

Formed From Knowledge and Flavored with Imagination – Images of the Future in Education¹

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Abstract

The article explores the challenges in education in the future, based on the results of the Finnish Futures Barometer on Education 2030, on various other Delphi studies on the images of the future held by young Finns, their teachers and educators, as well as those in charge of national education strategy. The results indicate that in the middle of cultural and socio-economic transition, the conventional education institutions and operations models do not answer any more to the real needs of change. Images of the future have the ability to affect social life and structures. They are held and developed by individuals, groups, and institutions on all levels within society. The big challenge is that there is ambivalence in the future expectations of the different actors, while present educational practices do not provide young people with the tools they would need to cope in the changing world. Finnish teachers are especially worried about the possibility of increasing inequality in education. The images of the future are dominated by the stability and inability of the traditional institutions (like the school) and ways of action (like the teaching and learning practices) to change.

Key words: education, futures, images of the future, young people, teachers, Delphi, barometer, Finland

When you look at a Persian carpet at close, you see thousands of tiny knots of silk thread in different colours, seemingly in a random order. When you move a little backwards, you start to see a skillful design forming figures, shapes, and geometric patterns. And when you stand up and look again, you see the whole carpet, which is a piece of art, complicated, complex, beautiful, and unique, composed of a vast selection of small details, each bearing meaning only in relation to one another and to the whole. The slight mistakes and irregularities in patterns merely intensify its originality. Current society, with its living cultures, resembles that Persian carpet. The carpet of society is composed of people, artifacts, culture, history, phenomena, its knots are formed of social and natural events, processes, and human emotions, choices, and values act as the threads which keep the carpet together. We are accustomed to call this social carpet reality.

However, reality is not the same as it used to be. Throughout our known history, social reality has constantly increased in complexity and abstraction. Technological innovations have changed roles and responsibilities and brought about social innovations and change, which again claim for new innovations. If we go back in history for a couple of hundreds of years, our Western way of life started to develop into what we now know as industrial society. These processes, however, were hard and gradual, and to some extent, they have not quite ended yet, while at the same time, some other developments have ceased, or become useless and redundant. The main motivator behind this development has been our

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firm belief in the power of science and scientific thinking. We have “scientified” nature, and ourselves on the side, our life, everyday actions and choices, knowledge, consciousness, culture, and even our human relations. The problem today is that in this triumph of scientific thinking and worship of reason, the target itself – human well-being – has started to vanish behind the process. Now, at the front porch of new era (be it knowledge society, ubiquitous society, dream society, experience economy, or whatever else we prefer to call it), we have to recover – and perhaps also rename – our deepest cultural values and our human sense of community and sharing. Perhaps then we can also find again the sense of meaning which we have lost in the jungle of laws, orders, conventions, traditions, organizations, and their fixed operations models, entertainment, fashion, and itch to increasing emotional experience. Only then we will again be able to be truly visionary, i.e., to create images of a better future.

Dreams – or Nightmares?

The need and desire to know about the future is a very human characteristic (Rubin 2006, 104). One of the most discussed questions in the philosophy of futures studies wonders whether there can be knowledge about something that does not exist yet. Naturally it creates a problem to study something which is not observable to date, or to create a big picture of something that has not concretized yet in our physical world (Malaska & Holstius 2009, Niiniluoto 2009). The question is reasonable, if we think that “to exist” means the same as “to be observable”. However, there are strong arguments, which indicate that, firstly, there exist phenomena and courses of development, which continue to the future and their volume and course are proportionately certain (things which are dependent on natural laws, such as the continuity of seasons, or on things which are dependent on mathematical or demographic facts and factors etc., such as the amount of children to start their primary education in six years from now is based on today’s birth rate). Secondly, we human beings have intentions, expectations (fears, desires), and beliefs, which can be explored as such and which also bear an impact on our motivation. Therefore, our assertions about the future can be scientifically studied. Thirdly, we have knowledge of the past and of the present, and that affects the possibilities and expectations, and these can also be scientifically studied. Composed of beliefs, expectations, opinions, and assumptions of what the future might be like, images of the future are systemic by nature: they are formed from knowledge and flavoured with imagination. They are built with information about the past, perceptions from the present, enhanced with cultural and social knowledge, personal taste, values, and needs, and flavored with the expectations of how things “normally” should look like. They emerge as hopes, fears, and anticipation, and therefore influence decision-making, choices, behaviour, and action. This is why their impact on human motivation is very strong: with our decisions, we either aim to bring forth the future which we cherish in our positive and desirable image, or we try to prevent the negative and unwanted future of our fears and nightmares from happening. (See Bell 1997, 193–197; Rubin & Linturi 2001)

Eleonora Masini (1993, 15–17) points out that futures studies is a probabilistic field of study, which concentrates on our choices and their consequences in the future. According to Masini (*ibid.*), futures studies can be described as a science which has both descriptive and extrapolative features. Therefore, what we know of the past and present can be projected into the future, as she says, “in terms of possibles, or probable among the possibles, or plausibles among the probables”. The possibles describe the alternatives, the many possible futures that might happen. The probables are quite likely to happen, if we do not intervene in any way, and the plausibles limit the most probable things from among all that might be.

