



## UWS Academic Portal

### The Lego story

Pirrie, Anne

*Published in:*  
Educational Review

*DOI:*  
[10.1080/00131911.2016.1207614](https://doi.org/10.1080/00131911.2016.1207614)

E-pub ahead of print: 29/07/2016

*Document Version*  
Peer reviewed version

[Link to publication on the UWS Academic Portal](#)

*Citation for published version (APA):*

Pirrie, A. (2016). The Lego story: remolding education policy and practice. *Educational Review*, 69(3), 271-284.  
<https://doi.org/10.1080/00131911.2016.1207614>

#### **General rights**

Copyright and moral rights for the publications made accessible in the UWS Academic Portal are retained by the authors and/or other copyright owners and it is a condition of accessing publications that users recognise and abide by the legal requirements associated with these rights.

#### **Take down policy**

If you believe that this document breaches copyright please contact [pure@uws.ac.uk](mailto:pure@uws.ac.uk) providing details, and we will remove access to the work immediately and investigate your claim.

# **The Lego story: remolding education policy and practice**

Anne Pirrie (University of the West of Scotland)

## **Abstract**

The aim of this article is to develop a more nuanced understanding of the complex nature of learning as it relates to both the educational and social aims of education as manifested in contemporary European education policy. The article explores tensions in education policy and practice by exploring the evolution of the global brand Lego. The development of Lego is considered to be emblematic of attempts to renegotiate the relation between playing and studying; process and mastery; cognition and embodiment. Drawing on the example of Lego, the author re-examines dichotomies between different conceptualisations of learning, namely learning as social performance and as the expression of individual agency; and constructions of creativity that emphasise process rather than product. Lego serves as an analogy for the progressive realignment of linear and teleological views of knowledge and the coming into presence of the individual in community that is central to education in relation to contemporary European educational policy.

**Keywords:** Lego; creativity; conceptualisations of learning; views of knowledge; childhood

## **Corresponding author**

Dr Anne Pirrie  
Reader in Education  
School of Education  
University of the West of Scotland  
University Avenue  
AYR  
KA8 0SX

Tel: 07913 428672  
Email: [Anne.Pirrie@uws.ac.uk](mailto:Anne.Pirrie@uws.ac.uk)

## Introduction

Children proverbially live in the present; that is not only a fact not to be evaded, but it is an excellence. The future just as future lacks urgency and body. (Dewey 2007, 45)

The aim of this article is to develop a more nuanced understanding of the complex nature of learning as it relates to both the educational and social aims of education, with reference to the evolution of the Danish toy company Lego. The etymology of the word Lego encapsulates the fault lines between process and mastery that have gained prominence in contemporary education discourse. The word derives from the Danish *leg godt* (play well). Only later did the company's founder, the carpenter Ole Kirk Christiansen, realise that the word is also derived from the Latin for 'I study', or 'I put together' (*lego*).

I argue that recent developments in the history of the brand are emblematic of enduring attempts by scholars, educationalists and policy-makers to renegotiate the relation between playing and studying, and between process and mastery in education. Moreover, the evolution of the Danish toy company Lego is instructive, as the company overcame tensions that are not dissimilar to those inherent in contemporary European education policy and practice.

In the early years of its development, Lego was dedicated to construction toys, explicitly related to the world of engineering. Lego afforded children – boys and girls – with opportunities to engineer their own world by creating replicas of its material wonders. They could also add to that reality phantasmagorical constructions that were entirely of their own making. The argument advanced below is that how children play with Lego, and indeed the ultimate success of the brand, suggest ways of overcoming the central dichotomy that runs through education policy and practice. The latter are currently poised rather uneasily between the teleological focus on the engineer or architect in the making; and a particular manifestation of the excellence of childhood alluded to by Dewey, namely absorbed engagement with materials in the present. Both forms of engagement revolve around a further dichotomy, between learning as social performance and learning as the expression of individual agency directed towards the achievement of pre-determined learning outcomes.

