

# Personalised Learning 2025

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This chapter examines the elements that might lead the educational systems towards greater personalisation, namely, attitudes, motivation, the needs of society, and technological possibilities. It then considers how key stakeholders – students, teachers, parents, the labour market, society – might react. The preliminary conclusion is that personalisation will emerge but the ways it will come about are open to debate, and four scenarios present different options: 1) total personalisation; 2) personalised timing; 3) automated teaching; 4) the status quo. Personalised education will not be possible without simultaneously improving the productivity of the system and it may also mean that it becomes more difficult to ascertain what individual students have gained from their studies and more discontinuous education may have negative effects on society's cohesiveness. Personalisation characterised by easing the individual student's passage through the system will be much less controversial than one that also personalises educational content.

## Why has personalised learning not advanced further?

There is something both politically correct and inherently redundant about the concept of “personalised learning” in the sense that it would be strange to meet anyone who was opposed to it. It is in the spirit of the times that it seems superfluous to attach the label “personalised” before “education”. And yet, we also know that the reality is far removed from the ideal. Although students no longer recite their lessons in chorus as they did a century ago, we are still a long way from a truly personalised educational system. There are several possible reasons for this.

The educational sector would probably point to a lack of resources as the prime reason why personalisation has not advanced further. Yet the problem here is that there is no natural limit on spending, as education is a form of maximisation not optimisation demand. An example of an optimisation demand is when you are hungry: your condition improves as you begin to eat but eventually you reach a point at which your need has been met and any further eating is bad for you. In contrast, maximisation needs have no natural satisfaction point: the more resources are allocated, the better. Education and health care are classic maximisation demands in that there are always needs which have not been covered and which argue for further resources. The English might be ready to describe someone as “too clever by half”, but this is not really possible and one can never learn too much. This is one reason why society has an ambivalent attitude towards the educational sector. We know that we cannot do without it but we also know that it can use up all available resources and still look around hungrily for more. Hence society – or rather the authorities whose job it is to allocate resources – must always be on guard lest education grows beyond all limits.

An equally important reason for the discrepancy between the professed ideals for the educational system and actual conditions is the institutionalised conservatism that suffuses any system. Those who run it – the teachers – are older than those who use the system – the students. It is true that the education system is not the only one marked by rigidities; most institutions have a tendency to cater to the needs of the past. But unlike other institutions, we have all had relationships

with education and come away with an emotionally charged attitude towards it. Although not all share a positive, nostalgic attitude, this is the prevalent sentiment; the human mind has a remarkable ability to let the passage of time draw a conciliatory veil over something that may not really have been that much fun at the time.

A third factor restraining the evolution of the educational system is the process, related to nostalgia, that makes adults feel that in order for the younger generation to develop into sterling human beings, it must go through a process that is a faithful copy of the regime that the older generation went through. Hence every time the educational system is revised up goes the cry “*o tempora, o mores*”.

The purpose of this chapter is to examine the prospects of personalised education system in the year 2025. Over the course of such a long span of time, radical changes are possible but we should not underestimate the inertia inherent in the present educational system. Nor should we over-estimate the societal impact of changing the educational system for the rate of change of society, coupled with developing lifelong learning, means that the established educational system no longer has the monopoly on imparting skills and knowledge (though it is where the groundwork for lifelong learning is laid). On the other hand, the concept of lifelong learning as such implies a personalisation of learning. The increasing amount of learning conducted after the end of formalised education does not usually take place in classrooms and the learner often chooses the subject matter.

## **The future**

The educational system is one of the most forward-looking of any. One attends school for the sake of future gain rather than immediate gratification. As Seneca wrote, ‘*Non scholae, sed vitae discimus*’ (we learn not for school but for life). But, it is necessary to emphasise in this connection that the future does not yet exist, which we should bear in mind considering how various kinds of mysticism (such as astrology, numerology, etc.) flourish. We all live in the Now with some idea of where we came from – the Past – and some notions of where we are heading, the Future.