Throughout history, people have developed various means and tools to help make the future more predictable and transparent. One of the most intriguing aspect of that characteristic is

that in order to adhere to our ability to function, we constantly have to construct mental models about the future, i.e. to create assumptions and assessments on what the future might be and should be like. This process of creating images of the future is partly intentional, but it also includes subliminal elements. We build up profound presumptions and beliefs about how things are, how they have been, how they develop, and then draw conclusions on how they will be in the future. We discuss and argue with the others about how things should be, why they actually do not seem to be that way now, and what should be done so that in the future, they would be better. Then we react to those images by trying to make choices, convince our neighbors, and behave in the way, which would bring about the desirable future and reduce the likelihood of the unwanted future. Thus, in the process of decision-making and choices, we rely on these self-created models. (Haapala 2002, 30; Rubin 2008, 2013, Senge 1994, 174–175).

Although it is not possible for us to really know anything certain about the future (see e.g. Popper 1995, p. 93–94), thinking about the future is what humanity is destined to do. We human beings create, hold, and develop images of the future throughout our lives. Some of these are very personal by nature, while others are clearly socially-shared. Some of these images function on a conscious level, while others influence our decisions, choices and estimations on an unconscious level. This is for the sake of us being able to make decisions and choices in general, and for individual coping and life management in particular. Popper also reminds us that we have to make choices and act in a way, which ensures that the best possible future we can anticipate will one day come true. (Rubin 2013)

While the actual future, when it finally becomes reality, is strongly composed of the elements held in our previous expectations, the future can also be seen as the materialization of the consequences of our present actions and choices, influenced by all the things and developments which are independent from us. (Niiniluoto 2009; Rubin 1998, 80-83; Rubin 2000, 72–76) For a futurist, the images of the future bear a special delight, as they have a strong impact on the attributes of what the future in general will actually be like. For a teacher, they function as an extraordinary tool to work with: to use imagination and information in order to motivate their students/pupils to learn, to think, and to create better futures. (Rubin 2013)

As a result, these images of the future have the ability to affect our life and fate. They are held and developed by individuals, groups, and institutions – i.e. by all the different actors and on all levels within society. They can be shared, developed, adopted, crushed, and changed. They can be invented completely anew, and they can be defended in many ways. Thus, images of the future can also be studied, classified and evaluated (Rubin 2000, 131–142; Rubin & Linturi 2001).

Institutions are Powerful

The images of future, which we build, cherish and share, also keep on changing. They renew and reform, their composition shatters, and reconstructs itself. Now, however, this process has reached a level where it is difficult – not only for young people, but for us all – to understand the reality around us, and to cope. The more complex our social reality, the greater are the possibilities for choice, flexibility, adaptive change, and systemic reorganization. However, the greater are also its dilemmas: as society grows more complex, the propensity for conflicts of interests and values also rises, due to differing interpretations of reality and meaning. This, in turn, increases society's vulnerability to sudden and unexpected crises. For young people, this means challenges to the process of constructing personal images of the future, and as a result of that, to building a coherent and strong identity.

The images of the future on a general level are usually dominated by the stability and inability of the traditional institutions (like the school) and ways of action (like our teaching and learning practices) to change (Rubin & Linturi 2001, 2004, Rubin 1998, 2000, 2006, 2012). The images of the future are generally taken as granted, immutable, something which does not need further consideration, and as something which – if they against all odds do change – would shake the very foundations of society. However, now we are in the middle of changing times, which can no more be explained by the normal fluctuation of traditional industrial society and its economy, but which reflects a vast deeper transition, which is both social, cultural and economic. (Rubin 2006, 104) On the level of institutions, the change cannot be understood or studied by merely concentrating on some specific phenomenon, activity, course of development, or state of affairs, and then adding them together – just like we cannot understand the Persian carpet by merely studying its fabric from a short distance. Instead, just like the carpet, also the transition should be approached from a systemic point of view, from a distance and to be understood, it should be considered from many varying viewpoints. Only that will enable us to understand each separate phenomenon as something more than just the sum of knots, i.e., arbitrary and discrete things and events. Globalization as such is composed of phenomena and courses of events and decisions which all have been – and still are – affected by several other phenomena, courses of development, and earlier decisions. If for instance the President of the USA suddenly caught a perfectly ordinary stomach flu on his or her visit to the Middle East, the news would immediately spread in Twitter, the Internet, in the news releases of international TV broadcasters. In minutes, the effects would shake the global stock price, markets and trade. Yet even the best brokers, politicians, or economy experts could not predict the state of the Presidential stomach, nor estimate how such a potential unfortunate situation might affect the global markets.

