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Education, work and life.

Hannu L. T. Heikkinen

A manuscript to the book

Education in an era of schooling: Critical perspectives of educational practice and action research

Editors: Peter Grootenboer, Christine Edwards-Groves & Jane Wilkinson

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Stephen Kemmis first visited Finland in 1995, when I was a PhD student in a doctoral school. That was where we delved into the concept of action research as a tool for developing education. I had naturally read about action research in a number of books and articles before that. For me, the most influential book on action research had been Stephen Kemmis' and Wilfred Carr's *Becoming critical*. It built action research on the basis of critical theory, which roots back to the history-making work of Karl Marx and even further to the western philosophy. Even though Marx thought that philosophers should attempt to make the world a better place to live, critical theory had utterly failed to aid them to do so. The critical theory of mid 1900's shifted further and further from practical issues, which was not quite in line with the aforementioned intentions of Marx. The work of the Social Institute of Frankfurt that Theodore Horkheimer and his colleagues founded on Marx's philosophical legacy was actually not practical but rather esoteric social philosophy. It was not very helpful for those looking for practical tools in improving human social practices.

In the hands of Carr and Kemmis, the practical aspirations of critical theory seemed to find new life in the form of action research. The practical approach on social reality, however, did not mean doing practical development of social practices 'without an extra burden of theory'. Within the form of action research, the theoretical aspects seemed to find connections with the everyday practices. Inspired by Kemmis, I also began reading the works of Jürgen

Habermas, especially *the theory of communicative action* and *the discourse theory of law*. Based on the work of Carr, Kemmis and Habermas, I published a number of articles about critical theory and action research together with my friend and colleague Rauno Huttunen. One of the crowning moments of our co-operation came along, when we launched a book about action research in Jyväskylä in 1999 and Stephen Kemmis graced the publishing event of the book with his attendance there. Today, that same book (Heikkinen, Huttunen & Moilanen 1999) is still one of the most referenced works about action research printed in Finnish.

Since then, Stephen Kemmis has taken his personal "practice turn" from action research into more general theories of practice. However, the turn to practice theories cannot be regarded as abandoning of action research. The relationship between action research and practice theories can be summarized by pointing out that action research is basically *a strategy for developing social practices*, informed by theories and empirical research, whereas practice theories is an umbrella term covering a broad range of different approaches which aim at developing theoretical descriptions so as to better *understand* and *interpret* social practices. The link between these two concepts is highly logical: in order to develop practices, it is useful to know what practices consist of; how they relate to each other; how the actors of the social field relate to each other; and how practices are prefigured on the social field.

Stephen Kemmis has visited Finland several times in the past twenty years and the significance of his work to the field of Finnish educational research has been immense. As recognition for his significant contributions, he was acknowledged with the title of *doctor honoris causa* of the Faculty of Education of Jyväskylä University in 2009. Kemmis was also the keynote speaker in the annual conference of the Finnish Educational Research Association (FERA 2013) in Jyväskylä. In his keynote lecture, Kemmis introduced his view on research within practice traditions – research that is not just *about* or *in* education, but research *for* education. (Kemmis 2014). The lecture was widely recognized not only within the community of educational researchers in Finland but more broadly in the public media. The keynote boosted a clear and timely idea which was very topical that time in Finland, and still is; the consequences of the economic repression which has hit hard to Finland in the early 2010's, even harder than to the European countries in average. The Finnish society at large has always been proud of its educational system; a system that supports equality and has long strived to take care of the under-privileged. Now that same system, often heralded as the

best in the world, was in danger of being wrecked due to the radical resource cuts facing education as the public economy keeps shrinking. The educational researchers had noted that those that suffer the most from the educational budget cuts executed on the back of the current economic recession are the students already facing the toughest odds. Kemmis' keynote lecture gave important (kaikupohjaa, uskottavuutta, voimaa) to this message.

I would say that I have now worked on for over 20 years more or less in similar landscapes with Stephen Kemmis, sometimes taking my own excursions to some other directions and then found myself again in the same crossroad with him. Action research is still important to me, although I have also studied practices within some other frameworks such as practitioner research. In 2016, I started in the professorship in the research of "education and working life" at the University of Jyväskylä. In my inaugural lecture, I openly expressed my gratitude and appreciation for Kemmis' work. Both action research and practice theories are very topical subjects when discussing the development of research on education and the world of work in Finland.

Learning has an key role in the working life nowadays. In the political discussion in Finland, there is a growing demand for education to have even more *working life relevance*. This stance is clearly found in the political program of the current Finnish government (Ratkaisujen Suomi 2015): education is seen as a tool for producing labour force to fulfill the needs of industry and the economic realm. This demand seems to represent a very instrumental form of means-and-ends rationality: education is regarded as a means for producing proper work force to the labour market and thus becoming a sub-system of economy.

