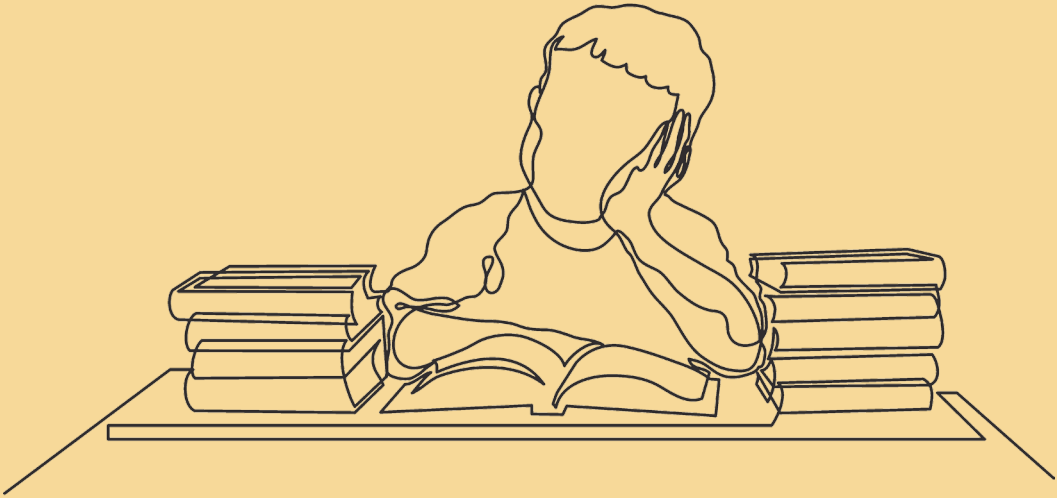
The achievement–wellbeing trade-off in education

Gabriel Heller Sahlgren

Research report 14



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Contents

Executive summary

- The idea that pupil well-being and effective learning go hand in hand is an important tenet of progressive educational theory. Since 'deep', genuine learning is supposed to be invigorating and joyful, education that does not live up to these ideals tends to be seen as ineffective and wasteful.
- The progressive ideals regarding pupil happiness are an important reason why many modern educationalists have supported pupil-centred teaching methods; it is through the freedom to explore and attain knowledge that pupils are supposed to be able to feel joy in their work. Progressive theory has therefore come to highlight the relationship between pupil-led learning, enjoyment, and performance as a virtuous circle. This idea is also currently promulgated through the highest echelons of international policymaking.
- Yet there is little rigorous evidence presented in favour of this assumption, which ultimately stems from a misinterpretation of Jean-Jacques Rousseau's agenda-setting book *Émile, or On Education*. Rousseau actually highlighted the crucial importance of pupil suffering as a key pedagogical tool to force pupils to learn from their mistakes. Furthermore, he did not equate happiness with joy or pleasure, but rather saw it through the lens of the classic idea of human flourishing. Happiness, he believed, is a goal of education, not its means.

- There are important reasons to believe that Rousseau's most fundamental insight was correct: effective learning is often not enjoyable. Indeed, the paper presents evidence showing that several interventions and strategies – such as homework, school competition, and traditional teaching methods – involve an achievement–happiness trade-off. These interventions appear to increase pupils' test scores, while decreasing pupil happiness and make learning less joyful.
- This does not mean that policymakers should ignore pupil well-being entirely. A basic cost-benefit analysis suggests that pupil achievement is more important from an economic perspective – but when using adult life satisfaction as the outcome measure instead of income, pupil happiness appears more important. In other words, the attractiveness of reforms and interventions are likely to depend on which goals policymakers seek to advance.
- The paper's principal lesson is to start taking the concept of trade-offs seriously in education. Policymakers and stakeholders must carefully assess the extent to which their proposed policies involve trade-offs – and take these into account in their decision-making in regard to which goals to promote and which ones to discard.

Introduction

The idea that pupil well-being and effective learning go hand in hand is an important tenet of progressive educational theory. Since 'deep', genuine learning is supposed to be exciting and joyful, education that does not live up to these ideals tends to be viewed as ineffective and wasteful (see Mintz 2012). And in this sense, traditional schooling is seen as insufficient, as it is characterised by regimentation, memorisation, and drill. For example, in 1945, the American pedagogue William Kilpatrick (1945: 264) lamented: 'Our old-type school, with its formal subject matter remote from life, made us think of the learning process as laborious and repellent. But in these typical instances life's inherent learning comes as such without effort, comes in fact automatically and stays on for use.' That is, the traditional education system is portrayed as essentially unnatural, as it cannot replicate the inherently joyful and effortless learning experience that exists outside its structures.