It might be tempting to disregard the future altogether since it does not exist and one cannot “go on a field trip to study it”. But that would be just as wrong as believing that the future already exists. Decisions that will affect the future must be made today, however difficult that future may be to grasp, and we all have expectations of how the future will turn out, some conscious and others unconscious. (Conscious expectations are the easier to live with as they enable us at the least to realise when we were wrong – a qualified, conscious guess being thus better than an unconscious expectation.) The importance of considering the future applies even more forcefully when shaping the educational system as it “manufactures goods” which have to last for at least 60 to 80 years or perhaps longer still, considering the prospects of further increases in the human lifespan.

This chapter does not examine every aspect of the educational system but rather the possibilities for it to become more personalised, coming back to the gulf to be narrowed between the current educational ideal – personalisation – and the existing conditions within the system. It examines the elements that might lead the educational systems towards greater personalisation and then considers who the stakeholders are in the educational system and their interest in having a more personalised system. This discussion is put into a broader perspective through scenarios to examine the prospects for a more personalised educational system.

A number of elements work towards a more personalised educational system, namely, attitudes to people, motivation, the needs of society, and technological possibilities. Most of these elements have been around for a long time, but have not had decisive effects on current educational systems, given inertia and conservatism. Present inertia does not necessarily mean that the future will be the same as these factors may enjoy greater effect between now and 2025.

### ***Personalised learning and people***

People differ. When children begin school, girls are already generally more mature than boys and this only corrects itself later on. Despite awareness of this disparity, the normal practise is still to lump children together by date of birth at the beginning stages of the educational system. Conformity has a long history. Marxist theory would suggest that the explanation for conformity lies in material factors: societies where hunger and want are facts of life develop norms for acceptable behaviour and are not tolerant of those who depart from them, since the risks of non-conformity appear too large. When society has a low rate of change, as in many cases historically, it is based on experience. Older people are “smarter” because it takes time to gather experience and hence they (including the teachers) have authority.

Modern society is undergoing rapid changes and with it authority. One possible reason for the education’s resistance to change is that going from a society of authority based on societal position to one where authority must constantly be earned increases the demands on the system itself. It also argues for the replacement of an entire generation of teachers who are too old to be taught new tricks. The industrialised society may be behind us, but the educational system has not yet realised this. Industrialised society was governed by an engineering logic – standardised, measurable, and time-conscious. This logic makes it perfectly reasonable to group students by year of birth and for the educational system to produce standardised “goods” that can be classified into first-rate, second-rate, etc., based on an objective system of evaluation. One such way to measure is in units of time, and probably no modern organisation bases its activities more on time than educational institutions. In the labour market, on the other hand, the continual automation of production and global outsourcing mean that an ever increasing segment of the labour force goes from having specific work hours to having tasks to complete. In schools, industrial time-based lessons are still paramount.

Therefore, the first step towards creating a genuinely personalised educational system is to realise that the industrial society is no longer with us.

### ***Personalised learning and motivation***

The next step is for the educational system to recognise that the conditions for motivation have changed. The use of physical punishment within the educational system has abated but it has not been too many years since it was in regular use nor did the English boarding schools have a monopoly on the more brutal forms of educational motivation. But the essential qualities that a modern educational system seeks to develop in students cannot be imparted through threats quite apart from any purely humanitarian arguments. Rote learning may be enough to knock ready knowledge into students but the qualities demanded by the knowledge society have to be enticing enough that the students want to learn them.

Lars Henrik Schmidt (1999) has analysed how education changes as we move from a traditional society to a modern society. Originally the purpose of education was to convey knowledge from one person to another. The learned transmitted their knowledge to the ignorant who, with really close attention, may hope to become almost as knowledgeable in time. Physical motivation was thought a suitable means of inducing the ignorant to pay attention, which might be described as “gas tank education” as it sees the students as empty vessels to be filled up. In time it became the purpose of the educational system to impart “qualifications”, so that it became the market, especially for labour, which determines whether a qualification is worth anything, not teachers. Today this process has reached a point where among the most important qualities are “competencies” – unique, personal characteristics such as creativity, a sense of humour, and the like. Obviously an educational process that is supposed to foster the unique competencies of each individual student cannot use the same motivational means as one based on rote learning.