Even though the word pair "education and working life" is used a lot in current discussions about economy and production, the relationship these words have is not quite that simple. That is why in this chapter, I will study the relationship between education and working life from a few viewpoints. First, I will examine how the everyday working life has changed and how education has to change. Second, I will depict how the practices of both education and the working world can and should be researched in terms of the theory of practice architectures. Third, I will come back to reflect the relationships between work, education and life. My immediate context is the European and especially the Finnish discussion on the relationships between the realms of work and education but the phenomena within are global.

The fourth industrial revolution and the image society

One of the most significant changes in the working life is the decrease of the role of humans in physical and material production. In Aristotelian terms, we would say that human work is less and less about *poiesis* which means the material production of things (Heikkinen et al. 2016), and this means that the work that people do has increasingly been *immaterialized*. An American economist and futurist Jeremy Rifkin even predicted two decades ago (1995), that human work as we know it will cease to exist: computers, robots and other high-tech instruments will replace the manual labour done by humans. Even though Rifkin has justifiably been criticized for populism and exaggeration (e.g. Blank 2016), many parts of his prophecy seem to be coming true surprisingly accurately. Jobs have disappeared and will keep disappearing in the fields of manufacturing goods and products, sales, banking, transportation, agriculture as well as government. Traditional work has not ended as we know it, but the everyday working life has changed significantly in a relatively short period of time. The economy and industry have separated themselves further and further from material production. The work done by people has increasingly shifted to a basis of thought – planning, communicating, negotiating. Human work has become more and more an act of branding and marketing: creating positive images about products and services.

Product images guide your consumer behavior. You want to buy a car that is low-emission and eco-friendly. You prefer to choose test-winning tires that are economically efficient and help to save the environment. You are willing to pay a little more for "free-range eggs", because you believe that free chickens live in better conditions than caged chickens. When you identify with these glowing green product stories you start believing that you are a good person – or at least a little better than other people. Afterwards, if it is revealed that the car or tire manufacturer cheated in the tests or that the free chickens live in just as horrible conditions as others, the image value of the product goes down, even if technically and in terms of quality the product remains exactly the same. As a consequence, the acceptable market price of the product also goes down. For example, the recent fraud scandal involving Volkswagen plunged the value of its brand, which could be seen simultaneously on social media and in the company's share prices on the stock market (Schultz 2015).

A Danish futurist Rolf Jensen (1996, 2016) has predicted that the creation of product images will become an essential element of production and consuming to the extent that he claims we enter in a *dream society* which also can be called *narrative society* or *image society*.

Jensen's prophecy has also come true in many ways. In the dream society, product images are the most essential factors of consumer decision making. What matters today are not the technical specifications of products, but the emotions and images that the products are connected with. Positive product stories in particular appeal directly to the emotions and values that people have. That is why the creation of brands through narratives and mental images about products and services have become a significant part of human work - that is why our life form also has been called narrative society or image society.

At the same time, working life has been detached from material production which is more and more automated and robotically driven. According to a Swiss professor Klaus Schwab (2015, 2016), we have already moved into a new era that can be called *the fourth industrial revolution*. To make the distinction clear with the previous era, we have to briefly go through the three previous phases of industrial revolution. The icon of first industrial revolution was steam engine that powered factories, trains and ships. The symbols of the second industrial revolution were the electric power grid and the conveyor belt. The third industrial revolution was kickstarted by the microchip. It launched the process of *digitalization* of work. Together with *robotization*, digitalization has changed our perception of working. Robotization changes our lives more than the automated production that we have used to thus far.

Traditional automation is based on the idea of executing the mechanical phases of production in the exact same fashion over and over again. Contrary to this simple idea, robots are much more versatile and flexible computer-guided machines. Robots typically have joints that can move into several different directions and they can execute numerous different tasks depending on their programming. This all in turn boosts the process of *immaterialization* of human work.

At the same time, production, consumption and work have been *globalized*. The networks and chains of planning, production, marketing and logistics are now worldwide. It is commonplace that a product is designed in one country, after which the blueprints swoop digitally into another country for manufacturing. You may order a product from a webshop which appears to be in the United States, but the actual product will be sent to you via air mail from Taiwan or a similar country where the production costs remain cheap. As a

consequence, a growing amount of the economic action in the world is based on transferring information or transporting products between separate parts of the globe.

