WELL-BEING IN A SUSTAINABLE ECONOMY REVISITED

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Policies for education

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Sommario

Abstract

Taking for granted what is in no way granted for students, schools send implicit messages that leave a deep imprint on young people, modelling a relationship with others, their time, themselves and society that is dysfunctional for their happiness and their learning. Why does the education system choose to transmit these implicit messages? The reasons lie in a series of beliefs contrary to the evidence. The conclusion is that schooling has severe planning defects. Fortunately successful alternatives have been experienced. They rely on including students in decision-making, cooperation, and linking learning with intrinsic motivations such as interest, curiosity, pleasure and discovery. Northern European education systems are definitely heading in that direction. They achieve high levels of academic achievements where students are less stressed, anxious and unhappy and more creative and cooperative.

Policies for Education

1 Defensive Education

What do we learn at school? Many important aspects are listed in the curriculum, but many other aspects that do not appear in the curriculum are just as important. These other aspects are taken for granted by schools, but are actual choices. They carry an implicit message. We explore the implicit content of education.

2 Performance Versus Well-being

All education systems are committed to achieving good performance, not wellbeing. In fact, they seek to promote good performance by reducing wellbeing. This starts by imposing physical immobility and silence, beginning in primary school. The implicit message to students is: *You are not here to have a good time but to perform*. Since children are used to learning through play – which implies words and movement– the message that performing is different from fun is shattering for their new activity (i.e., study). Most children make unconscious generalisations like: study is boring, reading is a grind.

In the best of cases, they take years to discover that reading a book can be a pleasure and studying can be a stimulating adventure. In the worst of cases, this discovery is never made. The fact that the two most significant aspects for developing intelligence, words and movement, are forbidden at school, marks a break between the world of children and adults.

As well, pressure to perform has increased in recent decades in most western education systems. The time dedicated to social activities is reduced in favour of time dedicated to study (Schor 2004). The consequence is that schools are causing an epidemic of anxiety. About 55% of students claim to be anxious about tests and exams, even if they have studied diligently, and 66% claim to feel stressed by fear of low grades (OECD 2017). The key to good results, however, is wellbeing: anxiety about homework and tests shows a negative correlation with academic achievements (OECD 2017). Most countries with a high anxiety score have below average results, whereas those where students have low anxiety and competitivity show the best results.

3 Cognitions Versus Emotions

Emotional intelligence is defined as the capacity to recognise one's emotions and of others, to use them to guide one's behaviour, to manage them, and to adapt the environment to one's aims (Coleman 2008). This is not the form of intelligence that the education system seeks to develop. The system concentrates exclusively on cognitive intelligence, namely the learning of notions and deductive capacity. The school transmits the message to students that *only cognitive intelligence counts*. But emotional not cognitive intelligence is key for a functional life, including occupational

success. According to Goleman (1995), the most celebrated scholar on the subject, 80% of our capacity to achieve our dreams depends on emotional intelligence.

The educational system's exclusive attention to cognitive ability is based on ideas that date back to late 19th century positivism, which saw emotions as an obstacle to cognitive activity and quite distinct from intelligence. It was the cold deductive idea of intelligence that gave rise to figures like Sherlock Holmes, who embodied the ideal of total separation of reason and emotions. His assistant Watson, who was much less intelligent than Holmes, had the emotions.

These ideas have fallen by the roadside. Today we know that cognition requires an active role regarding emotions. Cognition and emotions reinforce each other (Mayer 2001, Damasio 1994) and are part of the learning mechanisms of our species, which is evident in children learning to play. Ignoring emotions does not promote cognition or happiness.

4 Extrinsic Versus Intrinsic Motivations

Schools play an important role in encouraging materialism. They suggest to students that intrinsic motivations are not important. Proposing stimulating subjects is not among the objectives of the education system. Students are expected to study as a means to other ends, for example to avoid social exclusion or to land a good job. The message is that *it is not important to do something interesting, what counts is to do something that can be useful*. Basically, schools only attribute value to extrinsic motivations. Since the central component of materialism gives high priority to these motivations, schools teach consumer values.

