

Coworking as a Stigmergic and Informal Learning Space

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ABSTRACT

The term coworking was coined back in 2005 (Neuberg, 2014). Brad Neuberg was and still is a developer looking for more collaborative ways to work. Since then, the number of coworking spaces has grown exponentially and is now doubling every single year. From the very beginning, we realised that coworking spaces — as informal work and learning experiences — defy the traditional office. The members of the professional community working in such places come from various professional backgrounds and fields of knowledge, and therefore contribute to the multidisciplinary, intercultural and interdisciplinary dimensions of those spaces. The purpose of this paper is to examine the learning modes that take place in those spaces, especially those resulting from stigmergic learning phenomena, where someone's activity is continued, in a cumulative and self-organised process (for example, the Wikipedia expands with everybody's ongoing contribution). These phenomena are studied in several fields of knowledge, from Political Science to Art and Technology, to name but a few. This paper focuses on the informal learning processes that take place in a coworking environment, as well as the potential value of such processes towards a future new Design Education approach. Therefore, we only target the generic higher education classroom here.

Keywords: Coworking, Classroom, Design Education, Stigmergy, Informal Learning.

INTRODUCTION

It is now globally agreed that there is a feeling of inefficiency and inadequacy of teaching methods to new times and new paradigms caused by the ubiquity of the use of information technology. This is a feeling shared by everyone involved in the educational processes, from teachers to students and from students' families to the whole Academy and society. This is also a concern of the European Commission. In a speech delivered in Yerevan, Armenia, on the occasion of the EHEA Ministerial Conference and 4th Bologna Policy Forum, Tibor Navracsics, European Commissioner for Education, Culture, Youth and Sport, stressed that:

The economic crisis has sparked a necessary debate. We need higher education systems that are fit for purpose, and that place a strong accent on the employability of graduates. Many European countries are reforming their systems in response. We see more countries developing professional bachelor degrees and short-cycle qualifications, and better incorporating practical experience into their programmes. And we see a strengthening emphasis on soft skills and on interdisciplinarity. This is all extremely positive. (Navracsics, 2015)

The main objective of the Academy has always been to train professionals so that they can join a labor market which, by definition, operates in an informal context based mainly on experience-based learning. Today, we feel the urge to bring this informal and experience-based learning into the classroom. Thus, the big challenge is to distinguish formality and informality, as well as an experience-based teaching as opposed to the gap between learning and experience.

In parallel, a global refusal of rigid, hierarchical, linear and formal teaching and learning models is felt. Nonetheless, there are many examples of the implementation of new teaching and learning models, based on

informality and focussing on Experience-based Learning. As an underlying feeling it seems that “for some reason, learning and fun have become incompatible” (Price, 2013, p. 117).

Although outlining this is not a consensus position, the OECD (Organisation for Economic Co-operation and Development) describes three different types of learning (OECD, 2015):

- Formal learning: Organised; structured; learning goals; intentionality of gaining knowledge. This is the learning situation found at formal education systems as well as formal training proposed at professional work environments.
- Informal learning: Never or self-organised; no planned goals or learning outcomes; non-intentional; learning by experience. This is the learning situation one can mostly observe at coworking spaces where learning happens in a peer-to-peer experience.
- Non-formal learning: Not consensual at all; mainly organised; can have learning goals but not always; intentional or proposed; both formal and informal learning without overlapping.

There are also in-depth changes in the workplace. One of the biggest evidence is the collapse of the balance between work and private life as well as the emergence of shared and collaborative workspaces. In fact, work is blurring with our private life. At coworking spaces, resident members no longer separates their life and work in two different moments. Instead, they use coworking spaces as places to work and socialise. Coworking also adds the opportunity to learn or improve existing and acquired skills and competences.

Thus, this paper assumes two findings: the labour world is changing; the academic world must change. This is the starting point for the development of the concept of mixing coworking and informal learning, by tentatively mapping the stigmergic phenomena that take place in new workspaces, with a view to proposing major changes in classroom where Design is taught and learned at the University level.

At this stage, this is an exploratory and introductory document, given the relative scarcity of sources and references in the researched areas and, above all, taking into consideration the need to carry out further studies using interviews, surveys and other analyses of student and professional communities present, respectively, in the Academy and in coworking spaces. This document also lacks a comprehensive history of the Design teaching practices which will be an important part of my doctoral final thesis.