One of the ways to make education more enticing is to tailor it more to individual students. If they feel that the system respects them and takes their individuality into account, they are more

disposed to make an effort. This needs not mean ending up with an educational system where every student sits in splendid isolation with their own personalised course. Humans are social animals, young people not the least who are most likely to say “to meet others” in answer to the question about why they go to school. Nor does it imply an educational system where the students can choose independently what they want to learn. The notion of being responsible for one’s own learning, a watchword in parts of the pedagogic establishment, is nonsense at the level of primary and secondary education when students lack the basis for exercising such responsibility.

### ***Personalised learning and society***

The needs of society will be determined by the evolution of a knowledge society. The sum total of accumulated knowledge continues to grow at a prodigious rate and has led Anthony Giddens to refer to the “reflexive society” where the more that is known, the more that knowledge acquires an independent effect on developments. More negative reasons for the transition are global patterns of labour, where the outsourcing of simpler tasks to other countries – currently China and India are favourite destinations – means that more complex, knowledge-intensive ones play an increasing role in the economies of OECD countries. One characteristic of the knowledge society is organisational structures that are far more decentralised than before. The rigid hierarchies of the industrial society are replaced by looser, network-like organisational structures. Knowledge-intensive tasks require independence, commitment, and the responsibility of the individual employee. The business community will increasingly want the educational system to produce those qualities, which cannot be forced; they have to be fostered through a more personalised educational system.

Many years ago the Norwegian criminologist Nils Christie (1970) published a book with the fascinating title *Hvis skolen ikke fandtes* (If there were no School). Fortunately for the educational sector, his conclusion was that if school didn’t exist then it would be necessary to invent it. He pointed out that if the purpose of the educational system was only to provide young people with the ability to read, write, and count, then it could be done in considerably shorter time than is actually the case. If you personalised entry to education – that is, let the students start when they were mature enough and motivated to learn – you could shorten the educational process considerably. According to Christie, the reason for the increase of the educational cycle from 6-7 years (and that only patchily observed in the Danish countryside so that the children could help with the farming) to 9 or 10 to 12 years is that the school has a purpose beyond that of teaching skills. It inculcates specific attitudes.

This development can be linked to the whole “outsourcing” of functions that used to belong to the family/household including rearing the next generation to either the private or the public sector. A major factor in this development is the higher incidence of women in the workplace, which is where the school has to step in. The result is a democratisation of the system. When in earlier times it was only the upper class that sent their children to boarding school and turned over child-rearing to others, today this phenomenon has spread to the rest of the population with both parents in the labour force and leaving more functions, including the shaping of attitudes, to the school. In modern societies with decentralised tasks, individual attitudes have also become more important. As employees become their own supervisors, their mental status as individuals also becomes more important. The lengthening of the educational process is a symptom of the growing importance of the attitude-shaping function and this is unlikely to diminish in the future. The attitudes that the educational system is expected to foster do not thrive on “job lot education”. More personalised solutions are required.

### ***Personalised learning and technology***

The implications of the attitude-shaping function illustrate the insatiability of the educational sector. Since resources always will be limited, an increase in educational productivity is required. But as Jean-Claude Ruano-Borbalan (Chapter 5) and others have pointed out, the returns for the educational sector are just not good enough. There is no established tradition in education of

thinking actively about increased productivity – the negative effects of cutbacks are well-known but specific efforts to increase productivity are rare. I would maintain that it is impossible to create a more personalised educational system without productivity increases.

As seen in other sectors, productivity can be increased through the use of technology, which can automate simpler tasks and spare the more expensive production elements – humans – for those tasks for which they are indispensable. Technology usually begins as scarce and expensive but then becomes established and cheaper, while the price associated with people does not diminish. As information technology becomes more mature, it should by 2025 and through the use of interactive systems contribute to increased productivity in the education sector. This would make room for more personalised education.

One of the most personalised forms of education is the tutorial, where intense student-teacher interaction permits the thorough exploration of subjects. If we wish to approach this ideal, then technology must take on as much of the work as possible. It is only our imagination that limits the ways it can be put to use – not the hardware but the software. The educational sector needs to invest in the development of software. The problem is circular: the educational sector has no tradition of thinking of technological solutions while detailed knowledge of conditions in education is a prerequisite for the development of technological solutions for it.