The change phenomena in institutions can only be understood by observing the systemic relations and interactions between their components and then examining their impacts from the point of view of non-linear development. This will bring forth the possible antagonisms, which might change the end result into something completely unexpected and unpredictable. For instance, a technological innovation always bears a message about the social process and situation, which resulted it and gave it form. Social factors shape technology, and because technology is socially constructed, its features can be seen as a part of society – social and cultural traits and impacts. Therefore, when we speak about information society, it is impossible to separate information from the social and cultural reality in which we inspect it and in which it is being utilized. In the end they are one and the same. (Rubin 2010, 55) And therefore also school, pedagogy, and the education system also are a result of the social needs of the time they were created.

The institutions of modern society, schools among them, are the users of power, and as the users of power, they also define power in society (see e.g. Siivonen 2008). In the “modern project”, the commission of power – and through that, the commission of power institutions – is to find, preserve, mend, support, balance, and ensure stability and staying in the middle of the road. At the same time, this power of convention and constancy appears to us as beautiful, tempting, and fallacious: it disguises as democracy, equality, as the source of well-being, and we ourselves are both its supporters and objects. As society, we have worked ourselves at the same time to act as objects and subjects. We create power and make it true by living in it, living through the self-evidences and definitions, which we have created and controlling them in our everyday life through our institutions. This Sauron’s eye of our inner Panopticon follows our everyday choices and decisions without us noticing it, let alone questioning it – and probably we wouldn’t even want to criticize anything. We ourselves are our guardians and controllers. In the process of industrial era and modernity maturing, or actually

decaying, our self-made social and institutional Panopticon has developed from physical to mental, to its extremity. (Rubin 2010, 56)

Then what about this interaction-knowledge-nomad-ubiquitous late-modern post-industrial network society? What about its institutions – have they already developed? Or are they still buds? Or can the old institutions be transformed anew, according to the needs of this new era? What about schools, about learning, about education? Can the transition truly break in and come true unless we become aware of this inner control tower? Can we break our own way of thinking and re-invade our deepest values, attitudes, question the basic elements which build our images of reality and images of the future so that we ourselves will not be crushed together with it? Is it that the changing reality cannot complete and society cannot be rebuilt also in the form of new institutions, which would answer the needs of this new era, before we would have pierced the Sauron's eye, as frightening it might sound?

Stability and Change – Are They Exclusive or Are They Complementary?

This brings into light the strange paradox of Modernity: while society aims at development and progress, but its institutions still strive for guaranteeing safety and stability, it has no courage nor ability to change. The basic problem is, whether progress is understood as stable growth, as the ability to tolerate change, or as a drive for overall transformation, answering to the changing global circumstances and challenges. If the answer is yes to the first, genuine development stops and the changes, which are made, are merely cosmetic – in futures studies we speak about reactivity. The answer to the second is pre-active by nature – it concentrates on improvement of the existing institutions (such as the education system and schools), courses and modes of decision-making, and ways of doing things. The inner need of renewal of social institutions is based on their urge to control, maintain and preserve the already-existing. They are not able to address the real needs of changing society, if that is understood as the everyday environment and reality of people. Therefore Modernity has frozen into the state of “late-modernity” and its institutions and organizations have petrified in their own paradox. However, the social needs, which most of society's organizations were originally established to fulfill, have already changed and there is a call for totally new kinds of institutions and organizations. The drive to seek and find answers to those needs is called proactivity. The problem is that we cannot yet really even completely outline what we need, nor ask the right questions, let alone build the forms and schemes – institutions – which would deal with the answers.

