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E-LEARNING, VIRTUAL LEARNING AND SOCIAL CAPITAL

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Abstract

E-learning opens new possibilities that may enhance the efficiency with which conventional education reaches its objectives. This is reflected in the fact that, in general, the returns to investment in human capital, both at the individual and the social level, are increased with the help of e-learning. Whereas the impact of e-learning on the acquisition of human capital seems, therefore, to be positive, the same cannot be said with the same level of confidence regarding the acquisition of social capital. As it is argued in this paper, the impact of e-learning on social capital at primary education, when developed as a substitute for the conventional school (distant e-learning) may well be negative. Taking into account the importance of some components of social capital with regard to the benefits of education, also from an economic point of view, the introduction of distant e-learning should not be done in an uncritical manner, but after a careful analysis of its impact on social capital. At graduate levels, however, e-learning provides an interesting kind of social capital worth analysing in some more detail.

Keywords

E-learning; Social Capital; Human Capital; Homeschooling; Returns to Education

1. Introduction

There is no need to emphasise the enhanced possibilities that *distant e-learning* opens for the efficiency of the educational process in general terms. However, the impact that *distant e-learning* may have upon the formation of *social capital*, and its characteristics, should not be overlooked. There is general agreement on the fact that *distant e-learning* allows education to overcome geographical barriers, as well as to reach places and people that would have been otherwise left behind. Nevertheless, if *e-learning* is made a substitute, and not only a complement to formal education, it may entail a serious shortcoming: namely, it may hinder the formation of social capital among its participants. Social capital not only represents a valuable asset for his or her owner but also increases the efficiency of public investment, including investment in education itself. In this paper, we would try to analyse the impact of *distant e-learning* on the construction of social capital within the education process, both at an individual and at a social level. We will distinguish, in this respect, the impact of *distant e-learning* at elementary education, exemplified by *homeschooling,* and at higher education levels. If, as it is pointed out here, *distant e-learning* may hinder the formation of social capital, educational authorities should analyse the role of *e-learning* within the educational system carefully, and look for ways to prevent the losing of this valuable capital.

2. E-learning, Social Capital and Homeschooling

We may begin our argument by focusing on the impact of *distant e-learning* at the most basic educational level: primary education. *E-learning,* undoubtedly, helps to achieve the main objectives of education at this level when introduced as a complement to conventional techniques at the classroom.

The problem appears, however, when *e-learning* is not treated as a complement, but rather as a substitute for classroom education. What characterises *e-learning* in the latter case is the fact that, whatever the form it takes, it is developed in isolation. Rather than a complement to official or conventional education, *e-learning* opens the door for parents to decide about the ethical values that their children receive in exclusivity.[1]

Homeschooling is a long-lived movement that defends the right of parents to educate their children on their own, the way they consider more appropriate. If, once this learning process at home has been completed, the child can successfully pass some official exams, he or

[1] It is worth noting, for instance, that Vigilant et al. (2013) found that the main reason why parents had opted for homeschooling was precisely their rejection of the socializing model of the conventional school.

she would be awarded the corresponding official degree. The movement has made some inroads in the United States and different countries all around the world.[2]

The right of parents to educate their children in their most preferred way can be challenged on ethical grounds: children education is not a commodity, but a social good characterised by not having a use-instrumental value, but for having a *superior* value (Anderson, 1993, p.161).If this is the case, it should be provided according to a set of values emanating from social norms democratically decided and not depending on parents´ wishes or their willingness to pay for a special kind of education. Despite its great importance, this is not, however, the point we would like to address here. We would like to concentrate, instead, on the assessment of the *economic* impact of education both to the individual itself and to society.