While there are many reasons to expect or advocate the shift towards a more personalised educational system, important question concern how this might come about. The discussion of information technology highlights one crucial prerequisite for a more personalised education system. Another important prerequisite is that those who use or influence the system have a vested interest in promoting such a development. It is therefore necessary to address stakeholder interests.

## **Stakeholders**

### *Students*

It is only a slight overstatement to say that the main interest of the students is to have fun. They may from time to time consider the importance of learning something, but that is mostly taken for granted. When one is forced to go to school, as is usually the case in a modern society, the learning becomes less important – to the students if not to the parents – and the main preoccupation is to make the place you are obliged to attend as tolerable as possible. As stated in the words of the pop song some years ago: “All I wanna do, is have some fun, I got a feeling, I’m not the only one.”

There is a parallel between the school situation and the ideas that the Copenhagen Institute for Futures Studies have generated concerning developments in the labour market. The continual automation of routine tasks means that those tasks that can be measured by the clock are disappearing while those tasks defined by their content and by deadlines are growing, both relatively and absolutely. Work becomes more and more “hard fun”. It is “fun” because the work becomes more interesting. It is “hard” because deadlines promote stress and because the task has no natural limit other than the deadline itself – the work can always be improved upon. And it is “hard” because the work to a growing extent falls to the individual who is personally responsible for managing time and keeping to the deadline. More than almost anything else in the world, education is still defined by units of time, with classes defined by year of birth, fixed time tables, terms, and examinations of fixed lengths. Turning away from this fixation with time may be one way to personalise learning in the future.

Applying the concept of “hard fun” to education leads to the question of how to increase the element of fun (“edutainment”?). A dedicated teacher with a powerful personality can make learning engaging, but that kind of teacher will always be in short supply. Until now, the school has overcome its lack of entertainment value by a mixture of coercion and playing to the social needs of young people, but in the future it will be necessary to turn to information technology and more personalised teaching to secure a continued interest in learning.

The use of information technology as an educational tool is still in its infancy, but considering the ease with which children are able to master video games – without reading the manuals – this gives an inkling of what an enormous educational potential IT has. One of at least two reasons why it is so easy for children to learn video games: they think it is fun and they get immediate feedback. The second reason raises one of the most powerful educational principle – the need for an immediate response informing students whether they are on the right track or not. This is the reason why some, do much better at oral exams than written ones as the observant candidate constantly receives information from the examiner’s body language and can tell if it is time to think of something else. In earlier times, the privileged classes could hire private tutors to expose their children to this educational method. In the future, information technology will have to take over the role of private tutor.

In some fields, the effectiveness of information technology as an educational tool has already been demonstrated. The military has experimented with technology and found that IT-based teaching can help ensure that each student has learned what is needed. Control points in the programme stop the student unless mastery has been demonstrated, which is a more effective way to control the learning process than either oral or written exams. It is also quite possible that IT-based teaching can make it fun to learn subjects that not even the most dedicated teacher can make interesting. Back in the days when mass education was in its infancy, the school was often the first place you got your hands on a book. It is strange that today the school is not the place the young person goes to in order to find IT.

The use of information technology can contribute to a personalisation of teaching methods. By developing programmes that are designed to differentiate between their users, products can fit individual requirements far better than any book and relieve the teacher of much of the routine work, so freeing up time to spend with the individual student. If the year of birth is abandoned as the criterion for starting in school in favour of a more personalised evaluation, even classroom teaching may become far more personalised than it is today. Finally, the development of educational methods that are more “hard fun” could contribute to solving the problem of reconciling students’ desire for having fun with the interest of the rest of society who want the student to learn something useful.