The information society – if the current socioeconomic and global transition phase should still be called that way – is a two-edged phenomenon from an individual point-of-view, particularly for young people. The main positive effect is the huge increase of individual possibilities. However, when we consider the negative effects, exactly the same thing, i.e., the expanding field of possibilities, bringing about constantly new contacts, real-time communication, networks, lifestyles, values, etc. also contains many side effects which can also be negative. Such are e.g. the increasing tendency towards deepening poverty and a total dichotomy between those for whom technological innovations are mundane and the natural course of life, and those who lack the possibilities, skills, will, or motivation to participate in this development (Viherä 1999). This brings about great challenges for education and the school system: if we are not aware of the challenges generated by the multidimensionality in the images of the future held by young people, as well as those held by the people who are in charge of planning and developing the education system, we will end up in a situation where schools teach skills and claim for knowledge which has no real relevance in the life which the young people will one day live. We might also unintentionally

increase loneliness and marginalization due to the widening gap between those who are regarded as successful in society and those who are not. In addition, it may also bring about hedonism and shortsightedness, which are due to the very same increase of choices and possibilities (Puuhiniemi 2002; Rubin 2013).

For a single actor, time essentially is a very subjective experience, and the information society as the present state of transition between eras, is related to as being idiosyncratic and biased as well. One can think that in the inflowing stream of constant evolution, there are occasional swirls and crosscurrents which, although seemingly antagonistic and surprising by nature when seen from a short-term, the-knots-of-the-Persian-carpet perspective, still form an uncontrived and natural flux in the long run. However, when seen from the inside of this era-related crosscurrent, the nature of change itself seems to be changing. The conformity of policy and shared modes of operation, as well as the practices of institutions and systems deriving from the preceding era are no more predictable, as they used to be for so long. The established customs and practices also appear to be incoherent, impractical and of no avail in everyday situations of decision-making and choices. There are phenomena, which are discontinuous, have no history (e.g. weak signals), suddenly happen only once (e.g. wild cards, or black swans), or even if they have already existed for a long time, unexpectedly change or become something completely different. (Linturi & Rubin 2011, 11–12) These phenomena are associated with the critical factors of uncertainty. Even if we do not know yet how those phenomena transform and change the world, we have a disturbing hunch that this is what will inevitably happen.

Images at Loggerheads

Just like conflicting values and worldviews, different images of the future can also include contradictory elements. This is true not only from the individual point-of-view, but also in and between social groups, communities, organizations, and society as a whole as well. Mutual interaction and tensions between all these social levels form an integral part of our everyday rule of conduct. On the other hand, several studies on the images of the future (Rubin & Linturi 2004; Rubin 1998; Rubin 2000; Rubin 2006; Rubin 2012; Linturi & Rubin 2011; Linturi & al. 2011; Rubin & Siivonen 2011) show that the images of the future held by one single actor may be inconsistent and illogical by nature. When these images are analyzed in detail, they include elements, which turn out to be incompatible with each other, and sometimes even irrational.

At the same time, there is a relationship between the images of the future which are generally accepted as such in society, and those held by the individual members of that society. Different individual actors, groups, and institutions hold several concurrent images of the future. Such images are independent from one another, and they can include elements that are totally contradictory when compared with one another. This creates tension in society, which at best is the very source of true development, but might also create imbalance and loss of legitimacy. Obviously, this tension emerges in society as politics: for instance, one cannot have parties, if this wasn't the case. The simultaneous existence of such images is possible because they are constructed on the basis of different values and diverse interpretations of the same socio-economic phenomena in contemporary life. If there is a gap between the images of the future held by individual people and those held by society, or if they are seemingly contradictory, this can have an effect on social integration: it may start to fade, while the feeling of safety disintegrates (Rubin 2000, p. 71; 2013).

One of the characteristics of the images of the future is that they often remain hidden and unarticulated. Because they affect decision-making, choices, and actions, they deal with power. By doing something, making a certain choice, people attempt to prevent the coming

of an unpleasant or frightening future that they see lurking in the horizon. Then, by doing something else, by making another decision and choosing a different strategy, they might strive for something more positive instead. Yet the image of the frightening future, which they are trying to avoid, may be partly subliminal, or at least unanalyzed and inconsistent, composed of elements, which are a mixture of assumptions, values, beliefs, and straggly information from the media. These images of the future have never truly been aired, and this is why they are so effective by nature: they are hidden (Rubin 2000, 74–75). In society, there also may be the “official truth” of the future, held by those who have authority over people and institutions, or by people who are opinion leaders in some other way. Such images of the future may never have been articulated, revealed in all their true colours and shades, so that they could be publicly analyzed, criticized, and discussed. However, as a consequence, the future they represent exists as mere presumptions, it is never questioned, and it is accepted as such.