All the previous characteristics enable the next era which Schwab calls the fourth industrial revolution. The emerging and partially ongoing new revolution is speeded up by new technological breakthroughs in *quantum computing*, *nano-technology*, *gene-technology* and *additive manufacturing (AM)* that is better known as 3D-printing. *Synthetic biology* is also another promising area of technological innovation which may trigger a revolution in energy production. It will apparently soon enable energy production directly from sunlight without using biomass and thus solve the current problems of energy production. Whereas traditional bioenergy which produces energy through the use of biomass can utilize about one percent of the sun's energy, the new form of bioenergy which utilizes the biological and chemical processes of cyanobacteria can collect up to 10 percent of the sun's energy. All these innovations, mingled to each other, fundamentally change our lives on Earth. (Schwab 2015 and 2016).

However, in the essence of the fourth industrial revolution are not the technological inventions as such. What is essential is the dramatic shift in the life form of human beings. Human life is becoming increasingly infused together with technology. Human practices will increasingly integrate with machines and devices, and devices will integrate with other devices, forming up a global network of technological devices which is called the *internet of things (IoT)*. The features of devices, machines, applications and services are combined in new ways which completely changes our social practices. For example, traffic is becoming increasingly automated which means that the interaction between car drivers will decrease whereas the interaction between cars and the physical traffic environment will increase. In Sweden, self-driving Volvo cars are already being tested on public roads. Volvo has planned to sell them to customers and use them in daily traffic in 2017. Another topical example is the development of smart homes which combine a variety of home electronics to an integrated system. There are already reasonably priced products available that allow you to smoothly adjust the temperature, air conditioning and lighting of your house through voice activation. With just two words, you can order a pizza or call a cab to your door. This all is not based on a single or unified technology but on making different technological devices, platforms and applications compatible. When all this works, everything may look easy but at a closer look everything is very complicated. The apparent easiness of the internet of things is actually a

silmänlumetta which may give an impression that the combination of machines can easily be controlled in everyday use by humans. In actual fact, the control of the devices at the level of programming requires a very high level of skill.

Cognitive skills as tools of production

At the core of the fourth industrial revolution and the image society are the cognitive skills of humans. These skills are dynamic in nature and they can be developed through training. This brings the processes of learning right into the heart of the work processes. Cognitive skills of the humans have become the most valuable factors of production and economy. This new order of economy has been labeled *cognitive capitalism* (French: *capitalisme cognitif*; Vähämäki 2009). I prefer the term *cognitive economy*.

Human beings do not process information only in the brain. Information and knowledge is something that concerns human body throughout. Knowledge is an inseparable part of a person's actions and practices, or, to use the well-known terms of the French sociologist Pierre Bourdieu (YEAR), the *habitus* of the person on the *social field*. Knowledge is rooted in the personality and guides the human behavior and interaction with other persons on the social field in the form of tacit knowledge. Nowadays, knowledge is also continuously processed by portable devices. People carry smartphones and other portable information devices, and the devices integrate with one's mental and cognitive processes. Information devices start to directly guide your movements and actions. For example, you may want to go somewhere just because you want to share a certain kind of photo in the social media. Basically, using of social media is regarded as private life, but actually it is increasingly used for purposes of image and brand promotion, and thus is not always easy to separate from your working life. For a knowledge worker, leisure and working time are not always easy to separate from each other. Consequently, cognitive work is ever present in your life. The work you do every day is technically with you everywhere, so we can colloquially call it *anyplace working*. Because cognitive work is essentially learning, we may say that learning also becomes *anyplace learning*.

Anyplace learning refers to the fact that the borders between formal and informal learning have blurred. In many jobs nowadays, an active and constant information retrieval is essential. Media and the Internet have become increasingly crucial tools for work and

professional development. Formal education also frequently applies methods that resemble informal learning. For instance, training events that include pair or group discussion enable people to better link their everyday experiences to the phenomena being addressed. It is also increasingly common to integrate work-based learning, projects, and portfolio work into formal education. New forms that resemble daily work or a collegial exchange of ideas consequently enrich formal learning. Social media has also changed the forms of learning and contributed to the blurring of boundaries between formal and informal learning. (Heikkinen 2015.)

This trend in formal learning can be conceptualized as *informalization* of learning, i.e., a move towards more informal learning in formal settings. The lines between formal and informal learning are also being blurred from an opposite direction. In parallel with the discussion of the informalization of learning, there has been another discussion about *formalization* of informal learning. It means that informal learning is increasingly acknowledged within formal settings, i.e. schools and universities. This discussion is related to the notion of , which has been promoted especially in the vocational education sector in Europe. Students are offered opportunities to demonstrate and build on what they have already learned in their work and everyday lives. Skill demonstrations and portfolios are used for this purpose. A practical reason for this is that it would simply be a waste of resources for both the learner and the school to invest time in training skills or knowledge that they already possess. (Heikkinen 2015.)