The progressive ideals regarding pupil enjoyment are in turn an important reason why modern educationalists historically have supported pupil-centred teaching methods, as it is only through the freedom to explore and attain their own knowledge that pupils are supposed to be able to feel joy in their work (see Christodoulou 2014; Peal 2014). As the American educator William Bagley (1934: 409), a strong critic of the American progressive movement, put it in 1935: 'If you wish to be applauded at an educational convention, vociferate sentimental platitudes about the sacred rights

of the child, specifying particularly his right to happiness gained through freedom.'

In this way, progressive educational theory has come to highlight the relationship between pupil-led learning, enjoyment, and performance as a virtuous circle. Pupil-led teaching methods are supposed to spur joy and motivation – which in turn are supposed to make learning more effective. This idea has perhaps unsurprisingly also taken hold in the policy debate. Indeed, in the past decades, education policy in most western countries has become increasingly focused on pupil well-being, both as an end in itself as well as a tool with which governments could improve achievement. For example, Public Health England (2014: 4) argues: '[P]romoting the health and wellbeing of pupils and students within schools and colleges has the potential to improve their educational outcomes and their health and wellbeing outcomes.' Some further argue that the importance of pupil enjoyment for learning has become especially important in today's world.[1] Echoing Kilpatrick's concerns of half a century previously, Andreas Schleicher (2010), the OECD's director of education and skills, argued:

> For most of the last century, the widespread belief among policymakers was that you had to get the basics right in education before you could turn to broader skills. It's as though schools needed to be boring and dominated by rote learning before deeper, more invigorating learning could flourish. Those that hold on to this view should not be surprised if students lose interest or drop out of schools because they cannot relate what is going on in school to their real lives.

1 Given all this emphasis on positive emotions for successful learning in both education theory and policymaking, it is perhaps unsurprising that American teachers in the TIMSS video study, carried out in the 1990s, were shown to shield their pupils from difficult problems in favour of more simple questions (Stigler and Hiebart 1999). Indeed, in the past decades, there appears to have been a rise of 'feel-good' education, stemming from a pupil-centred, discovery-based model of learning (e.g. Stout 2000).

In other words, it is supposedly necessary to make learning 'invigorating' for learning to take place at all. This idea has also translated into the OECD's normative prescriptions for policymakers: 'Education systems should explore solutions that make learning more enjoyable and fulfilling for all students, so that high performance and personal happiness become self-reinforcing goals' (OECD 2017: 79).

It would certainly be convenient if performance and happiness were self-reinforcing goals, as it would indicate a 'win–win' situation in regards to the promotion of the traditional goals of education and the well-being agenda. Yet there is little rigorous research presented in favour of either the theory or the prescription.

While there may often exist a correlation between pupil happiness and performance at the individual level (e.g. Quinn and Duckworth 2007), this does not mean that the relationship is causal. For example, higher performance may make pupils happy rather than the other way around – or pupil happiness and achievement may be caused by unobservable characteristics, such as genes. It is therefore important to investigate the extent to which the assumed causal relationship between well-being and pupil performance holds up to scrutiny.

In sharp contrast to the progressive ideal, this paper instead highlights the existence of a trade-off between pupil happiness and achievement in education. Like many others, it traces the kernel of progressive thinking to Jean-Jacques Rousseau's *Émile, or On Education*, published in 1763.

Over time, *Émile* became increasingly influential for the concept of childhood in general and for pedagogical ideas in

particular. In the interpretation that has come to dominate educational thinking, teaching of facts and core knowledge is believed to hinder deeper understanding of the subjects, rob learning of its joy, and contribute to an unhappy childhood. The solution is to promote pupils' own search for knowledge and decrease the role of traditional authorities in the learning process. This idea became a cornerstone of much educational thinking as progressivism began to spread from the early twentieth century onwards.

However, as this paper shows, this dominant interpretation of *Émile* is incorrect. Indeed, Rousseau himself highlighted the crucial importance of pupil suffering as part of the learning process. To reconcile this with his more familiar emphasis on happiness, one must appreciate that Rousseau did not equate happiness with joy or pleasure, which became common during the Enlightenment, but rather saw it through the lens of the classic idea of human flourishing, and the virtues that make us worthy of such flourishing. For Rousseau, happiness – as in human flourishing – is first and foremost a goal of education, not its means.