It is good to remember that information as such does not necessarily make us any wiser or better people – on the contrary, it more often now numbs us and increases indifference. Young people especially feel that they cannot do anything about these issues: the problems are too big, or the suffering of others is too unbearable, unreachable and distant, aimless, sad and excessive (Rubin 2009; 2013; Slovic 2007, 79–95)

For futurists, this iterated incongruence makes the analysis of images of the future very challenging – as well as interesting. When the images of the future held by one actor or a group of similar-minded actors differ strongly from those held by policymakers and those in power, the result causes tensions, which can be observed in various social or political conflicts and legitimacy crises. These features of the images of the future raise two questions related to power: 1) whose image of the future will be dominant in society, and 2) how permanent the dominant image of the future actually is in society (Rubin 2009)? And as it comes to schools and education, 3) are the images of teachers similar to those who decide on the future of education? 4) Do the images change in time? And if they do, how do they change? And, finally, 5) are the images of the future held by pupils/students different from those held by their teachers or parents? What would that mean to the motivation to learn? The following chapters are based on the results of the Futures Barometer on Education 2030, its side Delphis², and other Delphi studies carried out in Finland on both the images of the future held by young people, teachers and education institutions, and on the future expectations in education and schools as such.

Futures Barometer on Education 2030

Since December 2001, when the results of the first PISA survey³ were made public, the Finnish educational system has been in the focus of international attention. There has been

² Delphi is a survey or interview method in which the expert panelists' knowledge and presumptions on an issue or development process under study are collected in an interactive process. Delphi is an expert method, which can fall into the category of both quantitative and qualitative study. The respondents are called panelists of the jury and they are selected from among the experts of the field of each specific study. They are then brought into anonymous interaction with the topic and with each other in a way that emphasizes the rationale of the arguments instead of the position or authority of the panelist in question. Delphi is especially useful when the phenomenon under study is complex or when the topic is somehow delicate – difficult to define, awkward to talk about, politically sensitive, etc. The method emphasizes new and different knowledge, also tacit knowledge, and it aims at bringing this knowledge to the attention of other experts for their evaluation and comments. (Laakso & al. 2012)

³ The Programme for International Student Assessment (PISA) is a worldwide OECD study in member and non-member nations. It explores the 15-year-old school pupils' performance on

a lot of discussion and speculation on why Finland continues to be at the top – either the first or the second – in the PISA surveys ever since. This article is not the place to go deeper into that. However, in order to stay high in the ranking, we Finns cannot stay put, even if it seems that we have done something right so far. That is why in 2010, the Board of Education in Finland, together with the researchers of The Cooperative of Otava Folk High School, started the Futures Barometer on Education 2030 (Delphi study).

In the barometer, there are two basic groups of respondents – called as Delphi panels or jury, and panelists – the members of which represent both immediate expertise in education, teaching and learning, i.e. teachers, rectors, decision-makers in education, researchers, etc. (the first panel) and expertise in the need of high-level skills and education in society, i.e. business executives, politicians, etc. (the second panel). The results of the two panels are analyzed side by side, and there is also a possibility for the two juries to discuss and reflect to each other's' opinions and comments – again anonymously. The Barometer has been repeated annually, and it also has expanded into side Delphis in which e.g. pupils and/or teachers of a certain school have answered the barometer, or parts of it. The basic purpose is to find new and fresh knowledge, opinions and viewpoints on various topics dealing with education and its future challenges, and hence create discussion. This information is valuable for both the Board of Education in its work to develop schools and teacher education in Finland, and for society, strategy work and development as such.

It is quite comforting to know, after all, that we will never be completely ready: identity building is a never-ending story, both on the level of society and from the individual's point of view (e.g. Newman & Newman 1984; Taylor 1991). This story is composed of chapters and paragraphs, sentences and words: some features and characteristics have been determined by evolution and genes, and thus remain rather unchangeable; some change with time, maturation, aging, and growth; some we learn, and some we choose. Consequently, identity is never fixed, instead, it is a process composed of both stable and changing elements. The flexibility of identity always owes a lot to the continuous tension in and between these elements. However, without secure social bonds – consisted of the sense of belonging and the feeling of being acknowledged and accepted on the individual level – identity is fragile. The results of the futures barometers show that self-actualization and the possibility to bear responsibility on oneself are motivational factors and therefore preconditions for a healthy and balanced life. They form the basis on which positive activity and the ability to care for the others are constructed (Linturi & Rubin 2011, 95; Rubin 2012; Linturi & al. 2011).