I shall also attempt to demonstrate how the example of Lego exposes the limitations of a third dichotomy, between constructions of creativity that put the emphasis on end product (innovation) on the one hand and process on the other (improvisation).

In the succeeding pages, Lego functions as an allegory. This article is an invitation to toy with Lego, as it were, in order to explore the complex inter-relationship between the cognitive dimension and the embodied, situated, creative and affective aspects of learning. This exploration of the haptic universe of Lego also entail revisiting another dichotomy that merits further investigation, namely between cognition and embodiment. Readers are invited to play along, and to respect the sociocultural conventions of what are sometimes referred to as 'thought pieces'. This article rests on an admittedly narrow foundation, which might be compared to the classic 6 x 2 brick. Nevertheless, I believe that Lego can be just as effective a tool for scholarly inquiry and policy deconstruction as it is for material construction.

It will already be apparent that I take a broad view of what constitute the 'findings of research'. I draw on various sources of 'data'. These range from personal observations on the nature of the learning experience afforded by playing with Lego; using Lego as an allegorical tool for enhancing our understanding of pervasive trends in education policy and practice; examining, albeit briefly, the response of the Lego group to the biggest financial loss in its history, and drawing the lessons for education policy and practice.

At the systemic level, it is evident that across Europe ambitions for education systems have become increasingly diverse since the Lisbon Strategy (2000). These encompass a broad range of objectives that may be difficult to reconcile: namely, personal fulfilment and wellbeing, social cohesion and, last but not least, economic competitiveness. The drive to enhance economic competitiveness is further enshrined in ET 2020. This is a policy freighted with disappointment at the manifest failure of the Lisbon Strategy (2000) to achieve the objectives for education and training. Gillies (2011) has note that the requirement to meet the demand for increased economic competitiveness under the shadow of human capital theory has pervaded education systems across Europe. Moreover, in recent years these have increasingly been subject to 'significant structural convergence' (Gillies 2014, 80).

## **The limitations of either/or conceptions of learning**

I shall begin the analysis at the level of the individual, by briefly considering the dichotomies between two different conceptualisations of learning. These are learning as social performance, and learning as the expression of individual agency directed towards the achievement of pre-determined learning outcomes.

There has been a tendency to conceptualise learning *either* as social performance *or* as the largely self-regulated exercise of individual agency directed towards pre-determined educational ends (Pirrie and Thoutenhoofd 2013; Thoutenhoofd and Pirrie 2015). It has been noted that this may in part be a reflection of the central preoccupations of two of the foundation disciplines of education: in the case of the former, sociology; and in the latter, psychology (Lawn and Furlong 2011), although there is not scope here to elaborate upon this dimension. Suffice it to say that as Thoutenhoofd and Pirrie (2015) have argued, the pervasive influence of psychology among the disciplines of education can be discerned in the way in which 'learning to learn' has been conceptualised over the decades, in a manner that is profoundly at odds with the social mandate of education.

These polarised constructions of learning have evolved against the background of European education policies that have emphasised educational and societal aims that appear to be fundamentally in tension with one another: namely, the development of personal fulfilment and wellbeing, social cohesion and economic competitiveness (Pirrie and Thoutenhoofd 2013). The discursive alignment between creativity and freedom reveals the tensions inherent in European and North American education policy that has been forged under the influence of Human Capital Theory. The same tensions can be discerned in ET 2020, which 'entails a defensive logic' and contributes more to 'narrowing the debate than to opening up new perspectives' (Novoa 2013, 112). Moreover, the emphasis on personal fulfilment, social cohesion and economic competitiveness reflect a polarized view of childhood and youth. On the one hand, children and young people are regarded as ends in themselves, proverbially living in the present. On the other, they are regarded as means to an end, as citizens-in-the-making, as potential contributors to the (knowledge) economy and the (learning) society, in a future that just as future lacks urgency and body – and playfulness.