Yet in the dominant interpretation of his theory happiness became to a large extent equated with joy and positive emotions – and it became a means rather than a goal. In this way, the emphasis on pupil happiness as a tool for higher achievement in progressive theory appears to derive from a misunderstanding of Rousseau's ideas. This misunderstanding also explains the tendency of much educational research to focus on pupil experiences of things like 'deep learning' and 'motivation': since the misinterpretation of Rousseau took hold, many have simply assumed that positive experiences in school go hand in hand with improved learning.

However, in sharp contrast to these ideas, there are important reasons to believe that Rousseau's most fundamental insight was correct: effective learning is often not enjoyable at all. For example, repetition and drill, which according to cognitive research are fundamental in the learning process, can hardly be described as intrinsically motivating or joyful. One should therefore not be surprised to find that educational interventions that raise achievement simultaneously have negative effects on pupil enjoyment and well-being (and vice versa).

Indeed, the paper presents evidence showing that several interventions and strategies involve an achievement–happiness trade-off, including competition from autonomous and independent schools, external school-leaving exams, and teacher-centred teaching methods. These interventions appear to increase pupils' test scores as well as decrease pupil happiness and make learning less joyful, thereby illustrating the achievement–happiness trade-off that for long has been ignored in educational thinking. In doing so, the paper casts serious doubt on an important tenet of modern educational theory, which is currently being promulgated through the highest echelons of international policymaking.

Of course, this does not mean that policymakers should ignore pupil happiness entirely. A basic cost-benefit analysis carried out in this paper suggests that pupil achievement is more important from an economic perspective – but when using adult life satisfaction as the outcome measure instead of income, pupil happiness appears more important. In other words, the attractiveness of reforms and interventions are likely to depend on which goals policymakers seek to advance. It of course beyond this paper to determine which goals should be prioritised. The paper's principal lesson is rather that the concept of trade-offs needs to be taken more

seriously in education. Policymakers and stakeholders must carefully assess the extent to which their proposed policies involve trade-offs, and take this into account in their decision-making in regard to which goals to promote and which ones discard.

The misinterpretation of Rousseau

To understand why much modern and contemporary educational theory came to emphasise the importance of joyful learning, it is important to go back to 1763 and the publication of Jean-Jacques Rousseau's *Émile, or On Education*. This book became crucial for the development of pedagogical theory and practice – and in fact for the entire concept of childhood more generally – during the nineteenth and twentieth centuries. After its publication, the idea of a natural and innocent childhood, fundamentally different from adulthood, spread. Children's individualities and identities were emphasised, and allowing the individual in each child to flourish uninhibited became a key aim of education.

The dominant interpretation of *Émile* became the child-centred focus Rousseau believes must be the bedrock of education. He admonishes the teacher: 'Do not give any sort of lesson verbally: [the pupil] ought to receive none except from experience' (Rousseau 1889: 56). Long lectures and lessons are boring and therefore undermine children's natural appetite for learning, thereby leading to a 'barbarous education which sacrifices the present to an uncertain future, loads the child with every description of fetters, and begins, by making him wretched, to prepare for him some far-away indefinite happiness he may never enjoy!' (Rousseau 1889: 42). For Rousseau, teachers thus become secondary in the learning process. They are guides whose task is only to motivate children to find and act according to their innate and natural tendency to search for knowledge of their

own accord. There is consequently no place for external incentives, such as rewards or punishments, apart from those that follow naturally from pupils' actions (see Ravi 2015: 164-180). For example, an appropriate punishment for breaking a chair would be to let the child stand for the duration of the lesson, as a natural consequence of the fact that the chair no longer exists. On the other hand, punishments that do not directly flow from pupils' actions are indefensible. Similarly, the natural joy and motivation pupils experience in the learning process are their only appropriate reward.

The ideas promoted in *Émile* became highly influential in general but in particular in pedagogical circles, where a lot of attention was paid to Rousseau's criticism of the negative impact of traditional education on pupil happiness: it constrains and destroys children's natural desires and interests. Consequently, 'both admirers and critics of Rousseau's educational thought typically read him as advocating that the best education ought to entail a happy childhood' (Mintz 2012: 252). In this interpretation, Rousseau viewed traditional education as not only inefficient from a learning perspective, but also something that contradicted human nature. To search for knowledge is associated with happiness; happiness is associated with the search for knowledge. Pupil happiness, in other words, was interpreted to be the kernel from which the other ideals found in Rousseau's theory sprung. Only by giving pupils freedom would they be able to develop in accordance with their nature.