The results of the first futures barometer on education in Finland were also presented in the form of five scenarios⁴ (Linturi & Rubin 2011, 132–143). Three of the scenarios, situated in

mathematics, science, and reading. It was first carried out in 2000 and then repeated every three years.

⁴ The names were taken from popular Finnish songs. To the Uniting Europe –scenario describes a world, which can be characterized as media society. Some people drop out, when the economic power becomes still stronger and the life becomes harder. Some others energize and succeed. The school system is strongly based on market economy and individuality. The goal of education is to produce creative and global achievers. The second scenario, Getting Rich by Business, is a description of still harder society, where everything is counted in money and economic terms. Education is harnessed to business and society is strongly divided into the rich and the poor. The system of education has split. Those who have money can afford the best private schooling and the most skilled teachers for their children, while those who don't, have to settle with very modest education. The third scenario, Beg, Steal and Borrow is a world where economy has collapsed. Hunger and poverty are everywhere, and this has caused wide "*Völkerwanderung*" when desperate people search better living conditions. Families teach their children at home, since the education system has fallen down due to lack of money. The fourth scenario, Far away the Evil World, describes a world where Finland has build high fences around herself. The cause has been international terrorism, as well as pandemics and other global disasters. People try to cope on

the year 2030, were very pessimistic (To the Uniting Europe, Getting Rich by Business, Beg, Steal and Borrow), one was neutral (Far away the Evil World) and only one optimistic (I Watch the World together with You).

The Kids Are Ready for the Future, But the School is Not

One of the most interesting results of the pupils' panel (one of the side Delphis of the Futures Barometer on Education 2030) at Kalevankangas School was to see how young people disregarded the surface layer futures, which so often make us grown-ups tick, wonder, and worry. This became obvious especially in their choices and comments on claims, which dealt with technology and communication. To them, technology as such is more pragmatic and instrumental than it is for teachers and grown-ups, who also link technology with personal threats and sometimes possibilities dealing with their profession and economic or social position. Young people have not yet personal history, institutions, or powerful interests to defend. In this respect, they are "innocent" and take the world as given, without criticism. This image of the future can be seen as neutral. It does not arouse large questions or emotions, until we approach deeper and more controversial claims. That is also the way to bring about futuristic instincts, expectations, and feelings. Distant futures are flexible and stir up young people's interest. It is also the way to pedagogically work towards futures closer to this day, when the potentials of many possible futures in the far distance have been evoked by stirring up young people's imagination and creative ideas.

If the concrete world with its bursts of development is experienced and met in a very practical way, then the experience and cognitions from one's close environment almost imperceptibly indoctrinate as both positive and negative emotions and blockages into attitudes and stances towards life in general. Those, from their part, mold the images of the future as either desirable (and hence worth striving for) or frightening (and then the future as such is seen as something which won't have anything good to offer, so the response is to have fun now as long as it lasts...)

The Kalevankangas Delphi jury was built of the members of the class councils from the different study levels. Presumably that is why their readiness and attitudes towards the future were more courageous than the average. It is interesting to see from the results that their opinions and ideas are not individualistic, but a certain meta discourse on societal responsibility and society-centered thinking can be traced here. However, based on this data, it is impossible to conclude, how much of this can be generalized and how much is based on social responsibility typical especially to Kalevankangas School. Still an important finding is that the school as a community can have an impact on the feeling of responsibility and that young people are ready and willing to participate in the activities of their immediate social environment in a much more profound manner than what has been customary.

As it comes to the world of structures and institutions, young people are innocently ignorant. School and its functions are taken as self-evident and in their answers and opinions, the young respondents show no signs of revolution to be expected in the Finnish school. It is perhaps enough that there is the socio-economic and cultural revolution of transition and the swift of eras going on in society. This, however, does not mean that school wouldn't be able to arouse questions and criticism on social and structural matters, but one should deal with those with pedagogical wisdom.

their own. Foreigners, as well as foreign influence are feared and people search for security. Religion, traditions and roots are the phenomena, which describe education. The last scenario is I Watch the World together with You, where people have moved towards a design economy, characterized by human welfare, communication, living culture and civilization.