The challenges of polarization, hybridization and precarization

As the importance of cognitive skills increase, there is a threat of people being divided into two classes in terms of their cognitive capacities: those with the abilities to make quick and successful shifts in the cognitive economy, and those who fall off. Earlier, we used to talk about three classes within society: the "upper class", "middle class" and "lower class". In the cognitive economy, only two classes remain: "low-skill, low pay" and "high skill – high pay" (Schwab 2016). On the one hand, we still have simple work that cannot be robotized or moved to a third world country where the manufacturing costs are cheaper. On the other hand, we have demanding assignments that pay well. This scenario leads to societal *polarization*: the divide into the "haves" and the "have-nots".

Then again, as the borders between professions fade away, new jobs are created. Nowadays, mail carriers can perform security guard duty, deal medicine and food orders for the elderly or mow lawns. These new kind of jobs are *hybrid jobs*. Thus, we may find an ongoing process of *hybridization* in the working life. Hybrid jobs are constantly changing. The clear-cut professions of the "good old days" are becoming more and more rare. Instead, one may end up in a situation where the job assignments come in separate gigs, one after the other – and that is a best-case scenario. You may also easily completely drop out of the labour market. You may also find yourself in constant unemployment, especially during an economic downturn when the workers under short-term contracts are the easiest ones to get rid of. Even in the best case, it is common that there are periods of unemployment between gigs, where earning a living can be a bit of this and a touch of that. This group of short-term workers, some doing fairly demanding assignments, have received the unifying title of the *precariat*. It is an ironic play on words, combining the old working class-term *proletariat* with the French word *précarité* (Eng. *precarious*), that signifies uncertainty, instability and a high factor of risk. In other work, the working life today is becoming *precarized*.

To summarize the previous, the ongoing tendencies of work and working life can be fused into nine intertwined core concepts with a similar ending and categorized into three main categories. Firstly, the *processes of work* have undergone processes of *immaterialization*, *digization*, *robotization* and *globalization*. Secondly, and partially as a consequence of the previous, the *processes of learning at work and for work* have undergone the elliptical and dialectical processes of *formalization* of informal learning and *informalization* of formal education. All that has consequences to the work force in the forms of *polarization*, *hybridization* and *precarization*. These tendencies can be labeled under the umbrella term of the *new work*.

New work challenges education

What should we do as educators and teachers in the middle of the changes which challenge our previous understanding of work and the human life? We don't know what the world looks like, say, after a couple of decades. How can we help children and young people face an uncertain future of which none of us have accurate information? This problem is basically a traditional problem of educators. This paradox was formulated by Plato in his dialogue Meno, and thus universally known as "Meno's paradox" (Plato 1999).: "What do you seek

when you're looking for something that you do not know?" This dilemma is in front of everyone wanting to build a better future for children and young people.

Fortunately, there are some things that we know. We know that education has always been a good investment. Now it is an even better one. Investing in cognitive skills is beneficial for both the individual and society in general. In Finland, serious efforts are underway to develop new national curricula, that would help in developing cognitive skills and other abilities that are needed in this changing world. Actually the whole educational system of Finland is in the middle of a process of an extensive reform which gives the guidelines for every school to renew the pedagogical practices throughout. In 2012-16, the entire curriculum at the primary and secondary level, and also in the pre-primary education in early childhood, is being renewed. The new national curriculum introduces a clear shift from subject-based, or discipline-based pedagogy to a holistic phenomen-based or problem-based learning which takes a turn into active knowledge building together with others. The curriculum also emphasizes that for small children learning is essentially a playful activity and it doesn't always take place within school walls. This radical change in the national core curriculum brings forward the cognitive skills for the future.

The development of cognitive skills should be actively supported not only in formal education but in the working life. We must support life control abilities and the ingenuity for creating new types of action, such as a new kind of hybrid job. I must emphasize that this does not mean a neo-liberal attitude, that the individual alone is responsible for one's own survival in the turmoil of the working world. All problems cannot be solved by finding the "entrepreneur within yourself". The challenges of the new work are challenges for the whole society. Solutions must be also sought out through a participatory political system. In education and society in general, positive discrimination is still necessary: we must take care for the disadvantaged and underprivileged. This practically means investments in special education in schools, pre-school education, youth work, teaching of immigrants and prison pedagogy.