### ***Teachers***

What might be the future interests of teachers? The straightforward answer is “meaningful work and better pay”. But if learning is personalised in the coming years as this paper proposes, and if that personalisation process is carried out through a more extensive use of technology, it must be expected that many teachers will not be able to see the advantages. Personalisation and an increased use of technology imply quite a change for teachers’ work. Those who have been teaching for many years are likely to have fixed ideas about how things should be done, which may prevent them from appreciating the advantages of new methods. The age profile of teachers is thus crucial to responses to the concept of a personalised learning system. This profile varies from country to country. In Denmark the age profile of teachers represents quite a challenge as a very large group of teachers from both primary and secondary schools will retire in the next 5 to 10 years. To replace these teachers will itself be a big task. That is the downside. The upside is that this opens up the possibility of a fresh start.

The odds of the teacher’s role becoming more meaningful are likely in the long run. If machines can take care of most routine work, the more interesting parts of teaching will come to dominate. The prospect of better pay is quite another issue, despite their salaries being pretty low considering their educational background and the enormous responsibility they bear. Perhaps they will just need to accept the saying: ‘Work carries its own reward’.

## ***Parents***

Over the last century, modern society has changed from one where children were a burden on the poor to one where children are a luxury of the rich. Fertility has plummeted to below the replacement level in practically every OECD country. If fertility levels stay as low as they currently are, the populations of the rich countries will eventually die out, though of course this is unlikely to happen as these countries can remedy their declining populations by increasing immigration, or else these levels could rise again. There are understandable reasons for the low fertility levels: better contraception, the increased participation of women in the labour market, the rising age at which mothers have their first child, and, last but not least, the ever-increasing social demands that turn children into increasingly longer and more expensive projects. There has been radical change from a situation in centuries past where children were put to work before age 10 years to one where many turn 30 before they can stand entirely on their own feet. Some, indeed, never get to stand on their own feet!

If fertility levels will remain low, a child's best chance of having siblings is for the parents to divorce and remarry. Ordinarily parents care for all their children and see them as individuals, but there is obviously a big difference between having a whole flock of children and having only one. Maybe the behaviour of today's youth is, in part, a reaction to the pressure caused by inflated parental expectations. Parents who have only one or two children will regard them more as unique individuals and it will seem natural to them that they want their education to be tailored to the child's wishes and abilities. Parents are thus an important force making education more personalised and will demand it as they realise that one cannot learn too much and perceive personalised learning as a better way to teach than more traditional educational methods.

These wishes must, however, be considered in conjunction with other desires that parents may have towards education. The more that dual-career households become the norm, the more the school will be perceived as a place to care for and bring up children. Parents will increasingly feel that the school must take a greater role in child rearing, perhaps with their children's classmates as at least as important to their development as the parents. This used to be the province of the upper classes sending their children to the "right" boarding school, but as this desire spreads, society may run into considerable trouble accommodating parental wishes to have their children associate with the "right" classmates. Who will go to school with those children the others deem unacceptable?

But the greatest challenge to a more personalised education system may well be that the more differentiated the teaching becomes, the less one can be sure that the student actually learns what is needed in order to succeed in later life. The problem will be to how to declare the "content" of a personalised educational programme in a way that reassures demanding parents.

## ***The labour market***

While it is a massive simplification to address the labour market as a single entity, there are some likely general tendencies that are interesting to confront with a more personalised educational system. A growing part of the labour market will see one's educational background as an "admission ticket" – proof that you have gone through a process that demonstrates general abilities on which a further part of your lifelong learning can build. It has come to the point where no formal qualifications will by themselves be sufficient. This applies even to the health care sector that may still require specific qualifications. All new employees will to some degree be trained to hold down any given job. The continuing move towards the knowledge society also leads to the automation of routine functions and an increase in those who require an independent, creative effort.

For the labour market a more personalised education system has its advantages and disadvantages. There will not be the same need for unskilled labour in the future, so it benefits the labour market if personalised learning encourages the student to study harder. It likewise benefits the labour market if personalised learning fosters the personal competencies to handle creative tasks. The major disadvantage is that a more personalised educational path will be more difficult for

the labour market to evaluate. It will be more difficult to determine if an applicant has the necessary basic and general qualifications needed for a career of lifelong learning. This may lead the labour market to set up its own accrediting bodies to compensate for the diffuse qualifications that applicants of the future will present from their education.