The interpretation became so prevalent that behaviourist B. F. Skinner accused Rousseau of inculcating into modern pedagogical theory the idea of 'the free and happy pupil' (Skinner 1973). More recently it has been claimed that '*Émile* is not simply a book about education; it is a book about education for happiness' (Gilead 2012: 269). The principal sign

of the traditional educational model in progressive thinking has therefore become the unhappy pupil alienated from his or her education. And the solution: pupil-centred teaching methods that give pupils freedom to learn from their own experiences (e.g. Christodoulou 2014).

There is little doubt that *Émile* played an important role in the development of progressive education in this respect. Indeed, education researcher John Darling (1994: 16) has argued that 'child-centred educational theory is a series of footnotes to Rousseau'. Similarly, in 1940, Reuben Palm (1940: 448) claimed that progressive education 'has been used to designate a theory and method of education based on the principles set forth by Rousseau'. More recently, American educationalist Diane Ravitch (2000: 169) described *Émile* as 'the seminal text of the child-centred movement'. While Rousseau himself never developed ideas of relevance to the practical implementation of his theory – a task taken up by his countrymen Johann Heinrich Pestalozzi and future educationalists – the basic ideas of pupil-centred schooling stem from *Émile*.

Since then, individualised teaching methods, with different names, have come and gone – including discovery learning, enquiry-based teaching, pupil-centred instruction – promoted by, among others, Maria Montessori, Rudolf Steiner, John Dewey, Paulo Freire, and others, birthing new movements in education and different types of schools. Their theories are different in many respects, but they unite in their upholding pupil activity as the most central aspect of the educational process. Indeed, 'learning by doing' has become Dewey's most-cited pedagogical insight. Dewey complained that traditional education ensures that '[t]he child is thrown into a passive, receptive or absorbing attitude. The conditions are such that he is not permitted to follow the law of his nature; the result is friction and waste' (Dewey 1897: 13-14).

In the progressive view, traditional schooling creates passive children forced to ignore their natural tendencies, which in turn makes them unhappy and less likely to learn – just as the dominant interpretation of *Émile* would make one believe.

However, there is much to suggest that this interpretation is a misunderstanding of fundamental aspects of Rousseau's theory, especially his views on pupil happiness. Certainly, Rousseau placed great emphasis on children's happiness in his writings, but it is a fallacy that he equated happiness with positive feelings. Indeed, there is another crucial theme in *Émile*, which is often ignored entirely: the importance of the child's suffering (Mintz 2012). In fact, Rousseau (1889: 41) describes this as the single most important part of children's education: 'To suffer is the first and most necessary thing for [Émile] to learn.'

It is difficult to reconcile this theme with Rousseau's more well-known emphasis on pupil happiness, yet the two are in fact reconcilable. For Rousseau, happiness could not be equated with joy or pleasure, as was common during the Enlightenment, because it bore greater resemblance to the classic idea of human flourishing or *eudemonia*. True happiness meant that one lives well. A person who lives well must maintain his or her desires and abilities in equilibrium. This in turn requires virtue – since happiness cannot be attained unless one is worthy of it (Cooper 1999; Mintz 2012). Rousseau wants Émile to acquire the integrity necessary to reach *eudemonia*.

This is why suffering plays such a crucial, yet almost always ignored, role in his theory. It is only through the ability to suffer that one can attain the virtues necessary to live well: 'Happiness may be the goal of education for Rousseau, but unmitigated joy is not the means to that end. Émile must learn to accept and endure the suffering that is inevitably part

of the human condition – and learning to accept and endure suffering turns out to depend on experiencing it a great deal' (Mintz 2012: 255). In other words, in sharp contrast to how his theory has been portrayed, Rousseau never viewed pupil suffering to be detrimental to happiness; in contrast, the two are inextricably linked.

Moreover, Rousseau adds that suffering 'is a by-product of confronting one's inadequacies and coming to understand when and why one has erred and failed. This pain can be a powerful source of motivation to overcome inadequacy; it can be the wellspring of learning' (Mintz 2012: 261). The idea is simple: set-backs in one's learning are not fun, but they are necessary in order to go move forward. Learning can never be merely enjoyable. Certainly, as highlighted above, Rousseau viewed external incentives, including punishments that did not follow naturally from pupils' own actions, as damaging. Yet the fact that something is difficult or boring as such was never the reason for why he viewed traditional education as damaging.