However we have known for decades that this does not work. Gottfried (1990) demonstrated that for primary school children, intrinsic motivation to study is positively correlated with results, intelligence quotient, feeling adequate, and inversely correlated with anxiety (see also Cloninger 1996). A recent OECD study of more than a million high school students in more than 70 countries showed that intrinsically motivated students, or students who are "stimulated by the interest or pleasure of study", have less probability of feeling anxious about tests than extrinsically motivated students, who claim to aspire to being among the top of the class (OECD 2017). The problem is that extrinsic motivations drive anxiety and anxiety is linked to low-quality learning. The OECD uses strong terms when it concludes that extrinsic motivations can lead to "desabling perfectionism".

5 Competition Versus Cooperation

Another message from the school system is that *this is a race and you are running alone*. The system does everything possible to encourage individual competition between students, starting with grades, which are usually only individual. Group work, which promotes cooperation, is limited or absent. Our education system believes in individual success. According to this belief, competition in class raises standards, because it gives less able students an incentive to keep up with the best.

This conviction is not sustained by evidence. Comparison with the best in the class undermines the self-esteem of the others, and tends to keep the quality of their learning low throughout their schooling. Self-confidence and not competitive pressure is key to learning. Low self-esteem traps

many students in a record of disappointing outcomes (Murphy and Weinhardt 2013) while competition favours anxiety which depresses academic achievements (OCSE 2017).

Education therefore also concerns relationships, where students learn to compete among equals. The other relational message of the school is subordination to superiors. Students understand that nothing is worse than being singled out by the teacher, so they learn to conform passively to the established hierarchy. In other words, they emulate those who, in various ways, adapt by imitating others. Since education does not officially envisage cooperation, they may learn to cheat. A more counter-productive outcome is difficult to imagine.

Box: Japanese hyper-competition

The Japanese concept of *juken* (admission or entrance examination) exemplifies how extreme scholastic competition creates anxiety, frustration, exclusion and even death. All Japanese schooling is based on entrance exams to good-quality schools starting from primary school, and which have a major role in determining future incomes and pensions. Hence, many parents (about 8% in Tokyo) enroll their children at age 5 in schools that prepare them for the primary school entrance exam, hoping to get them into one of the more selective schools of the city.[1]

Juken is effectively creating first and second class citizens from an early age and anxiety for everyone, including parents. The extraordinary juvenile suicide rate in Japan is linked directly to this hypercompetitive education system, since the results of the entrance exams or lack of admission to university are listed as the main reasons for suicide of young adults. In South Korea, which also has an extremely competitive education system, suicide is the first cause of death in the 10-39-year age group (Kirk 2016).

6 Grades Versus Learning

Your performance is important and is measured by grades. This is another key message of the education system to students. The decision to concentrate on tests and exams is based on the mistaken idea that they do not affect the quality of education. Emphasis on tests destroys experimentation, creativity, innovation, original and critical thought and learning (Deci and Ryan 2002).

Coercive haste caused by dense curricula and deadlines has a similar effect. Since reflection requires time, haste prevents reflection. Schools teach relationship with time. Students learn to save time, which implies being superficial and acritical. Such education systems are not designed for profound people. Posing too many questions wastes time and results in low grades.

7 Adaption Versus Sense of Possibility

Humans have two extraordinary capacities. The first is adaptability. We populate every corner of the planet from the ice caps to the deserts. We are also very adaptable as individuals, not solely as a group, as demonstrated by the incredible variety of social, cultural, environmental and economic

[1] http://www.japantimes.co.jp/community/2014/02/16/issues/prepping-for-university-straight-from-the-crib

contexts in which we thrive or have thrived.[2] However, super-adaptability is not exclusive to humans. Many other species, like mice and cockroaches, can be found all over the planet.

The second capacity is sense of possibility, namely the capacity to adapt the environment (including the social environment) to meet our needs by planning alternatives. The sense of possibility and similar concepts have been used since the ancient Greek philosophers to distinguish humans from other species.[3] Sense of possibility is a quality exclusive to humans. It is not our capacity to change the environment that makes us unique, but the way we do it. Other animals modify their environment by digging dens, making nests or building dams, but the dam, den or nest design is always the same because it is written in their genes. They do it by instinct. Humans use creativity to plan changes. We imagine what is missing and try to create it by trial and error. We have always done this since the beginning of our existence 200,000 years ago in the African savanna. The sense of possibility is what enabled us to invent methods, organisation, rules, cultures and values to improve life.

The sense of possibility is the opposite of adaptation. When we adapt we are the ones who conform to the needs of our environment. We change to adapt to a given environment. When we exploit our sense of possibility, we are the "given" factor. The environment is adapted to *our* needs. This is our main trait as a species and it is the key to our evolutionary success. We tend to change the things around us and we tend to do so together, cooperating in many ways.