When analysing the economic impact of education, the focus is usually put on *human capital*: the acquisition of human capital improves workers productivity and, therefore, contributes both to increasing their wages and promoting economic growth (Hanushek, 2013).[3] It also helps to ease the consequences of economic crisis (Kumar, 2017). The most important issue here is, then, the ability of the educational process to provide technical capacities fitted to market demands. In this respect, there would be no argument against homeschooling once it is proved, and duly certified, that parents can transmit their children the relevant capabilities. The same can be said of any system based on *e-learning* techniques at this educational level: if the relevant abilities are transmitted and acquired, it will provide children with the economically convenient kind of human capital. Nevertheless, does homeschooling provide a better way to acquire human capital than traditional school? The answer to this question is not that straightforward: the empirical evidence in this respect is mixed (Murphy, 2014). To put just an example: Brian Ray, from the *National Home Education Research Institute* has been arguing for many years that this is the case. His last work in the field shows, for instance, that this is so for black children in the United States (Ray, 2015). Nevertheless, his methodology and empirical results have been highly criticised: see, for instance, Lubienski *et al*. (2013) and Kunzman and Gaither (2013).

Be it as it may, the problem is, however, that by acquiring human capital in an isolated context, be it under the parent's guidance or in front of a screen managed from a centralized local education authority, this may prevent children from building an equally important capital for themselves and society as a whole: *social capital*.

[2] In Europe, for instance, it has experienced a sensible development in the United Kingdom and is legal in Austria, Belgium, the Check Republic, Denmark, Estonia, Finland, France, Hungary, Ireland, Italy, Luxemburg, Norway, Poland, Portugal, Rumania, Sweden and Switzerland. It is not legally recognised in Germany. In Spain it is being discussed in some provincial parliaments. In Latin América is allowed in Colombia, México and Perú but not in Cuba and some Central American countries. It is also legal in India and Indonesia.

[3] For a more qualified view see Benos and Zotou (2014).

Social capital, as it is only too well known, has been subject to many definitional attempts. All of them have, however, two main components in common:

- The membership of the individual to a given social network;
- The particular values this social network shares.

Social capital, however defined, is positively related to the number of social networks to which the individual belongs, their characteristics, and the kind of values they share. From the individual point of view, social capital, as any other form of capital, affords its owner an economic benefit, because it reduces the transaction costs associated with uncertainty arising from asymmetric information. It also helps to manage situations of poverty and social exclusion and, because it provides information about new working possibilities, it enhances promotion prospects. From the social point of view, social capital also seems to play a very important role in promoting economic development (Grootaert and van Bastelaer, 2001) and helping to cope with crisis (Helliwell et al., 2014).[4] Theoretical models help to explain the reason why: social capital should not only reduce transaction costs, it would also raise the productivity of public investment in education and health, and lower fiscal fraud (Bowles and Gintis, 2002). Quite a different matter is to prove this empirically. Perhaps one of the best attempts `in this respect is the one due to the World Bank. The World Bank has been trying for several years now to estimate the real economic wealth of different countries, following the Growth Accounting framework (World Bank, 2005). Surely this is not the place to describe this process in some detail, but one of the main results obtained from this effort is worth mentioning. Total wealth is made of different forms of capital: physical capital, human capital, natural capital and "intangible" capital. Once the economic value of each one of these components is estimated, it is possible to calculate its contribution to total economic growth: namely, its marginal productivity. In this work, "intangible" capital has been identified with "compliance with the law". The ultimate reason for this rests on the work of Kauffman *et al*. (2005). These authors identify six different variables, as the main components of this "intangible" capital:

- Voice and accountability
- Political stability and absence of violence
- Government efficiency
- Government regulation quality

[4] This is not to say, of course, that social capital always has a positive impact on socioeconomic development. Depending on its characteristics it may well have a negative impact: see, for instance, Titeca and Vervisch (2008). However, for the purposes of this paper we will concentrate on the potential positive impact of social capital on education achievement: i.e., in the positive tradition of *communitarianism* (Huisman and Wulf, 2004, p. 3).

- Law compliance
- Corruption control

The difficulty of empirically measuring and estimating the quantitative value of these six components cannot be overlooked. The problem is substantially eased by the fact that all these six variables seem to be, from a statistical point of view, closely related. This is why the authors have opted for choosing "law compliance" as a good indicator of "intangible" capital. Finally, to establish the importance of social capital in the economic progress of any country, it would suffice to recall the close association found between law compliance and social capital in the work, for instance, of Paldam and Svendsen (2005). It is thus from this methodological basis that the relationship between social capital and economic development is empirically documented.