It is therefore a mistake to read *Émile* as a simple defence of joyful and invigorating learning. As education researcher Avi Mintz (2012: 260) argues:

> It seems that the progressivists turned Rousseau's ideas about children's interests upside down. The progressivists valued students' deep interest and internal motivation and believed that such experiences were to be positive and joyous. Rousseau, in contrast, suggested that a child's interest might be heightened not only by his excitement and pleasure but also, and perhaps more importantly, by his emotional anguish.

The principal problem with Rousseau's theory, which also has been ignored in progressive thinking, is not necessarily

his understanding of the goal of education, but that his understanding of the role of hard experiences in learning was incomplete: he put too much pedagogical weight on pupils' natural rewards and punishments. How, one might ask, are pupils supposed to foresee the consequences of their mistakes or actions if they do not immediately experience them? It can take decades before the effects of poor learning appear in the form of low employability and earnings. If there is a trade-off between having fun today and a low salary in 25 years, it is impossible to trust the natural consequences of pupils' actions as a self-regulating mechanism. In other words, everything that is natural is not necessarily good for learning and pupils' longer-term outcomes.

The educationalists who followed in Rousseau's footsteps might very well have realised the importance of this point had it not been for their misreading of his ideas about happiness and joy. Instead, an important tenet of modern pedagogical theory came to rely on the relatively banal idea that learning demands positive emotions to be effective. Viewing joy for learning as a pedagogical tool, while ignoring the potential of suffering, also meant that a potential achievement–well-being trade-off never entered the equation even as a remote possibility. The next section, which discusses the empirical evidence on this potential trade-off, suggests this was a mistake.

What does the evidence say?

Having discussed the much-misunderstood wellspring of progressive thinking, Jean-Jacques Rousseau, this section discusses the empirical evidence on the relationship between pupil happiness and achievement – and whether or not it supports the idea that they go hand in hand. And, overall, the answer is clear: there is little evidence that interventions and strategies that have positive effects on achievement also raise pupil happiness and a joy for learning. On the contrary, recent research tends to support the idea of an achievement–well-being trade-off.

For example, research has analysed American pupils' happiness levels using pagers that adolescents carry with them for the duration of the research period. When the pager beeped, they were asked to rate how happy they were in that moment and what they were doing. It turns out that pupils' happiness is the lowest when they are in the classroom and when they do school- and homework. More generally, their happiness declines when they are in school and increases when they are not in school (Csikszentmihalyi and Hunter 2003). At the same time, research shows that spending more time in school, more instructional hours, and more homework raise pupil achievement (e.g. Aucejo and Romano 2016; Falch and Rønning 2012; Gustafsson 2013; Lavy 2015a; Rivkin and Schiman 2015). In other words, there appears to be an achievement–well-being trade-off at a very general level in the education system: if pupils do not attend school, or do any work, they are unlikely to learn anything – but they may be happier.

Furthermore, research analysing the causal effects of specific reforms on achievement and pupil enjoyment supports the idea of a trade-off. External school-leaving exams appear to have a positive impact on achievement in international tests, such as PISA and TIMSS, and on pupils' longer-term labour-market outcomes, despite the fact that they simultaneously have strong negative effects on their attitudes toward learning (see Federičová and Münich 2017; Jürges and Schneider 2010; Piopiunik et al. 2013). The mechanisms explaining the trade-off relate to the more general research discussed above: external school-leaving exams increase self-reported learning pressure and the amount of homework teachers give to pupils, who also spend more time in the classroom discussing such homework (Jürges and Schneider 2010). There is therefore evidence that external school-leaving exams both raise achievement and long-term earnings, while simultaneously making learning less joyful and invigorating.

Spurred by the above findings, a recent study also analysed whether competition from autonomous and independent schools involved a trade-off between achievement in PISA and happiness at school. The findings show that competition from autonomous schools has relatively large positive effects on PISA achievement, but at the same time leads to lower pupil happiness and other related outcomes, including peer relations, satisfaction with school, and loneliness at school. The mechanisms behind the trade-off are also intriguing as they support the more general research discussed above: competition increases parental achievement pressure, the amount of homework, and the number of instructional hours. It is perhaps therefore not surprising that the findings also show that competition makes teaching more hierarchical in the eyes of pupils, thereby leading to worse pupil-teacher relations (Heller-Sahlgren 2018a). Given that research indicates that parents on average value pupil achievement

more than pupil happiness (Gibbons and Silva 2011), the results are exactly what one would expect if there is an achievement–well-being trade-off in education: competition has positive effects on achievement, but negative effects on pupil-teacher relations and socio-emotional outcomes.

