

Capabilities, Human Capital and Education

Diego Lanzi¹

University of Bologna

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Abstract

In this paper, relationships between human capital and human capabilities are discussed and analyzed. Starting from Amartya Sen's capabilities approach and his suggestion to broaden, both additionally and cumulatively, the notion of human capital, we firstly characterize capabilities as *fuzzy* entities, then we propose a closed loop in which complex interactions among investments in human capital, capabilities and modes of economic production and reproduction are intertwined. Hence, it is argued that, given this essential complexity, educational policies have to be designed taking into account their direct and indirect effects on human capabilities. In doing this, a possible practical reference could be United Nations' principles for *capacity development*.

Roughly speaking, capacity development is based on civic engagement, participation, autonomous development and fruitfully social interaction. All these principles are perfectly consistent with the Capability Approach's view of education as something aimed not only to job-oriented skills acquisition, but also to life-oriented ones. Moreover, they suggest how educational policies may be designed in order to increase their impact on human development. Finally, we argue that, for making these principles work, a *network architecture* of the education system might be needed.

1. Introduction

Education is one of the critical dimensions through which public policies for economic growth and social development can be valued and analyzed. It does create *human capital* augmenting individual skills, abilities and competencies. At the same time, it does enlarge individual freedoms making social cohesion easier to achieve. Its importance in implementing development policies and in attaining higher overall economic welfare has been recently recognized by endogenous growth theories, proposed and discussed during the 90s², as well as repeatedly emphasized by international institutions and political declarations (from the 1990 World Declaration on Education for All to the recent World Bank's (2004) Development Report). However, what does effectively mean education quality is a largely debated issue and huge diversities about ways for defining or measuring educational outcomes exist. For illustrative purposes we consider two conflicting approaches.

¹ To contact the author: Department of Economics, Piazza Scaravilli 2, 40126, Bologna (Italy), TEL: +390512098662; FAX: +390512098040; @: lanzi00@economia.unibo.it

² Seminal contributions on endogenous growth are Lucas (1988) and Romer (1986). For a compendium of recent advancements in this theory, see Aghion and Howitt (1998).

On the one hand, we have the *Productive Approach* (PA, henceforth) where educational outcomes are seen as functionally related to technical combinations of educational inputs. Among the latter, formal education quality (i.e. teachers' CVs, teachers/students ratio etc...), natural abilities, good parenting, in-school facilities and peer-to-peer relations have been recognized as crucial for specific and generic human capital accumulation³. In this view, school system's performances are generally described by learning outcomes (*test scores*) and after-school earnings/productivity of graduates. Finally, in the PA, efficiency and equity assessments are grounded in cost-benefit measurement and analysis⁴.

Despite its shortfalls (reducing education to a productive issue, not taking into account education's external benefits, connecting through a questionable education production function⁵ inputs and educational attainments etc...), this approach is largely operative, empirically verifiable and politically consistent with markets (or quasi-markets) reforms because of its managerial flavor. Nevertheless, as O'Shea (1999) stresses, it mainly undermines that education must be personally, socially and culturally enabling and hence that educational policies must be judged in terms of *enrichment of the human life* and not simply through job market earnings or productivities.

On the other hand, the *Capability Approach* (CA, henceforth) conceives education as mainly connected to human freedom instead of human productivity⁶. Consistently, education benefits and results are generally viewed as multidimensional and not-value-free and they are measured by substantive freedoms' achievements. These freedoms can be equivalently expressed in terms of human capabilities or/and functionings all referred to (politically and ethically accepted) dimensions of human development⁷. The accent is put here on recognizing education's social and cultural externalities as well as education's crucial role in promoting socially sustainable human development. Thus, overall education value is defined by the sum of *instrumental value* (teachers qualifications, test scores, certifications etc...), *intrinsic value* (achievements in agency, autonomy and well-being) and *positional value* (established social relations, access to positional goods etc...). This means to take into account, in describing, designing and implementing any process of human capital accumulation, its effects on implicit social norms (as labor market ones), social inequalities (by race, gender and so on) as well as individual freedoms and powers,

³ On education quality and efficiency see Hanushek (1986), (1992), Robertson and Symons (1996), Feinstein and Symons (1999). On formal education quality effects on human capital accumulation see Dewey et al. (2000). An analysis of school drop out is provided by Eckstein e Wolpin (1999). Crane (1991) underlines the importance for educational attainments of peer-group inputs and Rivkin (2001) proposes a clear-cut empirical model in which positive correlation between peer-to-peer relations, parental involvement and economic conditions is observed. Finally, in Light (2001) in-school job experiences are tested to be a powerful tool for improving specific human capital accumulation.

⁴ For a survey on these issues see Psacharopoulos (1996).

⁵ For instance Jamison and Lau's (1982) one.