Social capital, therefore, is not only economically important from the individual point of view, but also from a social perspective.

If this is so, then our argument is quite straightforward: *e-learning* may be of considerable help in both, enhancing educational progress and allowing education to cover otherwise neglected areas. However, when substituting conventional, classroom education at early stages, it may hinder the acquisition of a fundamental economic asset: social capital. This loss may eventually translate itself not only into fewer opportunities for the child herself but also into a lower rate of economic growth for the country as a whole.

3. E-learning, Virtual Learning and Higher Education

E-learning seems to play a positive role in enhancing learning opportunities at the post secondary level (Bell and Federman, 2013). Does the same problem regarding the role of social capital appears when dealing with higher educational levels; i.e., graduate and postgraduate studies? Again we refer here not to the role of *e-learning* techniques as a complement to classroom education, but as a substitute for it: *virtual learning*. Furthermore, the relationship between *e-learning* and social capital goes now in the two directions: *e-learning* not only helps to build a certain kind of social capital, but its effectiveness is also affected by this very social capital being acquired.

The answer to these questions is somewhat mixed and surely needs further investigation.

At these later stages in the educational process, the student has already acquired a relevant amount of social capital. Hopefully, he or she would also has acquired the set of social values that characterise this "intangible" capital and facilitates social life. But even in this context, as Huysman and Wulf (2004, p. 8) point out: "the relationship between Information

Technologies and social capital seems to be an ambivalent one". The same can be said of Internet in particular, and the influence of membership in these *virtual communities* on the face to face social capital of their members (Blanchard, 2004).

The widespread development of these new information technologies has given rise to a new concept: *virtual social capital*.[5]

Even if it is well beyond the possibilities of this paper to analyse these relationships in more detail, there are two set of questions worth posing. On the one hand, the ones related again with the *efficiency* of virtual *e-learning* in achieving higher worker productivity (see, for instance Persico et al., 2014, on the ways to improve this efficiency). The relevant issue here would then be the following: to what extent does this virtual social capital enhances the learning process within the *social constructivism* framework in which it develops? On the other hand, and closely related to it: to what extent does *online education* promote the development of (virtual) social capital? What are the characteristics of this virtual social capital? (Lu *et al*., 2013).

Despite the fact that, as Lu *et al.* (2013) argue, networking and other *Web2.0* technologies can support teaching and learning in higher education to a great extent, when dealing with the efficiency of *distant e-learning* in this field, several points could be raised at this very early stage of the research:

First, it has been widely discussed whether students find it more difficult to study outside the classroom, without a teacher being present to solve any doubt that may arise or to pose stimulating new ones (Mulyadi et al., 2016). The importance of the tutor and his/her evolving rule over time is well established in Chianese (2017). On the other hand, the very presence of peers in the classroom may reinforce the learning process, apart from strengthening the building of social capital.[6] As Pigliapoco and Bogliolo (2008), for instance, argue: "Recent studies have shown that the Psychological Sense of Community (PSoC) felt by students plays a key role in affecting their performance, satisfaction and persistence in academic degree programs. Hence, the lower student performance and higher dropout rates suffered by on-line courses in comparison with their face-to-face counterparts are often traced back to lower levels of PSoC caused by the lack of physical interactions among students who learn at a distance". Even if the authors do not agree with this conclusion, and their work is directed towards showing that this is not the case, the issue is far from settled. For instance, as Oztok *et al*. (2015) point out: "much

[5] For an interesting survey of the characteristics of this virtual social capital see, for instance, Ching-Chung and Yen-Chiang (2015).

[6] Whereas at the beginning virtual learning was basically a*synchronomous* computed mediated, the perceived shortcomings of this procedure lead to a more *synchronomous* approach through the help of tools like chats, online conferences etc.

research suggests that online learning environments could make individuals feel isolated ... and disconnected from their peers".