Does the education system aim to develop sense of possibility or capacity for adaptation? In the first case, the message is: *You can take or leave what we are offering. You have two chances: either you adapt or you do not adapt. Not adapting is worse*. The student is faced with the prospect of reproach by society and family, and social exclusion.

Since the education system has no intention of changing, it promotes adaptation. Schools are not designed to allow students to develop their inclination to cooperate and modify the environment in which they live. School is the student's first contact with the unavoidable pull of a world in which everyone complains and about which nobody is prepared to admit responsibility. Education compresses the sense of possibility which is our principal biological specialisation. This is why school is such a burden. To become adults, our children are expected to passively accept the drift of the world around them. It is a heavy price to pay.

8 Effective Versus Affective

Teachers seem largely aware of these dangers. McNess et al. (2003) showed that a series of educational reforms since the 1980s aroused concern in primary and secondary school teachers, especially in Great Britain, that they were increasing conflict between the needs of governments and those of students. Ministerial demand for effective documentable results, as if teachers were managers, neglects the importance of the affective and relational aspects of teaching. Many teachers think that these demands imply less time and opportunity to work creatively and to develop caring relationships with students (Pollard et al., 1995; Woods et al., 1997; Menter et al., 1997). The

[2] I do not mean adaptation in the Darwinian sense. I am not writing about natural selection but about changes that individuals and groups are capable of making in order to live in different contexts.
[3] The term "sense of possibility" and its definition were conceived by Renato Palma (Bartolini and Palma 2002).

conclusions of McNess and co-authors was that “the effective is in conflict with the affective” (*effective vs. affective*).

Even the OECD is now critical of the managerial turn taken by education. In its 2017 report on education it concluded that governments should not define teachers' work solely in quantitative terms. The reason is that "one of the main threats to a feeling of belonging at school is the perception of negative relationships with their teachers (...). Teachers play an important role in creating the conditions for student wellbeing at school (...) Happy students tend to report positive relations with their teachers."[4] Instead of concentrating on measuring performance and incentives, the OECD recommends training teachers to "manage relationships" (OECD 2017 p. 237). "Happiness lessons" were even proposed in which teachers discuss how students feel and agree on changes to tackle problems and improve wellbeing.[5]

9 Humanizing Schools

In conclusion, students are taught to relate to time, to their bodies and interests, to hierarchy and to other students in a way that is dangerous for their emotional and cognitive capacities and for their wellbeing. The conclusion is that schools should do the opposite of what they are currently doing. Students are taught to exclude wellbeing from productive activity, whereas they should be encouraged to associate positive emotions with learning. They are trained to passively accept what is taught, whereas space should be allowed them to be protagonists of their education. They are taught to neglect their bodily needs, when they should be encouraged to listen to them. They are taught haste, (i.e. to be superficial and acritical), yet schools should have respect for the time needed to delve into questions and to think creatively. They learn competition rather than cooperation. Schools produce exclusion instead of inclusion. Students learn to be passive in organisations and in their relationships with authority, instead of realising that power and organisations, including schools, serve to promote wellbeing and that they should pursue it.

Fundamentally, education is based on taming. Children are tamed in the same way as animals. This makes schools drive conservation when they should drive change.

10 Pressure to Change

The inevitable outcome of this situation is a deterioration in students' relationship with school. The sense of belonging to a school has decreased in the last 10 years (OECD 2017). In US high schools, 40-60% of students are now chronically disengaged from school (Klem and Connell, 2004). This lack of involvement has a negative impact on scholastic outcome, behaviour and even health (Blum and Libbey, 2004).

According to the OECD, the degree of student’s involvement at school depends on the degree that their needs for human relationships and independence are met. These needs are met when students feel part of cohesive group that cooperates and has a shared purpose (i.e. when schools function as communities that value respect for others and inclusion)(OECD 2017, p. 237). OECD head of staff

[4] https://www.oecd.org/newsroom/most-teenagers-happy-with-their-lives-but-schoolwork-anxiety-and-bullying-an-issue.html
[5] http://www.independent.co.uk/news/uk/home-news/happiness-classes-should-become-part-of-the-school-curriculum-new-study-suggests-9591894.html

Gabriela Ramos stated that "there are no secrets in learning. One learns more if one feels valued, treated well and helped".[6] This is exactly what schools generally do not do.