⁶ On the Capability Approach and its applications to education see Sen (1999), Nussbaum (2003), Unterhalter and Bridhouse (2003) and Radja et al. (2003).

⁷ Classical references for foundations and evolutions of the CA are Sen (1985), Sen (1992), Nussbaum and Sen (1993) and Alkire (2002a), (2002b).

all elements not fully represented by job-market positions or earnings. Hence, educational inputs are conceived as effective as long as they work for people and whether they are designed consistently with human needs, ends and aspirations. Finally, in the CA, education is thought as a basic tool for fighting human poverties (monetary and not) giving individuals not simply job-oriented competencies and skills, but also *life-skills* and *life-options* in terms of being able to know, to do, to be and to live together in a social compact⁸.

Surely, the CA is more philosophically controversial and less well-specified for policy making than the PA. Thus, in this paper, firstly relationships between human capital accumulation, human capabilities and educational policies are discussed and analyzed. Then, a policy-oriented route for operationalizing the CA in educational policies' design is briefly discussed. The organization of this essay is as follows. Starting from Sen's (1997) suggestion to investigate linkages between human capital and human capabilities, we define the latter as *fuzzy* entities building a loop in which interactions among investments in human capital, human capabilities and modes of economic production and reproduction are intertwined (Section 2). Thus, once acknowledged this essential complexity, educational policies have to be designed taking into account their direct and indirect effects on human capabilities. Hence, we present a compact list of UN's *capacity development principles* which, if implemented, promise to augment educational policies effectiveness in enlarging human capabilities (Section 3). As it will be argued, several correspondences between capacity development dictates and capabilities expansions can be traced and some operative guidelines for educational policies can be highlighted as well. Finally, we discuss (see Section 4) how a *network architecture* for the education system might be needed for making these principles effectively work. Giving students pieces of knowledge and learning abilities closer to their actual needs, the openness of the network may allow the education system to interact effectively with the local economy fostering production and accumulation of human capital consistently with local economic structure's developmental needs.

2. Human Capital and Capabilities

Human capital accumulation affects individuals' well-being in two distinct ways⁹. Directly, it does increase human qualities and skills for economic production (and re-production) and market exchange. Indirectly, it does enlarge individuals' opportunity sets giving them new possibilities to enrich their lives. Thus, for deeply understanding connections between human capital accumulation processes and capabilities enlargements, it is necessary to model how these two concepts are reciprocally inter-twined. In doing this, we shall use two well-known

⁸ This focus on life-skills has been strongly recommended by the 2002 *World Education Forum* held in Dakar and by some recent UNESCO's documents. The same enlarged notion of education emerges also from OECD's (2003) emphasis on being able to interact in socially heterogeneous groups, to act autonomously and to use tools interactively as key competencies for a "successful life and a well-functioning society".

⁹ See Sen (1997).

theorizations of what human capabilities and human capital are. Let us start with the former.

In the CA, capabilities are *fuzzy* entities¹⁰. First of all, they refer to individuals' abilities, concrete skills and knowledge (*S-caps*)¹¹. Without these abilities individuals will face "*opportunities for functionings*" shortfalls independently by what legal rights, institutional policies or external and social conditions guarantee them to achieve. Indeed, S-caps are positively or negatively affected by achieved functionings (i.e. doing routine-jobs might reduce cognitive skills or learning abilities as well as achieving self-respect could make effective abilities closer to potential ones) or, as it will be clearer below, by other sorts of opportunities faced by individuals. Moreover, individual opportunities to well-being attainments are not simply determined by persons' skills or abilities. Public policies, economic entitlements, household informal rules and civic institutions and organizations give shape to real opportunities for people as well. For instance, a well-trained-and-skilled professional could achieve low job satisfaction or weak control over its own work where context conditions (in political, economical or social terms) do not allow him to get an adequate work position or do make impossible to balance Work-Life or Productive-Reproductive activities¹². Thus, given some S-caps, the set of attainable life-paths strongly depends on external factors and rules frequently not under individual control (Nussbaum (2000)). These external capabilities (*E-caps*) are shaped by formal rights or rules as well as by informal norms of behavior or ascribed social roles and they may change with respect to race, gender or social condition.

Worth noting, also E-caps may be radically influenced by achieved functionings (i.e. having success enlarges Black Americans external capabilities modifying relations with white communities) or by S-caps since better education and well-spread knowledge may generate cultural changes or stronger conscientiousness of (and pro-active adaptation to) existing social norms and inequalities (like for feminism). Finally, E-caps may directly determine S-caps whereas knowledge and skill acquisition are tacit processes based on multilateral information sharing. Taken together, external and skill capabilities describe individual options in terms of functionings achievements (the so called option capabilities or *O-caps*).