Second, the role of student's ´diversity in influencing academic quality is also subject to discussion. The standard view on this issue tended to sustain that even if university colleges have strict preferences for diversity, the academic quality of the college decreases as a result (Chan and Eyster, 2003). This view, however, has been challenged: Furstenberg (2007) shows that, contrary to previous work on the subject, diversity in college´s students tends to increase college academic quality. If this is true, then the issue immediately arises as to whether *distant e-learning* courses or degrees show a lower student´s diversity than do conventional courses. Furthermore, even if this is not the case, it could be possible that despite this fact, because of the way in which the courses are developed (virtual), the advantages of diversity in the learning process are lost: "the very nature of online learning communities can be problematic for community building as individuals in an online learning environment come together not because they know who others are or because they share similar interests, but because they have simply enrolled in the same course" (Oztok et al, 2015, p. 23).[7]

Third, and at a different level, Guralnick and Levy (2008) have pointed out a very well-known fact, although often neglected. Namely, that academic and industry conferences, as well as a forum for the exchange of ideas, "provide a rare opportunity for people to form relationships with colleagues around the world, and not only to exchange ideas within the context of formal presentations, but to get to know one another informally through other conference activities such as dinners and receptions". The point then is that *distant e-learning* based conferences run the risk of losing this important ingredient which, again, is just but another form of social capital. The same phenomenon appears in the transfer of knowledge among firms: personal contacts are a very important component of this process, at least in developing countries, as the work of Kesidou and Romijn (2008) clearly shows.[8]

Finally, it is perhaps worth mentioning here the work of Casquero *et al*. (2016). The authors compare Personal Learning Environment (PLE) with Virtual Learning Environment (VLE) and conclude: "the findings reflect the effectiveness of a PLE for facilitating student participation and for assisting students in the creation of larger and more balanced personal networks with richer social capital". Even taking into account that PLE does not always imply physical contact among participants it is nevertheless true that it is closer to it than VLE. *Blended*

[7] It is worth mentioning in this respect the work of Tyndorf Jr and Glass (2017) regarding the differences between university and community colleges in terms of economic efficiency in promoting economic growth in developing countries, taking into account the socioeconomic differences among their respective students.
[8] See Ehrlich et al. (2017) for the importance of entrepreneurial human capital in the process of growth.

education may well be in this respect a better combination than simple distant *e-learning* as Mutawa (2017) pointedly shows (see also Porter et al., 2014: Bernard et al., 2014; Chen and Yao, 2016).

4. Conclusion

E-learning is a very powerful tool that may greatly improve the educational process at different levels. Far be it from us to suggest otherwise. Nevertheless, it may be worthwhile remembering the importance of the context within which the learning process takes place. At the lower levels of the educational system (elementary school), *e-learning* allows the process to take place at home and, therefore, provides invaluable help to the homeschooling movement. At these early stages, however, the child is not only acquiring human capital but social capital as well. In this sense, education at home may prevent the child not only from being exposed to social values democratically accepted, something that may be rejected on moral grounds, but also from building his or her own social capital. School not only offers proficiency on the acquisition of technical abilities but, much more important, educates on social values as well. One of these values is, precisely, getting to know and learn to deal with someone different. Virtual education, made easier with the help of *e-learning*, may prevent this process of incorporating citizenship values. At the other end of the educational ladder, virtual education and *distant e-learning* no longer suffers from this problem, but might run the risk, if not appropriately developed, of lowering efficiency: i.e., not maximising the social productivity of educational investment. Three instances of this possibility have been mentioned in this paper. First, the fact that the student may find it harder to learn out of the classroom and, therefore, get lower marks and higher dropout ratios. Second, that virtual learning by filtering the students that enter the process may reduce diversity among them and, therefore, lower academic quality. Even if diversity is not reduced, virtual learning may not provide the context that makes diversity worthwhile in this sense. Finally, that distant virtual learning, in the context of academic and industrial conferences, is unable to provide the surrounding atmosphere in which personal contacts develop and that greatly improves the efficiency, in economic terms, of these meetings. All these three caveats arise from the very important role of social capital in the overall process. As mentioned, *blended education* may be a better alternative than simple distant e-learning.

e-learning represents, therefore, a very important tool for improving the learning process for the educational community. Nevertheless, when coupled with virtual learning, it should be applied bearing in mind that, on the one hand, the building of social capital may be severely

influenced by this form of education, and that, in the other, social capital is a crucial ingredient in achieving educational goals.

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