### ***Society***

It is even more of a simplification to speak of the interests of “society” as a stakeholder in the educational system but as it is society that largely finances and regulates the educational system, its ability to influence the system is considerable. Daniel Patrick Moynihan’s reflection is pertinent here:

“The central conservative truth is that it is culture, not politics, which determines the success of a society. The central liberal truth is that politics can change a culture and save it from itself.”

This highlights the school’s central position in society as arguably the most important tool for maintaining or changing the existing culture. This is why school attendance is mandatory in most societies – society making sure that all its members have undergone the same cultural “training”.

There are many definitions of culture. One is that culture is habits – internalised values that govern the choices people make. It is culture that shapes a society’s identity as a society. There are many signs that modern societies lack the coherence that they used to have with increasing individualism and anti-authoritarian attitudes. So too does secularisation or, more precisely, the de-institutionalisation of religion. Religion is growing mostly outside the established, largely national, religious organisations. All this leads to a change from a well-defined hierarchical society with common values to what could be dubbed “the peripheral society” – a society with no clear focus.

Thus there is a latent conflict between a more personalised educational system and society’s wish to maintain or change its culture. This suggests the need to distinguish between form and substance. An educational system that personalises the form – that allows the student to choose the schedule and the methodology – will cause much less concern than one that personalises the subjects that are taught. Indeed, personalisation of the educational form may well strengthen existing efforts to tighten up educational contents so that set canons and national curricula could get a new lease of life.

### **Scenarios**

So far the focus has been the forces that might promote a more personalised education system and on how key stakeholders might react to such a system. The preliminary conclusion is that such a system will emerge: the desire exists and the means are available. But personalisation of learning can happen in many ways. The way it will come about and how fast it will happen are both open to debate.

One way to explore these questions is to use scenarios. At the Copenhagen Institute for Futures Studies, we like to use the “cross-division method”. There are other ways to generate scenarios but this way is easy to grasp, methodologically and in terms of results. This method consists of examining the uncertain factors inherent in the problem under consideration and estimate which of these are both crucial to the problem and the most uncertain. The two most important factors can then be matched up and provide the basis to construct four scenarios.

Looking at personalised learning, one might focus on these following factors.

### **Framework**

- *Economic growth*, which will primarily serve to regulate the speed of developments. High economic growth will facilitate the reorganisation of the educational sector, and may also lead to a development of the labour market, increasing the demand for more creative employees.
- *Culture*, where the extremes are *laissez-faire* and tight control. *Laissez-faire* would allow a total personalisation of both timing and content.

### **Process**

- *Face-to-face or IT based?* This is a spurious distinction as both methods will probably be used, but one might wonder where the emphasis will lie. If the resources available for personalisation are sparse then it may be tempting to go with the “cheap”, IT-based, automated solution.
- *Timing:* either focus on the maturity of the individual student or on the content of the education. Again it will most probably be a mix of both rather than one or the other. Nevertheless, an interesting question is whether future developments will be marked more by personalisation of timing or by personalisation of content.

### **Goals**

- *Elite or equity?* Is the goal of the personalisation to help the best students or is it to make sure that everybody learns enough to get by?
- *Autonomy or community?* Is the goal to create strong individuals or to strengthen society?
- *Individual or labour market?* Is personalisation primarily to benefit the individual or the labour market?

### **Guidance**

- *Controlled or “free fall”?* The latter refers to a rapid relaxation of official regulations concerning education. While the total removal of regulation seems unlikely, it is interesting to speculate how much the government will wish to steer the process of personalisation.
- *Run by students and parents or from above?* How much control will society relinquish?
- *Public or market?* If personalisation becomes widespread, one argument for a publicly run and all-inclusive educational system disappears, though it is still possible to have a publicly-financed system each individual can decide how and when to use. Bertel Haarder, the Danish Minister of Education in the 1980s, suggested that every citizen should receive an educational coupon book (entitlement), which some would take all of in a single stretch while others would spread it out and take it in smaller chunks over their whole life.

The above is merely indicative of the methodology, which can be further illustrated by selecting two dimensions to launch a sample scenario exercise. One obvious pairing would be economic growth (from high to low) and culture (from *laissez-faire* to tightening).