Nevertheless, as stressed by Gasper (2002), human freedoms are not simply defined by what a person does or could do, but also by how much what she does is consistent with that she believes is right to do. Individuals must discuss, define and deliberate on which human values and ends have to be taken as reference points in deciding what capabilities are relevant or which functionings are valuable. As Van Staveren (2001) clearly underlines, in order to do that agents must possess *moral capabilities* (*M-caps*) which enable them to interact each others, to form purposes and identities, to internalize certain ethical principles and to weight different life-paths. These capabilities are also crucial in discussing existing social modes of

10 For a discussion on different interpretations of the concept see Crocker (1995), Gasper (2002) and Alkire (2002b).

11 This terminology has been proposed by Gasper (2002).

12 On this last issue see Picchio (2003).

production, reproduction or common resources management thus generating new kinds of behavior or models of development. Without adequate M-caps, skills could be wrongly oriented, larger option sets could cause confusion and disorientation and external constraints could be automatically internalized with no critics or reactions.

As it may be noticed, no clear boundaries among sorts of capabilities do exist. All typologies dynamically interact each others and with respect to achieved functionings. Describing how is a matter of *local politics*. Such a fuzziness is essentially due to the fact that conversion of resources, entitlements and rights in higher freedoms or well being is a socially embedded transformation process. Individuals belong to different local communities or networks with precise norms of behavior and group loyalties and they typically assume, within societies or groups, multiple social roles. Identities and priorities are thus continuously re-shaped within *structures of constraints* (Folbre (1994)) in increasing competition in assessing human ends, values and instruments. So, in order to get focus on capabilities/functionings dynamics a precise political and cultural definition of local principles of justice, social norms and roles or institutions (in a neo-institutional sense) is needed. Without it, only generic correspondences have to be for the discussion. However, whether education deals with individuals' life-plans freedoms and people empowerment, human capital accumulation processes ought to interact with all typologies discussed above. Hence, some correspondences between capabilities enlargements and human capital accumulation can be emphasized. Let us discuss how.

Following well-known pedagogical categories, discussed in Goguelin (1971), we may classify human capital components in three broad categories: *basic skills*, *professional competencies* and *complex functionalities*. Among basic skills we have elementary instruction (reading, writing etc...), general principles of main subjects and introducing methodological references. Differently, professional competencies concerns with applied knowledge, job-oriented development of technical skills or with assimilation of work-in-groups techniques or practices. Finally, complex functionalities elicit self-learning evolutionary processes, effective knowledge management/sharing and problem-solving/goals-achievement attitudes. They also include teamwork and relational abilities, conflicts resolution and crises management tendencies as well as interpersonal, intrapersonal and social skills (i.e. being able to get self awareness, self esteem and self confidence in changing working environment, being able to manage feelings and stress or to feel empathy etc...).

Not surprisingly, all these components turn out to have different effects on human capabilities. In the first place, basic skills acquisition enlarges individuals' options as well as agents' cognitive abilities. Having elementary instruction makes easier to achieve self-respect and social visibility, to participate to community activities or to have access to crucial information for an healthy and safe life. This surely augments human options as well as agents' control over (material and immaterial) resources. Furthermore, being able to manage main theoretical and

applied disciplines' methodological bases and principles does facilitate autonomous learning, creative thinking and specific knowledge acquisition.

Secondly, professional competencies not only increase job-oriented skills and allow a full interconnection among basic skills and operative problem-solving, but they also augment the likelihood to get a satisfying (not alienating) job, to be economically self-sufficient and to define a precise social identity through work position. Hence, they positively affect economic entitlements, individual life-plan options and skills. However, some elements have to be carefully taken into account in trying to extend capabilities through job-oriented learning processes. We mention just two of them. On the one hand, professional competencies have to be dynamically anchored to agents' actual employment opportunities and parameterized to economic system's features (*inter alia* in terms of access to labor market, labor-market flexibility etc...). Since these skills have to be locally employed, they must be transformed in *specific knowledge*. Nevertheless, this conversion is likely to be endogenously shaped by geographic, economic and social factors (Karumoto and Sagasti (2002)). Thus, institutional settings as well as public policies play a crucial role in fostering integration among local scientific community, technological/productive sectors and job-oriented education. On the other hand, professional competencies must be upward and downward well-grounded. Scarce or fancy basic skills make more difficult to convert theoretical or general notions in operative principles and organizational responses. Moreover, the increasing centrality in *Information Age*'s productive systems of *soft* components of knowledge, knowledge *sharing* processes and *know-who* competencies asks for professionals able to interconnect informative sources, to manage tacit knowledge and to take part to formal and informal knowledge networks. In short, being able to interconnect technical competencies with complex functionalities (Denning (2002)). Ignoring these issues could create dangerous conflicts between S-caps enlargements and option sets expansions, transforming friends in foes.