COWORKING: FROM COMPETITION TO COOPERATION TO STIGMERGY

In the introduction to his book *Mutual Aid: A Factor of Evolution*, Peter Kropotkin pointed out two aspects that have impressed him on his expeditions to eastern Siberia and northern Manchuria (Kropotkin, 1972). A former aspect would be the extreme hardship most animal species have to face in nature and the latter – somehow contradicting Darwinian thought – the non-evidence of struggle for existence between individuals of the same species. Nevertheless, Propotkin excuses Darwin just by reminding that the idea of competition is largely supported by the biologist’s thinkers and followers.

This innate human behavior – cooperation – is recognizable in our days by the use we make of social networks and other digital tools the Internet provides us. The big shift is that actually these tools have changed the scale, time and notion we have of the collective and of what we achieve individually.

Coworking

Brad Neuberg coined the term *coworking* in 2005. He was working both as a freelancer, working independently, and as a consultant for a company. Neuberg started to feel the gap between “the freedom and independence of working for myself along with the structure and community of working with others” (Neuberg, 2014). That gap was filled with the idea of a kind of space that would gather other workers allowing the structure he was looking for. Therefore, the coworking movement started because people were in need of each other to collaborate and share resources. The first spaces were born in the United States and then spread to virtually everywhere in the world. As to the term itself it is interesting to note that it is commonly written this way, without a hyphen. In fact, it’s a practical way to differentiate it from the term “co-worker” which refers to people working at the same company. Instead of “co-working”, the new term “coworking” implies collaboration and sharing within the same space, keeping your individuality and independence but not working alone. It also

implies one of the coworking fundamental aspects – diversity [of people, age, religion, professions, gender, etc)

Ten years later, it is now obvious that the proliferation of the coworking movement is largely linked to two fundamental reasons:

- The ubiquity of technology providing easy and wireless access to the internet;
- The profound changes in the way we work (Suarez, 2014).

Deskmag.com is the leading source of information on coworking. They run every year a Global Coworking Survey. The 2013 results showed a positive outlook, evidencing the ongoing expansion of these spaces (Fortsch, 2013).

- 90% of all coworking spaces expect a significant increase in comparison to the previous year
- 88% of all coworking spaces expect higher revenues (a fifth more than in the previous year)
- 66% of the coworking spaces plan to expand
- 74% of coworkers don't have any plans to quit their membership
- 84% of those who have stayed for at least one year in a coworking will most likely remain for another year
- 51% of all existing coworking spaces opened last year
- 61% of all current coworkers started working at a coworking space last year

Stigmergy

Stigmergy is a mechanism of indirect coordination between agents or actions. The principle is that the trace left in the environment by an action stimulates the performance of a next action, by the same or a different agent. In that way, subsequent actions tend to reinforce and build on each other, leading to the spontaneous emergence of coherent, apparently systematic activity. ("Stigmergy," 2015)

These are the first lines of Wikipedia's description of the term *stigmergy*, with Wikipedia itself being one of the greatest expressions of stigmergy on the Internet, where each user acts by modifying or adding data to a particular virtually shared theme, thus contributing to a common understanding of it. However other examples can be found on the Internet, such as open source code projects, to name the more obvious.

Indeed, the Internet can be understood as a stigmergic system, with special expression in projects where the traces left by some are followed and/or altered by the action of others (the Greek words *stigma* and *ergon* mean mark or sign and action in greek, and are the semantic source of stigmergy). Wikipedia is a clear example of stigmergy, but currently the concept is widely attributed to different areas where the phenomenon of self-organisation is present.

Mark Elliot, considered an expert in stigmergy, distinguishes forms of collaboration based on communication and stigmergy (Elliot, 2006). Collaboration depends on communication, and Elliot reminds that communication is a network phenomenon involving social negotiation and a creative response. For this author, another differential factor is the number of individuals involved. Groups of two to twenty-five people depend on this negotiation based on direct communication whereas groups of more than twenty-five people are activated by stigmergy. This observation seems to indicate that the human scale of social negotiation is limited and should be taken into consideration in the design of a new classroom, gradually being global and digital by default.