One does not have to be Marxist to say that the cultural dimension has a certain correlation with the economic. Low economic growth will probably heighten the popular perception of external threats, leading to an increased desire to strengthen national identity. Conversely, high growth could facilitate *laissez-faire* developments; not only will there be optimism but also the necessary surplus for the investments required by a personalised educational system. The cultural dimension also covers some of the other dimensions mentioned above. *Laissez-faire* is likely to co-exist with market-guidance, individual autonomy, and student/parent control. Cultural tightening, on the other hand, is more likely to co-exist with a publicly run system where the personalisation that might be promoted would be aimed to strengthen society and the labour market.

Combining the two dimensions gives the following four scenarios.

### ***Scenario 1: total personalisation***

A future marked by a high economic growth will encourage *laissez-faire* attitudes in all areas. It leads to the speedy integration of the EU despite its expansion. A “European” national identity is unlikely to have solidified by 2025, but it is on its way. There is more general acceptance of the process of globalisation. There is not only personalisation of each student’s route through the educational system, but also of educational content. The labour market will probably create its own assessment system.

### ***Scenario 2: personalised timing***

A future marked by the combination of high growth and cultural tightening could come about if the continuing immigration to the industrialised countries fosters a sense that the national identity is endangered. This would create a strong desire for a national curriculum and a demand that it be followed for the student is to become a full-fledged member of society. Education will be perceived as a means of ensuring that the immigrants (who are necessary to accept whether because of international obligations or of the need for imported labour) will become “nationalised”. The advantages of taking individual factors into consideration are recognised and the immigrants make these even clearer; they are of different ages and adult education is increasingly important. Hence, this scenario is characterised by the personalised timing of each student’s journey through the educational system.

### ***Scenario 3: automated teaching***

Low economic growth highlights the importance of the productivity of the educational system; the more that IT can be used to shift from expensive teachers to cheap interactive systems, the better. Immigration has been brought under control and EU integration has been hampered by its expansion still further to the East. This and the low economic growth, due partly by outsourcing to other parts of the world, emphasise the value of a highly qualified labour force. Anything that might dampen student motivation to learn must be removed from the educational system, leading to the personalisation of content as well as timing.

### ***Scenario 4: the status quo***

A situation marked by low economic growth and a desire for cultural tightening might be described provocatively as “the status quo”. Resources are not available for investments in the educational system and there is no desire for them either. Each national system feels threatened and has little appetite for experimentation.

These four scenario outlines are examples of how the future may be explored, including the future of personalised learning. This could become a vital aspect of the educational system, which is in turn a crucial part of modern society. An evaluation of future prospects is therefore a difficult and complex undertaking for which the scenario methodology is well suited.

## **Conclusion**

There is a substantial divergence between what might be termed the “Zeitgeist” and the educational system. On the one hand, we live in societies characterised by increasing individualism, extolling the uniqueness of each person and promoting the notion that they should be able to exercise greater control over their own lives. Key events have been the fall of the Berlin Wall and the victory of market ideology. On the other hand, education systems still tend to have fixed content and timing. It seems likely that it will be the educational system that will have to adapt.

A key question is whether progress towards more personalised learning will be hampered by the insatiability of the educational system. Personalised education will not be possible without simultaneously improving the productivity of the system. Since this will require significant investments, all things being equal a high economic growth will encourage more personalisation. It is not, however, without its downsides. It becomes more difficult to ascertain what individual students have gained from their studies and concerns may grow that a more discontinuous education will undermine society's cohesiveness. Personalisation characterised by easing the individual student's passage through the system will therefore be much less controversial than one that also personalises educational content. Even so, considerable progress has already been made regarding personalisation of timing.

The basic challenge to education in modern societies is that the rest of society, especially the labour market, will demand that the system produces more and better qualified people. The continuing development within the global division of labour means that the OECD countries must continue along the road towards the knowledge society in order to maintain and increase their current standard of living. But people cannot be forced to be more and better qualified, they have to be coaxed. Everything else being equal, more personalised education will be more attractive than existing inflexible educational systems.

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