Thirdly, complex functionalities, once perverse effects of careerism or identity's schizophrenia are discounted, normally refer to individual characteristics that should coincide with greater life-skills and opportunities (being able to negotiate rules of the game, being able to participate to several knowledge networks or informal communities, being able to hook-up *ad hoc* knowledge or peer relations etc...). For instance, as stressed by Fukuda-Parr and Hill (2002), being able to follow and negotiate the change and to *adapt-and-adopt* new ideas, methods or categories of thought are going to become crucial capabilities in the globalized market economy where flexibility and malleability are more crucial than ever for economic and social success. Without these capabilities, specialized skills under-utilization and dissipation as well as exclusion from knowledge communities or informative sources may result in a lack of life opportunities. Complex functionalities components of human capital ought to increase them enlarging human skills and options.

Finally, several studies clearly suggest that education is crucial for identity formation or self-empowerment as well as for attaining self-respect and social

visibility (inside and outside the household)¹³. All above human capital components co-determine agents' identity, self-respect and social representation, thus directly or indirectly influencing M-caps.

Hence, human capital accumulation can, as discussed, enlarge human capabilities not simply in terms of accumulated skills, but also in terms of life-plan options. Not surprisingly, human capital is affected by human capabilities as well. Let us close the loop seeing how.

Human capabilities have direct relevance for individual well-being and agency achievements or freedoms as perfectly recognized by Sen (1999). Moreover, as Sen (1997) stresses as well, they have indirect effects on modes of production/reproduction and they may influence social change. An example can be here useful: in western countries equal constitutional rights and better education for women during last decades have resulted in public discussions about reproductive efforts distribution, caring time burdens and gendered social roles, all taboos in the 60-70ies industrial societies. Somehow, women' empowerment have led to renegotiations of social rules within and outside the household, inducing relevant social changes.

Indeed, such a connection between human capabilities and social change is far from being surprising. Since conversion of *resources/entitlements/rights* into well being and agency achievements or freedoms is a socially embedded transformation process, giving new capabilities to individuals does modify their options and skills and hence their *positions/reasons/representations* within groups, networks or communities. Claims for new modes of social, productive or reproductive organization do consequently emerge. These will be particularly significant whereas well being attainments are strictly correlated with agency ones and with a precise idea of human-flourishing-consistent life-style. In short, education increases M-caps augmenting individuals' faculties and possibilities to discuss, criticize and change dominant social roles, rules or modes of production and hence promoting social change.

Nevertheless, exactly different modes of production, reproduction or community goods' management may entail different productive combinations of human, natural, social and physical capital or different specifications of what these elements really mean. For example, whereas direct and instrumental value in terms of well being achievements is given to workplace atmosphere and good peer-to-peer relations, interpersonal intelligence may become a strictly crucial component of human capital accumulation¹⁴. Similarly, enlarged M-capabilities could entail a claim for environmentally sustainable production which does not trade-off natural capital depletion with larger stocks of physical assets. Indeed this, as far as rates of utilization among different kinds of capital are modified, does change required productive skills and competencies. In conclusion, a *closed loop* between human capital accumulation and capabilities development does emerge. The following figure illustrates it.

¹³ On education and empowerment see Nussbaum (2003). For a discussion on key elements and conditions for self-empowerment and identity formation see Serageldin and Mahfouz (1996).

¹⁴ For an analysis of different components of human intelligence see Gardner (1983), (1988) and (1993) or Chongde and Tsingan (2003).