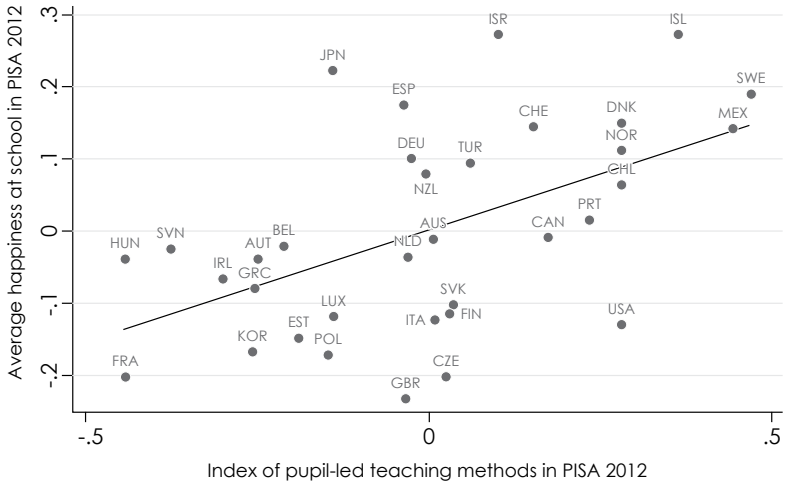
But what about teaching practices specifically? After all, in progressive thinking ever since *Émile* the key to making learning more joyful – and in the end more effective – has been pupil-centred teaching methods. Intriguingly, both central exit exams and competition from autonomous schools appear to make teaching more traditional and less pupil-centred, leading to more notetaking, in the case of the former, and less project work, less individualised teaching, and less group work in the case of the latter (Heller-Sahlgren 2018a; Jürges and Schneider 2010). This indicates that traditional teaching practices are also a mechanism behind the trade-off in these cases – and, if so, one should expect the practices themselves to be related to such a trade-off.

Indeed, research suggests that traditional, teacher-centred methods are more effective from a learning perspective than progressive teaching methods on average (e.g. Angrist et al. 2013; Bietenback 2014; Clark et al. 2012; Dynarski et al. 2018; Haeck m.fl. 2014; Lavy 2015b; Schwerdt och Wuppermann 2011; Stockard et al. 2018).[2] At the same time, research also suggests that traditional teaching methods worsen, and progressive methods improve, pupil well-being and attitudes toward learning (see Algan et al. 2013; Jiang and McComas 2015; McConney et al. 2014; Regh 2012).

The trade-off in this respect can also be illustrated using data from PISA 2012, the first PISA survey in which pupils were

2 The exception is for especially gifted and talented children, among which certain types of discovery learning appear to have positive effects in some settings (see Heller-Sahlgren 2018b).

asked how happy they were at school. Figure 1 shows a clear positive relationship between the average index of pupil-led teaching methods and children's average happiness at school among OECD countries, having adjusted for average pupil-background characteristics and educational expenditures.[3] Using exactly the same model but replacing average pupil happiness as the dependent variable with the mean PISA score, Figure 2 instead shows a negative relationship between pupil-led teaching methods and average achievement. The trade-off between how progressive methods affect learning and happiness therefore appears clear.

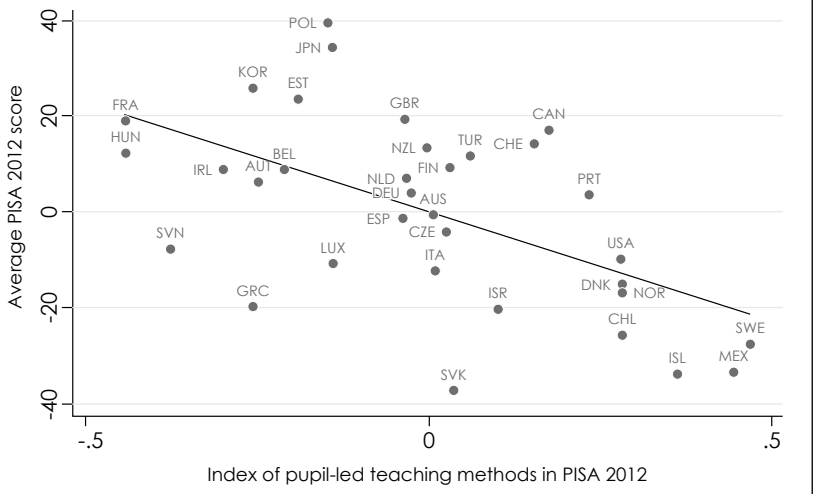


The relationship is statistically significant at the 1% level

Figure 1

The relationship between pupil-led teaching methods and happiness at school
Adjusted for pupil background characteristics and educational expenditures

3 The pupil-background controls include pupils' average socio-economic background, age, year group, and the shares of girls and pupils with an immigrant background.



