identity (or identities) based on one's fancy, and has the option to reveal him or herself, or to maintain anonymity. Even the communities that one is a member of is based on active choice and agency, one finds and interacts with virtual communities where "members of a certain culture attempt to make themselves at home... and try to mold it in their own image (Miller and Slater, 2000)." Indeed, Cascio (2012) has framed it as "a manifestation of human desires."

Making the invisible visible and challenging the dominant narratives

Because the internet is driven by user preference, it follows that this domain will reflect not only the dominant narrative of the formal domain, but more importantly the realities of the informal domain which are not adequately portrayed in the school system and mainstream media. It has become a platform in which local content – an expression and communication of a community's locally generated, owned and adapted knowledge and experience that is relevant to the community's situation (Khan, 2005)– is presented and celebrated. Indeed, the extraordinary increase in "peer production" of digital information products produced by individuals without any expectation of monetary gain is proof that individuals and communities are hungry for validation and representation of the informal domain.

Not only is the internet a platform for presentation, it also transforms the meanings of the local content that is presented. In a study of an African tribal religion which has in part migrated to the internet, Budka and Kemser (2004) noted that "many originally indigenous beliefs and practices are now leaving their local traditional settings and becoming widely available... and in the process... are transformed into new forms of world culture." Moreover, the internet allows the consumer not just access to the content but also a means for connection to the community that produces the content. Thus, not only is the informal domain made visible, the platform also affords the capacity for which the content presented can be validated.

The internet's role in the presentation and validation of the informal domain can already be seen as a major move towards challenging the dominance of the formal domain. The challenge is furthered by its capacity to undermine the ability of any institution to control its own narrative. Through social networking and virtual communities, the dominant narrative is annotated by users who may like, comment, share, or remake the content for their own purposes.

Alternative networks and the Open access movement

The emergent power that allows users to challenge the dominant narrative is the collective voice of the networks formed in the internet. The third domain has become the de facto public sphere consisting of 'network citizens' who 'participate in the creation of new decision-making capabilities as well as understand their informal power and responsibilities' (McCarthy et al, 2005) These open social networks are self-generating and appear to function in much the same way as open systems in nature (Capra, 2004). This new kind of communication has an enormous impact on opinions, cultural trends, information spreading and even as the fundamental organizing mechanism in recent country-wide social movements (Borge-Holthoefer et al, 2012).

It is not surprising, therefore, that this networked activity has now been postulated as an open system of social production that depends upon the free exchange of ideas and labour (Peters and Araya, 2007) that give rise to effective, large-scale cooperative efforts, that is, peer production of information, knowledge, and culture. This is a new system of production that is the fruit of a "networked information economy... (wherein) important cooperative and coordinate action (is) carried out through radically distributed, nonmarket mechanisms that do not depend on proprietary strategies" (Benkler, 2006). Rather, it is driven by the user's individual need and creativity that is funneled to networks of like-minded individuals. This is typified by the emergence of free and open-source software. A notable example is the Linux/GNU system which is proof that products as complex as operating systems may be crowdsourced through a network of dedicated and skilled hackers, all working without monetary compensation.

A number of theorists have compared the Open source community to the "Gift Economy" practiced traditionally by North American First Nation tribes and ancient Chinese societies (Couros, 2006),

where within small tribal societies, the circulation of gifts established close personal bonds between people (Barbrook, 1998). In Open communities, Raymond (1998) opines that

> "gift cultures are adaptations not to scarcity but to abundance. . . . Abundance makes command relationships difficult to sustain and exchange relationships an almost pointless game. In gift cultures, social status is determined not by what you control but by what you give away,"

indicating that the Open movement is highly reflective of how the informal domain operates.

Moreover, the creation of open source software is contingent on an apprentice-like system of learning wherein learning and mentoring is practiced within the community:

> "Open source communities have developed a well-established path by which newcomers can "learn the ropes" and become trusted members of the community through a process of legitimate peripheral participation. New members typically begin... by working on relatively simple, noncritical development projects... As they demonstrate their ability to make useful contributions and to work in the distinctive style and sensibilities/taste of that community, they are invited to take on more central projects. Those who become the most proficient may be asked to join the inner circle of people working on the critical kernel code of the system. Today, there are about one million people engaged in developing and refining open source products, and nearly all are improving their skills by participating in and contributing to these networked communities of practice."
>
> (Brown and Adler, 2008.)

Thus, the open source community has created not only an open system of production but also a system of education that tends to parallel the values and methods of the informal domain.

This is not to say that the formal domain has not engaged in the Open access movement. The academe and the science community has, in fact, been its pioneers through the establishment of ERIC and MEDLINE as early as 1969. This is hardly surprising since educational and science communities, like Open source communities, are based on knowledge sharing among peers. Since then, open access to research has become the norm for the academe, and over 5,000 open access journals are available today (Bjork et al, 2010).

OERs: From Gatekeepers to Keymakers

Most notable is the engagement of the academe through the production of Open Educational Resources or OERs, which is often defined as "digitised materials offered freely and openly for educators, students and selflearners to use and reuse for teaching, learning and research (OECD, 2007)." With OERs, anyone with access to the internet also has access to the wealth of knowledge produced by the formal domain without having to engage in the formal domain as an official student or member of the educational community. Ideally, it allows for learning of content and skills of comparative quality to learning in the formal sphere to anyone, anywhere.

The import of such access is this: whereas the educational system has long been the gatekeeper to the formal domain, OERs have the capacity to act as keymakers to allow entry to the formal domain through (presently) unconventional means. (The term "keymaker" is derived from a fictional character from the movie Matrix Reloaded, whose function is to create shortcut keys to access all the aspects of the virtual realm of the Matrix through backdoor entry.) In other words, it is not to say that there are no more gates and gatekeepers, rather, that OERs, which are products of the formal domain contextualized in the Internet which operates similar to the informal domain, allow for the development of open education modalities such as lifelong learning, distance learning, home

schooling, etc as viable alternatives to the current educational system.

Building a Sustainable Society

The World Development Report in 1999 states that knowledge, not capital, is the key to sustainable social and economic development. From the analysis reported in this paper, it is evident that not only knowledge but the cultural mindset that inordinately values the formal domain and devalues the informal domain needs to be addressed in order for appropriate interventions that work *with* nature be initiated. Thus, the knowledge and values of the informal domain need to be re-inculcated through a thorough reform of the educational system, which acts as both drill sergeant and gatekeeper for the formal domain.

The way toward a viable solution, however, has already available. The development of the internet as a third domain that acts as a gray area and meeting point of the formal and informal domains, makes it possible to:
1. Revive the mindset and cultural values of the informal domain as the networks in the internet appear to parallel the values and methods of the informal domain,
2. Present and legitimize the knowledge, values, and worldview of the informal domain through local content created and distributed through social networking systems, and
3. Share the knowledge created by the formal domain through OERs and thus allow for the blossoming of viable and similarly rigorous alternatives to the current educational system.

Through this intervention, it is hoped that a more balanced perspective towards sustainability may be arrived at, and that multiple, diverse solutions may be generated to achieve it.

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