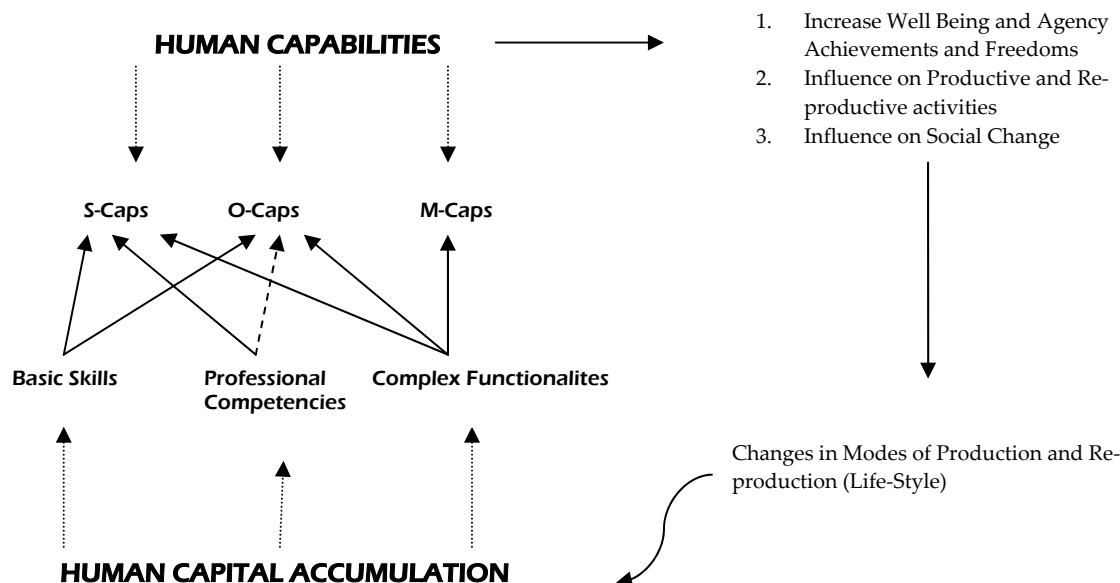


Figure 1 The Human Capital/Human Capabilities Loop

In the next section, we will discuss which features must characterize educational policies once these complex relations between human capital and capabilities are fully acknowledged. As we will see, many operative principles of the UN's capacity development paradigm turn out to be perfectly consistent with designing a CA-inspired politics for education.

3. Capabilities, Education and Capacity Development

Capacity Development principles and practices have been recently under deep discussion within United Nations' offices and divisions¹⁵. Capacity has been there defined as "*abilities, skills, understandings, attitudes, values, relationships, behaviors, motivations, resources and conditions that enables individuals as well as institutions to carry out functions and identify and achieve their development objectives over time*". Hence, capacity development is naturally concerned with institutional changes needed for sustainable and socially-inclusive developmental paths. In UNDP's own words, capacity development is:

"the process by which individuals, groups, organization and institutions increases their ability to: 1) perform core functions, solve problems and define and achieve

¹⁵ See Fukuda-Parr, Lopes and Malik (2002).

PROCEEDINGS OF THE 4TH INTERNATIONAL CONFERENCE ON THE CAPABILITY APPROACH, PAVIA 5-7 SEPTEMBER 2004

UNIVERSITY OF PAVIA/THE GLOBAL EQUITY INITIATIVE, HARVARD UNIVERSITY/THE CAPABILITY AND SUSTAINABILITY CENTRE, UNIVERSITY OF CAMBRIDGE/THE CENTRE OF ECONOMICS AND ETHICS, UNIVERSITY OF VERSAILLES & INTERNATIONAL INSTITUTE FOR SUSTAINABLE DEVELOPMENT.

objectives; and 2) understand and deal with their development needs in a broad context and in a sustainable manner” (UNDP (1997)).

As it may be recognized, this entails understanding social transformation processes not simply macroeconomic growth engines¹⁶ as well as adopting society-driven views to social change and not only market-driven ones. As frequently stressed in UN’s documents and research reports, without this change of perspective, it would be impossible to effectively modify societies’ self-organization, vision, cohesion bases or formal/informal social roles as well as providing people-oriented capacities for development¹⁷.

Curiously so far, no references to the CA can be found in UN’s effort to provide *Capacity for Development* theoretical frameworks and operative toolkits. This is an amazing lack since institutional changes and capacities accumulations must be operatively fostered giving new capacities, skill or options to citizens. In fact, many operative principles of capacity development – like participation, control over resources, partnerships in knowledge provision etc...¹⁸ - sound consistent with CA’s insights. Thus, in order to elicit some existing compatibilities between the two approaches, we briefly argue that if educational policies should be shaped consistently with UN capacity for development principles, their impact in terms of capabilities enlargement would be increased. From this line of reasoning, a list of education-related-capabilities will result as well.

For this purpose, the following table shows some of UN’s principles for capacity development and what they might involve for educational policies. As usual, this is a partial and open-ended list built for illustrative purposes.

¹⁶ On this point see Stiglitz (1998).

¹⁷ A discussion on capacity development principles and the so-called *society-driven approach* to development can be found in Malik (2002).

¹⁸ See Fukuda-Parr, Lopes and Malik (2002).

Table 2 Educational Policies and UN's Capacity development Principles

UN's Capacity Development Principles suggest	Educational Policies could respond fostering
<ul style="list-style-type: none"> • To promote multilateral partnerships in knowledge provision • To foster intrinsic motivations, local learning processes and community empowerment • To discuss and understand local values, myths and rites • To mobilize local resources • To sustain shared ownership of resources or open access to them • To provide civic engagement through open-governance, effective voice or proper accountability systems • To foster participation at the micro and macro level • To support knowledge generating/ sharing networks or communities 	<ul style="list-style-type: none"> • Full interdisciplinary interaction between teachers, students, scientific communities, technology developers and firms • Learning and knowledge acquisition anchored to local needs, bottom-up experiences, individual/community values • In-school and out-school discussions on responsible citizenship, societal norms and ethical values • Full interaction between the educative system and local productive sectors • Opening the school system to school-society-family projects or activities • Models of accountability and modalities for participation in the school system governance • Peer-to-peer relations and associations

Educational policies designed as above, dealing with job-oriented skill-giving as well as with life-oriented one, are fully consistent with CA's view of what education means. Furthermore, they sustain capabilities enlargement processes. The reason of this is three-fold: (1) *S-caps* are highly responsive to learning processes grounded in community experiences and/or surrounded by strong intrinsic motivations; (2) *O-caps* should be enlarged by greater coordination

between science, technology, communities and local productive forces; (3) *M-caps* are usually enhanced by in-school debating or peer group socialization that strongly contribute to form identities and relational abilities among students.