Beyond this limit, stigmergy is the process that governs our actions in a self-organised manner (which does not depend on direct communication between individuals in a hierarchical order). Once again, Internet shows how an idea, thought or news can spread and grow without ever knowing who originated it.

In coworking spaces it is often impossible or undesirable to establish rules or forms of conduct, given the diversity of residents. The imposition of rules is indeed often counterproductive, leading to adverse effects on the construction of active and collaborative communities. The images below show the stigmergic nature of some decisions taken by communities using coworking spaces, and evidence stigmergic phenomena in public contexts and in the animal world as a simple illustration of this phenomena.

Figure 1 shows how the meeting room of a coworking space is booked, without the intervention of an officer or leader. Figure 2 shows the tracing of paths by stigmergy in Hyde Park (London). Figure 3 illustrates how, in a stigmergic way, a shoal of fish moves.



Figure 1. Meeting room self-booking at a coworking space.



Figure 2. Hyde Park, London. New paths decided by all but no one in particular.



Figure 3. A shoal of fish. Who's the leader?

Other evidence of stigmergy in coworking spaces could be identified such as collective decision-making processes on the temperature and intensity of air conditioning (the changes are individually made, depending on one's needs but also on the needs of neighbouring coworkers); use and washing of common dishes and cutlery (everyone uses the same shared mugs to drink coffee and everyone washes it afterwards); or informal and spontaneous classes that take place over the counter between coworkers of similar or different professional areas. The examples are endless and can be observed in any coworking space in the world.

WILL COWORKING SPACES BE THE NEW CLASSROOMS?

Will Coworking Spaces Be The New Classrooms? (Cagnol, 2013). This was the title of an article published in 2013 by Rémy Cagnol at the Deskmag website. Cagnol establishes a natural connection between school and coworking by noting that students are used to working on their assessments at coffee shops, libraries and other public places. A coworking space would be a natural option for them because it would somehow merge their familiar spaces like home and school. A coworking environment as a new classroom would allow the students to work and learn with the benefits of regular coworkers. That means working in a comfortable and informal space; work and study when and for as long as they need; get familiar with the local entrepreneurship ecosystem; learn by experience and observation from the community; put theory into practice; and the opportunity to look for internship and even employment opportunities.

Hence, should the University provide for coworking spaces inside its facilities? Or instead promote local partnerships with existing coworking spaces?

Neonworx¹ is a coworking space located in Dresden, Germany, that has a partnership with the library of the Technical University of Dresden in order to provide access to fifteen students to the Neonworx coworking space every three months.

One of the best evidence of these new partnerships or even fusing between learn and work can be found at General Assembly². This online learning company was in fact originally a coworking space now becoming a true campus. A new kind campus at least.

¹ <http://www.neonworx.de>

² <https://generalassemb.ly>

Although this kind of partnership and evolution is interesting and valuable, it doesn't solve two major issues of today's Design Education. The classroom remains basically the same, with the same binomial human layout – many students and one teacher – which is now considered an obsolete setup. The other issue is critical: diversity. In a coworking space one can find all kind of professionals and experts, of all ages, genders and cultures. That is the fundamental aspect behind the operational success of coworking spaces. Diversity allows coworking spaces to be places of creativity and innovation for those involved with their communities.

The University should learn how to replicate this inside its walls, but there is still much to be done to strengthen the relationship between the Academy and coworking spaces.

Knowledge is now open to all and widely available. A new paradigm is emerging from the possibilities that technology has opened to us all. We can now customise our education or, to be more precise, hack it (Price, 2013, p. 162). This means that it is possible to fully customise one's education. Outside the Academy, some big players are truly transforming the way we work and learn. Skillshare, General Assembly, Udemy and many others prove that everyone can learn from everyone else exactly what each one of us wants to learn. Even the traditional roles are shifting. A teacher can follow a course proposed by a student, a coworker, an expert or another student.

Learning spaces and coworking spaces are natural partners. Stigmergy plays an important role in coworking spaces and in the way we all work, learn and live today, in a global and digital world.