The relationship is statistically significant at the 1% level

Figure 2

The relationship between pupil-led teaching methods and average PISA scores
Adjusted for pupil background characteristics and educational expenditures

In fact, it is hardly surprising that the trade-off emerges so clearly in the research. This is because elements of traditional education attacked by progressive theorists, including drill, memorisation, and teacher-led instruction, appear crucial for successful learning because they allow pupils to transfer information from their working memory to their long-term memory. Without this transfer, no learning can take place whatsoever. This is because all information that is added to our working memory disappears within 30 seconds. However, with direct instruction, drill, and repetition, the information can be transferred to our long-term memory. And once stored there, we can quickly transfer the information back to our working memory when necessary, for example when we need it to solve a problem (see Clark et al. 2012). Direct instruction, drill, and memorisation are crucial aspects of

traditional education, and are neither fun nor inspiring. Yet they are necessary components for successful learning, both in terms of factual knowledge and more complex processes, such as problem-solving and critical thinking. Such features are therefore not fundamental flaws of a traditional education system, as progressive educationalists have argued, but rather essential if learning is to occur at all.

With the evidence base in mind, the OECD's admonishments, as outlined in the introduction, appear noteworthy indeed: 'Education systems should explore solutions that make learning more enjoyable and fulfilling for all students, so that high performance and personal happiness become self-reinforcing goals' (OECD 2017: 79). As highlighted in this section, there is little evidence to suggest this prescription is correct or even remotely realistic. Strangely, in the same publication, the OECD (2017) itself notes that there is a negative correlation between performance and personal happiness at the country level, and they normally base their policy conclusions on such correlations (e.g. OECD 2016). In spite of the negative correlation they identify, the organisation does not seriously engage with the trade-off it implies, but rather reverts back to the idea that high performance and personal happiness should be self-reinforcing. This serves as a stark illustration of just how deeply entrenched the idea that positive emotions and achievement go hand in hand has become. Despite the evidence suggesting the existence of a trade-off between the two outcomes, many are unwilling to even contemplate the trade-off and what it might mean for policymaking.

A basic cost-benefit analysis

The existence of a happiness–achievement trade-off in education begs the question of whether policymakers should pursue reforms that raise academic achievement or ignore such reforms and focus rather on measures that raise pupil well-being. The answer depends on the relative long-term societal and economic value of pupil well-being versus cognitive achievement in adolescence. This section therefore provides a basic back-of-the-envelope calculation to analyse whether the benefits of reforms that involve a happiness–achievement trade-off outweigh their costs.

First, recent research indicates that cognitive achievement in childhood and adolescence is a much better predictor of adult income than well-being in childhood and adolescence. According to Layard et al.'s (2014) estimates, one standard deviation (SD) higher cognitive achievement in childhood and adolescence predicts 0.14 standard deviation higher income at the age of 34, while such an increase in youth well-being is associated with 0.07 SD higher income at the same age.[4] As a reference point, the evidence on the effects of school competition discussed in Section 3 indicates that a 10 percentage-point increase in independent-school competition raises average test scores by 0.23 SD and decreases pupil well-being by 0.17 SD. One would therefore expect a benefit

4 The standard deviation measures the extent to which individual data points deviate from the group mean for any given variable. For example, if individuals' incomes are close to the group mean, the standard deviation will be relatively low. On the other hand, if their incomes are more spread out above and below the mean, the standard deviation will be relatively high.

in terms of adult income of 0.03 SD via higher test scores and a cost of 0.01 SD via lower pupil well-being. Since the research also finds that independent-school competition decreases per-pupil cumulative education expenditures between ages 6–15, such competition therefore appears to make perfect sense from an economic perspective.