Obviously, any component of human capital should be cumulated using teaching methodologies, educative projects or learning environments built consistently with above principles. For instance, as recognized by the *Dakar Framework*, learning environments cannot be simply defined as school buildings and infrastructures, but they has to include sanitation services and facilities, access to or links to health or nutrition services, school/household/community formal and informal interrelations and relations with the business system as well.

Finally, educational policies inspired to capacity development principles can easily enhance not only skills acquisition and professional abilities, but also life-skills capabilities. Among the latter, we mention:

- being able to perform a vision of its own life, to manage emotions and stress and to balance job-life objectives
- being able to shape behavioral constraint in interpersonal relations
- being able to balance and link social and cultural norms with individual and peer-group aims
- being able to absorb environmental changes or context transformations
- being able to reason and work transversally, to recognize and understand problems from different viewpoints, to perform multi-task activities and to process all kinds of human intelligence (intrapersonal, interpersonal, logical-mathematical, operative etc...)
- being able to build bridges, to create and hook up networks and informal groups and to interact with multiple information sources

4. Toward A Network Structure for the Education System

Roughly speaking, capacity development is based on civic engagement, participation, autonomous development and fruitfully social interaction. Its main aim is to suggest as institutional changes can be shaped in order to solve *old* developmental issues. As argued in the last section, for applying these principles to education not only a re-design of educational policies is required (see Table 2), but a proper education system's organization is likely to be needed. To this point is devoted this concluding section.

Once applied, capacity development principles put together elements of cooperation, coordination, decentralized organization, open governance and access as well as practices of knowledge sharing and partnerships. This immediately evokes features and specificities of *network structures*. Following Van Alstyne (1997), these features can be grouped in: *organizational specificities*, *economic*

peculiarities and *social characteristics*. The following table, inspired by Van Alstyne's ones, illustrates some of the most important characters of networks structures.

Table 3: *Network Structures' Features. Most entries are based on Van Alstyne (1997)*

<i>Organizational Specificities</i>	<i>Economic Peculiarities</i>	<i>Social Characteristics</i>
<p>Variable degree of Vertical Integration with modularly Decentralized Ownership</p> <p>Flexible and Permeable Boundaries</p> <p>Weak and Dynamic Linkages among organizational units</p> <p>Relational Conflict Resolution and Joint Negotiations</p> <p>Negotiated/Shared Claim to Benefit Streams</p> <p>Negotiated and largely local Decision Locus</p> <p>Distributed Information gathering and Many-to-Many Communications</p>	<p>Create a collective surplus in excess to individual contributions through:</p> <ul style="list-style-type: none"> ∇ flexible access to heterogeneous resources ∇ economies of scale, scope and collaboration ∇ flexible and decentralized decision making ∇ moderately specialized agents together with highly complementary assets ∇ possible network externalities <p>Increase gains from Cooperation through:</p> <ul style="list-style-type: none"> ∇ increased trust and reputation built in repeated transactions ∇ shared risk ∇ information joint management and acquisition ∇ knowledge sharing 	<p>Form a goal-oriented system for addressing collective action through:</p> <ul style="list-style-type: none"> ∇ fostered learning and participation ∇ promotion of adaptation/flexibility ∇ a closer matching between internal and external factors ∇ norms understood and group affinity and cohesion <p>Constitute a change adaptive environment because of:</p> <ul style="list-style-type: none"> ∇ open and loosely coupled architecture ∇ quick identification of information encapsulations and diffusion links ∇ continuous matching between internal and external complexities through local sensing mechanisms

PROCEEDINGS OF THE 4TH INTERNATIONAL CONFERENCE ON THE CAPABILITY APPROACH, PAVIA 5-7 SEPTEMBER 2004

UNIVERSITY OF PAVIA/THE GLOBAL EQUITY INITIATIVE, HARVARD UNIVERSITY/THE CAPABILITY AND SUSTAINABILITY CENTRE, UNIVERSITY OF CAMBRIDGE/THE CENTRE OF ECONOMICS AND ETHICS, UNIVERSITY OF VERSAILLES & INTERNATIONAL INSTITUTE FOR SUSTAINABLE DEVELOPMENT.