When the traditions, institutions and interests of Modernity and the industrial era no longer affect young people, they are fully prepared to proceed into the new era. So the kids are ready, but the school as such is not. It still has to work very hard to reach its pupils who are far ahead in riding the tides of change. Even if the PISA results in Finland have so far been excellent, the unrelenting fact is that while the basis of the good results, i.e., the equalizing national education policy has managed so far to even socio-economic differences of pupils' families, some other differences tend to be inherited. So the challenge is how to create a school which would be fully equal and egalitarian also in the future. This is one of the enduring topics of the three rounds of Futures Barometers on Education (Linturi & Rubin 2011, 95; Rubin 2012; Linturi & al. 2011). The school created for the pupils would be open to working methods which are both societal by nature and emphasize wider social responsibility. The same applies to the authentication of learning processes and the birth of cooperation with actors outside the schools. But perhaps the most important task for the future school, related to the images of the future of education, would be its ability to introduce each young person a safe, larger community and a smaller, but exuberant close environment in which he/she has his/her own important duties and tasks to accomplish. Co-producing, sharing, and natural specialization are parts of this process, which bears a crucial meaning in the formation of tangible and positive images of the future for young people. To the pedagogics, this means a fair revolution, when large parts the old profession and the facts and doctrines attached to it have first to be out-learned.

The paradox here, however, is that increasing expectations on the development of diverse instrumental skills and learning stand for a more traditional school. Nonetheless, the diversifying and merging new paths of learning might moderate this challenge. For instance, languages can be learned through interaction in the Internet and in authentic language environments. The same applies to learning many other basic subjects, such as mathematics, in which the sensitive periods of individual learning can be better utilized. (Linturi & Rubin 2011, 95; Rubin 2012; Linturi & al. 2011)

Another topic of hectic discussion in the barometers deals with the problems of specialization of schools (Linturi & Rubin 2011, 95; Rubin 2012; Linturi & al. 2011). It is reasonably easy to build a good school, if you do not have to consider the neighbour school. The great dystopia is that the specialization of schools will elope and develop into growing inequality – the best pupils choose, or will be chosen by, the best schools, while today still most children go to the school nearest to their home. This might also be explained by children's individual differences in their home and growth environments. So instead of leveling those differences, school would then increase them. It is difficult to oppose this development in such a future where school increasingly develops together with its social environment: if local or regional social development becomes polarized, this will be repeated at school. It is paradoxical how a school, which has been separated and isolated from its immediate social environment by being nationally authorized and centralized (as the case has been in Finland), has in a way increased equality, when teachers have been skilled and highly motivated. Parents' social status, the level of their participation, and the differences in possibilities have not been able to reflect in the school nearly as much as it might be the case in the "open" school in the future.

Dichotomic Images Reflect Transition

The way the images of the future are constituted is also in a state of constant re-organization, and it is affected by both social factors and individual development. One of the main results of the research on the images of the future held by young Finns (Rubin 1998; Rubin 2000) was that individual respondents' images of what their personal future will be like turned out to be very different from that of the future of society or the world as a whole. The further from one's own immediate life domain (i.e. family, schooling, finding a partner, choice

of career, etc.) the future-related issue was, the less positive aspects were included in it. While the personal future was generally seen as the realization of one's hopes, the future of Finland was painted in much gloomier colors, and the future of the world was mainly described as the actualization of all the dangers and threats that the mass media and science fiction have ever seen fit to throw into our laps. (Rubin 1998, 2000)

The same dichotomy also became evident in the Delphi studies on the images of the future held by teachers and educators (Rubin & Linturi 2004; Rubin 2006; Rubin & Hietanen 2004a; Rubin & Hietanen 2004b; Linturi & Rubin 2011; Linturi & al. 2011). For instance, when the panelists describe their expectations related to their own school or university [e.g. Rubin & Linturi 2004, 45–72; Rubin 2006, 103–104], they utilized concepts and choices, which were more positive and optimistic than those, which described the future of the school or university as an institution in a wider sense. When it came to society itself, and especially to the future of the world, the images again became much grimmer, and issues and ideas of negative development were regularly mentioned or chosen as the characteristics, which describe the future best.

The claim for multi-skilled teaching, net philosophy and net ethics, as well as the challenges of multi-level expertise support specialization and networking, and this creates challenges for teacher training and continuing education. For instance in Finland, in addition to high-level mastering of the study subject, the Ministry of Education calls for teachers to train themselves in human relations, as well as in the problematique of the future society in which their pupils will once live. Teaching in the future is therefore not only knowing and sharing of knowledge, but first and foremost, it is interaction between teachers and pupils (Luukkainen 2000, 186–187).