It is significant that the OECD, previously known for its attempts to quantify scholastic outcomes, in the end concentrated on student wellbeing and on the quality of relationships between students and their teachers. For its part, UNICEF published a report in which it proposed reforming primary schools to increase childern's active participation. UNICEF wants a school in which children's opinions are sought and considered in decision-making, and where schoolrooms and playground are designed and managed for children in a participatory way. This allows for children to become learning protagonists where all possible means are used to stimulate motivation and interest (UNICEF 2007).

The convergence of major international organisations on these points of view is one of the many signs of a social change in the approach to education. Indeed, in recent years there has been increasing pressure to humanise the education system. In all western countries, parent associations have emerged and they advocate for reducting or abolishing homework. Student protests have intensified. Videos, interviews and conferences that point the finger at education systems have gone viral on the internet. The main accusation is that schools bury students' creativity and personal inclinations. Students cannot make decisions and have no way of expressing and developing their potential and interests. While firms all over the world are personalising their product and profiling potential clients, schools have maintained *one size fits all*.

It is said that all things change, but education is an exception. It has remained almost the same for the last 100 years since it was instituted. A viral video tells a story in which education is tried in court. It is accused of killing creativity and individuality, and of being intellectually oppressive.[7] The prosecutor presents his evidence, showing photos of telephones and motor vehicles, the way they are now and as they were 100 years ago. The differences are enormous. But when he shows photos of schoolrooms of today and 100 years ago, a murmur runs through the public because nothing has changed. It is in fact difficult to find something that has changed regarding schools in the last 100 years. The prosecutor asks: "Are schools preparing students for the future or the past?"

It is difficult to explain the persistence of an education system that produces distress for reasons that the evidence demonstrates to be superstitions. It seems that adults have forgotten the grind and suffering of their school years. Perhaps we have a repetition compulsion?

11 How to Change the Education System

The bad news is that the education system needs radical reform if we want schools to develop cooperation, creativity, participation, inclusion, sense of possibility and cognition. The good news is that there are feasible alternatives. Teaching methods differ greatly not only between countries, but also between schools and even within a given school. It is possible to exploit this variability to understand what teaching methods work best.

[6] https://www.oecd.org/newsroom/most-teenagers-happy-with-their-lives-but-schoolwork-anxiety-and-bullying-an-issue.htm
[7] https://www.youtube.com/watch?v=dqTTojTija8

12 Participatory Teaching

A major study classifies teaching methods for hundreds of thousands of primary, secondary and high school students in dozens of countries on the basis of their verticality/horizontality (Algan et al., 2011). Vertical teaching is when teachers stand before the class and question the students. The main activity of students is to take notes and read the textbooks. The central relationship in the schoolroom is between teacher and students.

Horizontal or participatory teaching is when groups of students work on common projects. The students question the teacher. The central relationship is between students. Algan's study shows that horizontal teaching has a positive impact on various aspects linked to happiness and sociability, such as capacity to cooperate, self-esteem, voluntary work and civic participation. In countries where participatory teaching prevails, people are happier (Brulé & Veenhoven. 2014).

13 Social and Emotional Learning

Participatory activities also improve emotional intelligence. This is one reason for their positive impact on sociability. Emotional intelligence is the key to cooperation. Studies on emotional intelligence have given rise to specific programmes to develop it, known as social and emotional learning programmes. A study on 213 such programmes involving about 270,000 students from kindergarten to high school concluded that they have a positive impact on social and emotional abilities, attitudes about oneself and others, behavioural problems, emotional stress and even scholastic performance (+11%), thus demonstrating that there is no conflict between the development of emotional and cognitive intelligence (Durlak et al. 2011).

14 Montessori Schools

In fact, education systems in Western countries are rich with experiments aimed at humanizing schooling. Some experiments are local, whereas others, such as Montessori and Steiner schools, have long and successful histories that have led to the creation of global networks. Despite important differences, all alternative educational models share certain features: learning calls for active participation of students based on their needs and interests. Here, the school concentrates on reflection, cooperation, participation and enjoyment and there are few tests, if any (Sliwka, 2008).