		<ul style="list-style-type: none"> ∇ flatter management ∇ strong trust ties <p>Create Trust, Loyalty and Group Identity through:</p> <ul style="list-style-type: none"> ∇ open and participate governance ∇ mutual knowledge transfers ∇ shared risk ∇ common identity, law and language ∇ multilateral consultation more than hierarchical command ∇ reductions in status barriers
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Looking at Table 3, several correspondences between networks' features and capacity development dictates for educational policies may be easily noticed.

As well known, hierarchical organization and top-down educational policies badly fit with intrinsic motivations, local learning processes and community empowerment as well as they do not foster shared ownership or local participation. Similarly, markets and decentralized transactions do not work as well. Focusing on productivity and earnings, the latter undermines intrinsic and positional values of education not internalizing its positive social externalities. This will likely result in suboptimal investment in education as well as in sporadic civic engagement, low participation and trust and discriminatory access to key resources. In opposition, a network architecture provides a flexible, dynamic, participated and open environment in which cooperation, partnership, shared ownership and open access to resources may be easily achieved. People voice and integrated planning will be strengthen making easier to anchor educational policies to social and individual needs. Furthermore, the openness of the network allows the education system to effectively interact with the local economic and social system in order to foster accumulation of human capital consistently with the local productive and reproductive structure. Indeed, this would allow a full exploitation of capabilities-enlargements/human capital accumulation dynamics described in Section 2.

In conclusion, we must stress that once accepted this CA-inspired view of education, public sector institutions, firms as well as civic society organizations

have to negotiate and define their roles within a network system where hierarchies are softened and bottom-up planning and organization are required. Any node of the network must reveal assets complementarities, share specific knowledge or expertise, promote cooperation in educational projects among institutions. All actors must get involved in defining why capabilities need to be strengthened, what specific capabilities are needed, which pieces of the system have the mandate to elaborate and manage educational interventions, what means are available and how could capabilities best be developed with existing resources. Only if this social negotiation and deliberation exercise takes place, education will be really for people. Only in this way, our claim is, it will be possible to take the slogan “*Education for All*” seriously.

References

- Aghion P., Howitt P.** (1998) “*Endogenous Growth Theory*”, Mit Press, Cambridge, MA
- Alkire S.** (2002a) “Dimensions of Human Development”, *World Development*, Vol.30, 2, pp.181-205
- Alkire S.** (2002b) “*Valuing Freedom: Sen's Capability Approach and Poverty Reduction*”, Oxford University Press, Oxford
- Chondge L., Tsingam L.** (2003) “Multiple Intelligence and the Structure of Thinking”, *Theory and Psychology*, 13(6), pp.829-45
- Crane J.** (1991) “The epidemic theory of ghettos and neighborhood effects on dropping out and teenage child-bearing”, *American Journal of Sociology*, 96 (4), pp.1226-1259
- Crocker D.A.** (1995) “Functioning and Capabilities: The Foundations of Sen’s and Nussbaum’s Development Ethics”, in Nussbaum M. e Glover J. (Eds) “*Women, Culture and Development*”, OUP pp. 153-99
- Denning S.** (2002) “Technical Cooperation and Knowledge Networks” in Fukuda-Parr S., Lopes C., Malik K. (Eds), op. cit., pp.229-46
- Dewey J., Husted T. A., Kenny L.W.** (2000) “The ineffectiveness of school inputs: a product of misspecification?”, *Economics of Education Review*, 19 (3), pp.27-45
- Eckstein Z., Wolpin K.I.** (1999) “Why youths drop out of high school: the impact of preferences, opportunities and abilities”, *Econometrica*, 67 (6), pp.1295-1339
- Feinstein L., Symons J.** (1999) “Attainment in secondary school”, *Oxford Economic Papers*, 51(2), pp.300-321
- Folbre N.** (1994) “*Who Pays for the Kids ? Gender and the Structures of Constraint*”, Routledge, London
- Fukuda-Parr S., Hill R.** (2002) “The Network Age: Creating New Models for Technical Cooperation” in Fukuda-Parr S., Lopes C., Malik K. (Eds), op. cit., pp.185-202
- Fukuda-Parr S., Lopes C., Malik K.** (Eds) (2002) “*Capacity for Development*”, Earth Scan, New York