The two examples below, although still far from what we imagine as a new learning model based on coworking and stigmergy, show new approaches in education:

1: Finland. This country has launched a wide change, still underway, in its education system. They are switching from the traditional "teaching by subject" method to the more updated method of "teaching by topic". That means learning by applying theory immediately to practice, mainly using problem-solving exercises and collaborative classroom group distribution. (Garner, 2015)

2: Catalonia. The eight schools of the Fundació Jesuitas Educació, a Jesuit education foundation with over thirteen thousand students, is implementing a new model. That new model abolishes exams, homework, formal lectures and timetables. The classrooms look now more like working spaces and, according to Xavier Aragay, CEO of the Foundation, the results are very positive ("Los jesuitas eliminan las asignaturas, exámenes y horarios de sus colegios en Cataluña - 20minutos.es," n.d.)

CONCLUSION

The arguments and concepts here described allow us to believe that a new classroom based on a coworking environment and on the use of some stigmergic digital tool(s) might be a good beginning for new ways of teaching Design. Such a stigmergic tool should embrace a digital learning model joining students, coworking communities and digital tools.

A lot of changes and experiences have begun in education all over the world but few are proposing substantial changes inside the classroom, specially changes that can adopt the informal learning that is a new reality outside academies and merge the boundaries between the learning community players – students, teachers, workers and coworkers.

If coworking is to be the next classroom then we should expect to see some kind of replication of what happens in those spaces, like a multi-age, multi-grade, multidisciplinary classrooms bringing more people to the teaching/learning equation; deep changes in the classroom furniture and design, allowing different kinds of work, seating and collaboration; purpose/subject teaching methods applying theory to practice; and stigmergic digital tools powering self-organised collaboration methods.

Coworking has the potential to change the way we learn and work, for good.

As co-founders of a coworking project, we look forward to further investigating all these possibilities within the scope of this doctoral program (focused on new ways of teaching and learning Design although – as previously stated – this paper also focuses on a generic classroom) and to making a positive contribution to a new learning community.

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REFERENCES

- Barral, M. Z. (2013). Living Coworking – La Filosofía Coworking como Nueva Forma de Trabajar. Madrid: Manuel Zea.
- Cagnol, R. (2013). Will Coworking Spaces Be The New Classrooms? DeskMag. Retrieved March 8, 2015, from <http://www.deskmag.com/en/will-coworking-spaces-be-the-new-classrooms-university-school-686>
- Elliott, M. (2006). Stigmergic Collaboration: The Evolution of Group Work. M/C Journal, 9(2). Retrieved March 8, 2015, from <http://journal.media-culture.org.au/0605/03-elliott.php>
- Foertsch, C. (2013). The Coworking Forecast 2013. Retrieved February 1, 2015, from <http://www.deskmag.com/en/coworking-spaces-forecast-global-survey-statistics-2013>
- Garner, R. (2015). Schools in Finland will no longer teach “subjects.” Retrieved March 22, 2015, from <http://www.independent.co.uk/news/world/europe/finland-schools-subjects-are-out-and-topics-are-in-as-country-reforms-its-education-system-10123911.html>
- Kropotkin, P. (1972). Mutual Aid: A Factor of Evolution. New York: New York University Press
- Los jesuitas eliminan las asignaturas, exámenes y horarios de sus colegios en Cataluña - 20minutos.es. (n.d.). Retrieved March 8, 2015, from <http://www.20minutos.es/noticia/2397606/0/colegios-jesuitas/eliminam/asignaturas-examenes-horarios/>
- Navracsics, T. (2014). Time to be bold: Getting the Bologna Process up to speed again. Retrieved June 28, 2015, from http://ec.europa.eu/commission/2014-2019/navracsics/announcements/time-be-bold-getting-bologna-process-speed-again_en
- Neuberg, B. (2014, January 16). The Start of Coworking (from the Guy that Started It). Retrieved June 27, 2015, from http://codinginparadise.org/ebooks/html/blog/start_of_coworking.html
- Price, D. (2013). Open: How we'll work, live and learn in the future. England: Crux Publishing Ltd.
- OECD. (2015). Recognition of Non-formal and Informal Learning. Retrieved June 29, 2015, from <http://www.oecd.org/edu/skills-beyond-school/recognitionofnon-formalandinformallearning-home.htm>
- Stigmergy. (2015, May 9). In Wikipedia, the free encyclopedia. Retrieved from <https://en.wikipedia.org/w/index.php?title=Stigmergy&oldid=661493485>
- Suarez, R. (2014). The Coworking Handbook – The Guide for Owners and Managers. Charleston, SC – USA: Ramon Suarez.