Montessori schools are the best-known alternative system. They have more than a century of history and continue to gain recognition and approval. There are about 60,000 Montessori schools in the world, more than 5000 in the US and many in northern European countries. Montessori teaching features individual and group cognitive and social learning, work largely chosen by the students, teaching material suitable for these aims, no grades or tests, cooperation between students and mixed-age classrooms (Montessori 1964). Mixing children of different ages in the same class trains them to cooperate. Older children help younger ones and when they become older they repeat the experience with the younger children. Learning to help and be helped is an important part of Montessori education. The effectiveness of these features is sustained by human learning studies (Lillard, 2005).

Lillard and Else-Quest (2006) measured the impact of Montessori education, and discovered that it promotes social and cognitive skills more than conventional education. This study overcomes the

main difficulty involved in comparing the results of different teaching methods, namely distinguishing between the impact of the method and that of the parents. Parents who enroll their children in Montessori schools tend to have different cultural inclinations and higher qualifications than other parents. Parental characteristics have a dominant influence on outcomes (NICHD, 2004). Thus the results of children in Montessori schools could depend less on the teaching methods and more on their parents. In the case studied by Lillard and Else-Quest, this source of distortion is absent because the students were enrolled randomly in Montessori and conventional schools through a lottery system.

The study shows that children attending Montessori schools do better in math and reading tests (though never having done tests), are less conflicted when they play and are fairer in conflict-solving. They write in a more complex and creative manner, and are more cooperative and bound to their school community.

Studies on Steiner schools provide similar results. These schools favour the development of cognitive, creative and social skills more than conventional schools (Woods et al. 2005). However, these results could be influenced by parental factors. Unlike the study on Montessori schools, the design of those on Steiner schools did not exclude this possibility.

15 Performance Culture and Leaning Society

The northern European countries have understood how to reform their education systems and are adding principles borrowed from alternative schooling. These countries rank low in scholastic anxiety and high in terms of academic achievements (OECD 2017). The fundamental reason for this success is shown in Table 1 which classifies the education systems of 37 countries according to their level of participatory teaching. The table shows that northern European countries are the ones that have adopted more participatory teaching methods, whereas southern and eastern European countries seem to have taken the wrong path.

Table 1. International Classification of Participatory Teaching

Country	PTI	Country	PTI
Switzerland	0.95	Hong Kong	0.49
Denmark	0.87	Estonia	0.48
Sweden	0.85	Portugal	0.47
Iceland	0.85	Spain	0.47
Netherlands	0.85	Italy	0.44
UK	0.84	Bulgaria	0.37
Canada	0.82	Hungary	0.34
Norway	0.74	Czech Rep	0.33

US	0.72	Austria	0.28
Slovak Rep	0.72	South Korea	0.27
Lithuania	0.71	Romania	0.27
Australia	0.70	Cyprus	0.26
Poland	0.64	Turkey	0.21
Germany	0.64	Greece	0.19
Israel	0.58	Russian Fed.	0.18
Slovenia	0.56	Japan	0.10
Latvia	0.53	Ireland	0.06
Belgium	0.51	France	0
Finland	0.51		

Note. The participatory teaching index (PTI) ranges from 0 (maximum vertical teaching) to 1 (maximum participatory teaching). The data is from 1995. Source: (Brulé and Veenhoven 2014)

The current education system was conceived in the early 20th century in response to the need for social control in a society in the throes of industrialisation. Its main objective was to train workers and soldiers. It therefore developed obedience and acceptance of routine, traits greatly in demand on the labour market and in the army.

However, besides being unsuitable for the objectives of wellbeing, such education also became unsuitable for purely economic purposes. A proliferation of labels (knowledge economy, society of learning, post-industrial economy, lifelong learning) describe the today's new economy, where creativity has become a crucial factor for economic success, for both individuals and countries. Education that insists on passivity, superficiality and obedience is unsuited for this new economic system. Countries that fail to humanise their education systems will pay a high price.

In recent decades, political leaders throughout the west have specialised in the double rhetoric of a learning society and a performance society. There is a clear conflict between these two points of view. A flexible resilient work force that keeps up to date and whose intrinsic motivations lay the foundations for future economic and social development calls for loosening the bonds that prevent teachers and students from working together in a creative manner (McNess et al. 2003).

16 Conclusion

Bad news about education. Taking for granted what is in no way granted for students, schools send implicit messages that leave a deep imprint on young people, modelling a relationship with others, our time, themselves and society that is completely dysfunctional for their happiness and their learning. Why does the education system choose to transmit these implicit messages? The reasons

lie in a series of beliefs contrary to the evidence. The conclusion is that schooling has severe planning defects.