The surveys among teachers and rectors (Rubin 2006, 2012, Rubin & Linturi 2004) showed that teachers need more support to develop their pedagogical knowledge and skills. At the same time, however, it became obvious that for many, the acquisition and internalizing of new education stances, technologies and environments are not meaningful, if those skills cannot be utilized in their daily work in practice because of structural shortcomings, municipal saving programs which affect the ability of schools to obtain new technology and train teachers to use that, or fatigue and exhaustion of an individual teacher. Therefore it is not enough that the future needs are taken into consideration, but we also must open the expectations, hopes and fears for public discussion. This is why the images of the future held by teachers and by those who decide on the policy and lines of education should be made visible.

It is also possible that the negative and pessimistic images of the future, which characterize the world outside one's personal life, can become dominant factors in decision-making. When thinking about their personal future possibilities, some young Finns already showed a tendency for either total indifference or for opportunistic and hedonistic models of action (Rubin 1998, 105). With all its horrors, the negative image of the future might incapacitate and increase despair or indifference. However, even though they are frightening by nature, in some cases they can still lead to an active and successful struggle for a better world. Surprisingly, in all their negativity, they can nonetheless act as motivators for a more positive future (Boulding & Boulding 1995, 97). Then again, the image of the future, which is mainly built on fears and threats becoming true, can lead to passivity and submissiveness to the challenges and inevitable hardships of life.

When we look at the results of the studies, the biggest challenge is that the ambivalent images of the future – be they those held by young people themselves, or those held by their teachers and educators – do not provide young people with the solutions and decisions, which would be necessary for a successful and happy life. On the contrary: such images are apt to undermine personal life management by reducing the possibilities for realistic and sensible decision-making. The contradictory images of the future do not interpret reality in

any useful way, since they fail in increasing coherence in the worldview. Instead, young people's understanding of reality or their own possibilities for change and for taking the future to their own hands cannot grow, but remains unstructured and vague. If the personal future image is based on hopes and becomes dominant in the process of decision-making, it can act as a strong motivator behind the big decisions dealing with one's life. At first, this sounds positive. However, if this image of personal future includes elements, which are not based on reality, or lacks critical understanding of one's own personal possibilities, there will be problems. If one's ambitions and objectives are based on mere hopes and wishes, they might prove completely impossible to reach. Then the first hardships and misfortunes might become impossible to overcome and bring about lack of motivation and even cause despair. If parents, teachers and educators do not wholly understand and support young people in their readiness to tackle problems and face obstacles on their way to the future, the optimistic image of the future can change into a burden which erodes, rather than builds, motivation, energy and joy of life (Rubin 2009).

Conclusions

According to multiple studies (Rubin & Linturi 2004; Rubin 2006; Rubin & Hietanen 2004a, Rubin & Hietanen 2004b), it appears that teachers and educators are not at all aware of the problem of the confusing images of the future, which both young people and those in charge of education have. Instead, it rather seems that they share this confusion. The images of the future held by teachers and educators are more or less based on the assumption that the course of development in the future will follow the same route as it has trailed so far. In addition, they take the future as somehow given, describing it in rather conventional or popular terms and effects, without any deeper or more profound consideration. Since education institutions, decision-makers and teachers are so deeply rooted in Modernity and the premises of the industrial society, we are facing now an unsustainable situation. When teachers consider lifestyles, family, values, society, etc., and the decisions and choices to be made in connection with those institutions, their teaching still largely reflects the needs and ideals of industrial society and the "modern project". However, when they deal with the phenomena of the information society, they may involuntarily strengthen or even create fears and prejudices, and increase the feeling of guilt.

In addition, the results of the studies show that the images held by teachers are dominated by the belief in the persistence of traditional institutions and conventional ways of doing things. The idea *per se* is concealed and subliminal, unanalyzed and strong – perhaps just because it has never been aired and openly discussed. The institutions and social structures are understood as self-evident and as persistent "truths", the collapse of which would shake the basis of everyday security. Therefore, it is also rather hard to put these assumptions or truths under open consideration.

However, there have already been changes that cannot be dismissed or explained away by the normal fluctuation in the institutional activity of traditional industrial society. Instead, they reflect a deeper social, cultural, and economic transition. This on-going socioeconomic and worldwide transition is now becoming visible in the conflicting ideas and expectations, which emerge in the images of the future held by both teachers and their students. It is also reflected in everyday choices and actions, though on an unconscious level. Networking, net schools, Internet-based pedagogical tools, teleworking and distance learning, game-based learning, phenomenon-based learning etc. have all shaped and still shape the field of education anew. New borderlines are being created, but the development is still slow. However, teachers and educators have started to see that the old ways of doing and thinking are no more adequate – their images of the future are changing, slowly but surely. The challenges have been recognized and the details and decisions are under on-going consideration and discussion, which is the nature of the barometer as such.

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