- Gasper D.** (2002) "Is Sen's Capability Approach an Adequate Basis for Considering Human Development ?", *Review of Political Economy*, 14(4), pp.435-61
- Gardner H.** (1983) "*Frames of Mind: The Theory of Multiple Intelligence*", Basic Books, New York
- Gardner H.** (1993) "*Multiple Intelligence: The Theory in Practice*", Basic Books, New York
- Gardner H.** (1998) "Are there additional intelligences ? The case for naturalist, spiritual and existential intelligences" in Kane J. (Ed) "Education, Information and Transformation", Prentice Hall, Englewood Cliffs, NJ
- Gouguelin P.** (1971) "*La formation psychosociale dans les organisations*", PUF, Paris
- Hanushek E.A.** (1986) "The economics of schooling: production and efficiency in public schools", *Journal of Economic Literature*, 24 (2), pp.1141-1177
- Hanushek E.A.** (1992) "The trade off between child quantity and quality", *Journal of Political Economy*, 100 (3), pp.84-117
- Karumoto J., Sagasti F.** (2002) "Integrating Local and Global Knowledge, Technology and Production System: Challenges for Technical Cooperation", in Fukuda-Parr S., Lopes C., Malik K. (Eds), op. cit., pp.203-28
- Jaminson D.T., Lau L.J.** (1982) "*Farmer Education and Farm Efficiency*", Johns Hopkins University Press, Baltimore
- Light A.** (2001) "In-school work experience and the returns to schooling", *Journal of Labor Economics*, 19 (1), pp.63-93
- Lucas R.E.** (1988) "On the Mechanisms of Growth", *Journal of Monetary Economics*, 22, pp.3-42
- Malik K.** (2002) "Towards a Normative Framework : Technical Cooperation, Capacity and Development", in Fukuda-Parr S., Lopes C., Malik K. (Eds), op. cit., pp.23-42
- Nussbaum M.C., Sen A.K.** (Eds) (1993) "*The Quality of Life*", Oxford University Press, Oxford
- Nussbaum M.C.** (2000) "*Women and Human Development*", Cambridge University Press, Cambridge
- Nussbaum M.C.** (2003) "Women and Education: A Global Challenge", *Signs*, forthcoming
- OECD** (2003) "*Key Competencies for a Successful Life and a Well-Functioning Society*", Hogrefe & Huber, Berlin
- O'Shea E.** (1999) "Education, Well-Being and Social Capital", *New Economy*, 6(4), pp.234-37
- Picchio A.** (Ed) (2003) "*Unpaid Work and the Economy*", Routledge, London
- Psacharopoulos G.** (1996) "Economics of Education: A Research Agenda", *Economics of Education Review*, 15(4), pp.339-44
- Radja K., Hoffman A., Bakhshi P.** (2003) "Education and the Capability Approach: Life Skills Education as a Bridge to Human Capabilities", Mimeo
- Rivkin S.G.** (2001) "Tiebout sorting, aggregation and the estimation of peer group effects", *Economics of Education Review*, 20 (1), pp.201-209

PROCEEDINGS OF THE 4TH INTERNATIONAL CONFERENCE ON THE CAPABILITY APPROACH, PAVIA 5-7 SEPTEMBER 2004

UNIVERSITY OF PAVIA/THE GLOBAL EQUITY INITIATIVE, HARVARD UNIVERSITY/THE CAPABILITY AND SUSTAINABILITY CENTRE, UNIVERSITY OF CAMBRIDGE/THE CENTRE OF ECONOMICS AND ETHICS, UNIVERSITY OF VERSAILLES & INTERNATIONAL INSTITUTE FOR SUSTAINABLE DEVELOPMENT.

Robertson D., Symons J. (1996) "Do peer groups matter ? Peer groups versus schooling effects in academic attainment", Discussion Paper n.351 , London School of Economics

Romer P.M. (1990) "Endogenous Technical Change", *Journal of Political Economy*, 98, pp.S71-S102

Sen A.K. (1985) "*Commodities and Capabilities*", North Holland, Amsterdam

Sen A.K. (1992) "*Inequality Re-examined*", Clarendon Press, Oxford

Sen A.K. (1997) "Human Capital and Human Capability" *World Development*, 25(12), pp.1959-61

Sen A.K. (1999) "*Development as Freedom*", Alfred Knopf Eds, New York

Serageldin I., Mahfouz A. (Eds) (1996) "*The Self and the Other. Sustainability and Self-Empowerment*", ESD Proceeding Series No.13, The World Bank, Washington

Stiglitz J.E. (1998) "Towards a New Paradigm for Development", Prebisch Lecture, UNCTAD, Geneva

UNDP (1997) "*Human Development Report*", Oxford University Press, New York

UNDP (1995) "*Human Development Report*", OUP, New York

Unterhalter E., Bridhouse H. (2003) "Distribution of What ? How will we know if we have achieved Education for all by 2015 ?", Proceeding of the 3rd Conference on the Capability Approach, Capability Network

Van Alstyne M. (1997) "The State of Network Organization", *Journal of Organizational Computing*, 7(3), pp.231-87

Van Staveren I. (2001) "*The Values in Economics. An Aristotelian Perspective*", Routledge, London

World Bank (2004) "*World Development Report*", Oxford University Press, New York