Fortunately successful alternatives have been experienced. They rely on including students in decision-making, cooperation, and linking learning with intrinsic motivations such as interest, curiosity, pleasure and discovery. Northern European education systems are definitely heading in that direction. They achieve high success levels where students are less stressed, anxious and unhappy and more creative and cooperative.

References: Section 2

Algan, Y., Cahuc, P., & Shleifer, A. (2011). Teaching practices and social capital. *American Economic Journal: Applied Economics, 5*(3), 189–210

Bartolini, S., & Palma, R. (2002). Economia e felicità: Una proposta di accordo. In L. Bruni & V. Pelligra (Eds.), *Economia come impegno civile* (pp. 121–158). Città Nuova.

Blum, R. W., & Libbey, H. P. (2004). School connectedness: Strengthening health and education outcomes for teenagers. *Journal of School Health, 74*(7), 229–299.

Brulé, G., & Veenhoven, R. (2014). Participatory teaching and happiness in developed nations. *Advances in Applied Sociology, 4*(11), 235–245. https://doi.org/10.4236/aasoci.2014.411028

Cloninger, S. C. (1996). *Personality: Description, dynamics, and development*. Freeman and Company. New York.

Coleman, A. (2008). *A dictionary of psychology* (3rd ed.). Oxford University Press. https://doi.org/10.1093/acref/9780199534067.001.0001

Damasio, A. (1995). *Descartes' error*. Penguin Books.

Deci, E. L., & Ryan, R. M. (2002). The paradox of achievement: The harder you push, the worse it gets. In J. Aronson (Ed.), *Improving academic achievements: Contributions of social psychology* (pp. 59–85). Academic Press.

Durlak, J., Weissberg, R., Dymnicki, A., Taylor, R., & Schellinger, K. (2011). The impact of enhancing students' social and emotional learning: A meta-analysis of school-based universal interventions. *Child Development, 82*(1), 405–432.

Goleman, D. (1995). *Emotional intelligence: Why it can matter more than IQ*. Basic Books.

Gottfried, A. E. (1990). Academic intrinsic motivation in young elementary school children. *Journal of Educational Psychology, 82*(3), 525–538.

Klem, A. M., & Connell, J. P. (2004). Relationships matter: Linking teacher support to student engagement and achievement. *Journal of School Health, 74*(7), 262–273.

Lillard, A., & Else-Quest, N. (2006). Evaluating Montessori education. *Science, 313*(5795), 1893–1894.

Lillard, L. (2005). *Montessori: The science behind the genius*. Oxford University Press. New York.

Mayer, J. (2001). Emotion, intelligence, and emotional intelligence. In J. P. Forgas (Ed.), *Handbook of affect and social cognition* (pp. 209–226). Lawrence Associates Publishers.

McNess, E., Broadfoot, P., & Osborn, M. (2003). Is the effective compromising the affective? *British Educational Research Journal, 29*(2), 243–257.

Menter, I., Muschamp, Y., Nicholls, P., Ozga, J., & Pollard, A. (1997). *Work and identity in the primary school: A post-Fordist analysis*. Open University Press.

Montessori, M. (1964). *The Montessori method*. Schocken. New York.

Murphy, R., & Weinhardt, F. (2013). The importance of rank position. *CEP Discussion Paper* No. 1241. London School of Economics.

NICHD Early Child-Care Research Network. (2004). *Harvard Educational Review, 74*(1).

OECD. (2017). *PISA 2015 results: Students' well-being (Volume III)*. http://www.keepeek.com/Digital-Asset-Management/oecd/education/pisa-2015-results-volume-iii_9789264273856-en#page1

Pollard, A., Broadfoot, P., Croll, P., Osborn, M., & Abbott, D. (1995). Changing English primary schools. *British Journal of Educational Studies*, *43*(3).

Sliwka, A. (2008). The contribution of alternative education. In *Innovating to learn, learning to innovate* (pp. 115–132). OECD Publishing. Paris.

Woods, P., Martin, A., & Woods, G. (2005). *Steiner schools in England: Research report RR645*. Department for Education and Skills.

Woods, P., Jeffrey, B., Troman, G., & Boyle, M. (1997). *Restructuring schools, reconstructing teachers*. Open University Press.