Yet Layard et al. (2014) also find that youth well-being is considerably more important than cognitive achievement for adult life satisfaction. A cost-benefit analysis using adult subjective well-being rather than income as outcome measure would suggest that a 10 percentage-point increase in independent-school competition should generate 0.01 SD higher life satisfaction via higher cognitive achievement – but this is outweighed by the cost of 0.03 SD via lower pupil well-being. In other words, if we hold subjective well-being as the primary goal of policy, the costs of competition may outweigh its benefits.

While this particular calculation relates to the effects of independent-school competition, it is equally relevant to other reforms and interventions that involve an achievement–happiness trade-off. For example, if we were to draw causal conclusions from Figures 1 and 2, the calculation would indicate that one SD greater use of pupil-oriented teaching methods increases pupil happiness by 0.41 SD and decreases achievement by 0.48 SD.[5] Using Layard et al.'s (2014) results as a reference point, one would expect these effects to generate 0.03 SD higher income at the age of 34 via higher pupil happiness, but this is more than countered by the cost of 0.07 SD via lower test scores. Simultaneously, however, one would expect a gain in adult life satisfaction by 0.07 SD via higher pupil happiness, which swamps the cost of 0.02

5 This calculation uses the standard deviation at the pupil level to make the figures more comparable with the one for independent-school competition.

SD via lower test scores. The long-term costs and benefits of progressive teaching methods therefore also depend on the outcome measure of preference.

Certainly, given the tentative nature of the above cost-benefit analysis, it is important to pursue further research before drawing strong conclusions regarding the potential longer-term effects of different reforms and interventions on adult well-being and labour-market outcomes. Yet the analysis at least indicates that the attractiveness of different strategies is likely to depend on which goals policymakers seek to advance. This is of course beyond this paper to determine. The main conclusion to draw here is merely that there is a trade-off to which policymakers must pay attention.

Conclusion

For long, modern and contemporary educationalists have argued that schooling must be made more enjoyable to be effective. ‘Deep’ learning is supposed to be invigorating, which, in their perspective, is not an experience that more traditional educational models tend to deliver. The solution has therefore often been progressive teaching methods that are supposed to generate a more enjoyable, and therefore effective, learning experience for pupils. In this view, promulgated by practitioners and at the national and international levels, pupil happiness and successful learning are supposed to go hand in hand.

Yet, as this paper has shown, this assumption derives from a misinterpretation of the ideas of Jean-Jacques Rousseau. Progressives therefore came to ignore Rousseau’s emphasis on suffering as a pedagogical tool for effective learning. In support of this insight, the paper has presented evidence in favour of an achievement–well-being trade-off in education. Therefore, it appears that progressive educationalists are partly right, partly wrong: they are correct that their prescriptions generate more joy and happiness for pupils compared with more traditional education models, but they are wrong in assuming that this will have positive effects for their academic outcomes.

This does not mean that policymakers should ignore reforms that raise pupil well-being. An indicative analysis carried out in this paper suggested that pupil achievement is more important from an economic perspective – but when using adult life

satisfaction as the outcome measure instead of income, pupil happiness appears more important. In other words, the attractiveness of reforms and interventions are likely to depend on which goals policymakers seek to advance.

Of course, the conflict between pupil happiness and achievement is unlikely to be the only trade-off that exists in education. For example, while the evidence base shows that progressive teaching methods decrease academic achievement and raise pupil happiness, some research indicates that they may also have positive effects on pupils' social capital (Algan m.fl. 2013; Regh 2012). Few would argue that we should sacrifice all non-cognitive outcomes on the altar of cognitive achievement. The key lesson is therefore merely to acknowledge that interventions seeking to raise certain outcomes often involve a cost in terms of other outcomes – which must be taken into account when policymakers decide which reforms to pursue. It is time to start taking the concept of trade-offs seriously in education.

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The idea that pupil wellbeing and effective learning go hand in hand is an important tenet of progressive educational theory. Since 'deep', genuine learning is supposed to be invigorating and joyful, education that does not live up to these ideals tends to be seen as ineffective and wasteful. Progressive theory has therefore come to highlight the relationship between pupil-led learning, enjoyment, and performance as a virtuous circle. Yet little rigorous evidence has been presented in favour of this assumption. Indeed, the paper presents evidence showing to the contrary that effective learning is often not enjoyable. Rather, several interventions and strategies – such as homework, school competition, and traditional teaching methods – involve an achievement-happiness trade-off.

In this report, CfEE lead economist Gabriel Heller-Sahlgren discusses the evidence for and against the progressive theory of the relationship between pupil wellbeing and achievement; alternative conceptualisations; and whether that of trade-offs between different educational goals should be taken more seriously.

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