Research as a prerequisite for development

How then should the practices of education be researched and developed in terms of the new work in the cognitive economy? Karl Marx (1845) stated: "Philosophers have explained the

world in different ways, but the mission is to change it.” We need theories about practices, so that we could change them but we also have to keep in mind that research has to be close to practice and it has to help us to make the world a better place to live. As the father of action research Kurt Lewin (1951) used to say: ”Nothing is more practical than a good theory!” This is why I have always been interested in developing work by and alongside doing research on work. To put it more briefly, my research interests have always been more or less related to *action research*.

Practices have a habit of renewing themselves. Habits and customs can stagnate for many reasons. The reasons why practices are like they are and cannot be changed may relate (1.) to economical resources or physical and material routines, habits of action and activities, (2.) to the ways of understanding which has much to do with our cultural symbols, words, concepts and discourses, or (3.) to social and political relations which are prefigured through power and solidarity as well as processes of indoctrination, oppression and emancipation from coercive power.

This is why we also have to do research on practices and prerequisites of practices from these three views. Firstly, we must research how (1.) economical, *physical and material things enable or constrain social practices*. The practices are rooted in school buildings, classrooms, hallways, speaker podiums, whitescreens, computers, Power Points, gym halls, lunch cafeterias, staff rooms and other material arrangements prefigure our educational practices. The renewal of these material and physical things are dependent on the economic resources of the school keeper. However, it is not enough that a blackboard is simply replaced with a data projector or that you bring a sofa or a set of gym balls into the classroom.

Forms of thinking also have to change. We conceptualize the world around us through words which are connected to each other and thus forming more complicated symbol systems and theoretical depictions. Therefore, in terms of understanding, it matters how we (2.) *speak about things, or how we use language*.

The language we use, however, is never a neutral description of the fact out in the world. It contains assumptions about the character of reality that are also connected with politics and power. For example, it matters a great deal whether we talk about “schools customers”, or simply children and their parents. It also makes a difference to talk about “education as

production of work force” or “a sub-system of the economy”. All these expressions are examples of neo-liberal thinking which seems to be one of the most popular and taken-for-granted ideologies beyond education nowadays.

This is why we must also do research on how (3.) *practices are constrained or enabled by power relations, social structures, ideologies or hegemonies*. Practices are prefigured also by loyalty and trust to other persons or between social groups. The human relations are also affected by debts of honor and political passions. Practices are also prefigured by mechanisms of subjugation and submission that exist between genders, between generations, between ethnicities and between professions. The struggles for power, emancipation and recognition are often the most important factors that prefigure social practices everywhere even though they are often the least visible or explicit.

To put it briefly, in order to understand how practices are possible and how it is possible to change practices, we need research on (1.) *materialistic-economical* (2.) *cultural-discursive* as semantic, as well as (3.) *socio-political* prerequisites of practices. These three defining dimensions of prerequisites are intricately linked together. That is why it is best to research them simultaneously, as intertwined entities. (Kemmis & Heikkinen 2012; Kemmis et al. 2014; Kemmis et al. 2013).

Education and a good life

To summarize, I want to return to the basic question I started with: What is the relationship between work, life and education in the contemporary world? Education is not just about being prepared for working life. No, it is indeed for your entire life. It is not only for gaining something more in the future, but good education enables good life at each moment of life. Stephen Kemmis depicted this thought in his keynote lecture at FERA 2013 by making an important distinction between schooling and education:

(...) a vast part of the educational research industry internationally is in fact devoted to schooling research that serves the interests of the managers of education systems rather than those whose lives and work shape and are shaped by education. We need a changing international consciousness that might bring us

back to Education from schooling, back to Pedagogy from schooling, before we pass the generational link that connects rising generations of educators to the educational traditions that have nourished us since Plato and Aristotle. I hope you will join me in supporting the development of that educational movement, helping to build a social movement in our field, that will place educators at the heart of educational research, not just their managers. (...) Perhaps we can also find new ways to extend that struggle in the field, to strengthen the capacities and resources that educators need if they are to have the professional autonomy to act and to research their practices, not just in the name of schooling, but in the name of education.

I believe all educationalists want to do their part in advancing education in its broad sense, and not just the instrumental idea of schooling to acquire necessary skills for working life. This ethos can also be found in the long historical tradition of the theory of practice. The etymological roots of the word *practice* are in the ancient Greek word *praxis* ($\pi\tau\alpha\xi\zeta$). Within Aristotle's philosophical framework, the word *praxis* refers to an action that enables a good (and virtuous) life. In the theory of practice advocated by Stephen Kemmis and his colleagues the notion of good life is the ultimate aim (*telos*) of practice; not just for an individual person but for the whole humankind. This definition of good practice and good education are guiding my mission for the development of education and working life. (Heikkinen ym. 2016; Kemmis 2014.)

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