Yet even a cursory exploration of the manner in which children and young people engage with Lego suggests that children may be *neither* simply ends-in-themselves *nor* means to an end. They may be somewhere in between. The young child sitting on the floor surrounded by a mess of colourful Lego bricks might serve as an icon for the (self)-absorption of children as an ends-in-themselves. On the other hand participation in an online Lego Mindstorms community might be regarded as an emblem of citizenship in the making.<sup>1</sup> Yet it would be erroneous to suggest that members of the byte generation are not having just as much fun as those from the brick generation. The Mindstormers may be totally absorbed in the business of building Lego robots while holding in their awareness their progressive alignment to the disciplines of science, technology, engineering and mathematics (STEM). In their actions and interactions both groups exemplify the coming into presence and the learning in and through community that are widely regarded as being at the heart of the educational enterprise as an ethical and progressive project grounded in lived experience. This article is an invitation to the reader to consider to consider how fiddling with Lego (both literally and metaphorically) might enable us to redress the balance between skills and competences on the one hand, and individual and collective experience on the other.

The implication of the above is that toying with Lego might enable us to develop a richer, more nuanced conceptualisation of childhood. By the same token, modeling with intelligent Mindstorms bricks may afford aficionados opportunities to be absorbed in the present *and* to move into alignment with a future that has clearly delineated contours, even although it may lack urgency and body. Let us now head for the playroom and explore in more detail what toying with Lego can teach us about the policy and practice of education. As we saw above, ‘putting things together’ is what playing with Lego means. As those who play with Lego will testify, construction often goes hand in hand with demolition. This is precisely what we have in mind here, as we test some of the pillars that have provided the foundations for thinking about education and education policy in recent decades. In particular, the extent to which these have come to serve the goal of increasing economic competitiveness is open to question.

## The Lego story: creativity and learning

The second pillar of this article, so to speak, is an exploration of the dichotomy between constructions of creativity. On the one hand, there is the emphasis on end product: on the other, the emphasis on improvisatory process. The very ubiquity of Lego makes it an interesting medium through which to explore such dichotomies, both literally and metaphorically. There are approximately 80 pieces of Lego for every person on the planet. By 2019 it is estimated that there will be more Lego figures in the world than there are people.<sup>ii</sup> According to the Lego Group, children all over the world spend five billion hours a year playing with Lego. Every hour, another 2.2 million bricks roll off production lines in factories all over the world (Robertson 2013). Many people reading this article will have played with Lego at some time or other, or at least will have watched (over) other people doing so. Some will no doubt have had the unpleasant experience of treading on stray blocks with bare feet, or of retrieving them from vacuum cleaners while reclaiming the domestic front from the ravages of child-centred activity. It thus seems apposite that the evolution of these familiar, tiny, hollow plastic bricks might provide the means further to explore the hollowed-out notion of creativity; and the nature of education and learning, particularly the relative importance of personal and collective experience.

The history of Lego, that is to say the story of the building blocks and the evolution of a local company into one with a global reach, encapsulates and expresses the dichotomous construction of creativity: namely creativity as *improvisation* and creativity as *innovation* (Hallam and Ingold 2007). At first sight, the traditional Lego bricks are at the improvisatory end of the spectrum:

Lego is the ultimate toy... because it doesn't have any rules. What Lego allows you to do is to dip into a big bucket of mess and pull out these bricks and slowly make something that is uniquely yours.<sup>iii</sup>

The following extract from a Lego brochure from 1974, directed at parents, is an eloquent testament to an improvisatory notion of creativity (as well as a plea for gender-neutral toys):

The urge to create is equally strong in all children. Boys and girls. It's the imagination that counts. Not skill. You build whatever comes into your head, the way you want it. A bed or a truck. A doll's house or a spaceship. A lot of boys like dolls' houses. They're more human than spaceships. A lot of girls prefer spaceships. They're more exciting

than dolls' houses. The most important thing is to put the right material into their hands and let them create whatever appeals to them.<sup>iv</sup>

However, in the Lego universe the pressures of the global marketplace and the incessant demand for new and 'innovative' products to be produced and consumed within ever-shorter time-scales have resulted in an ever-greater emphasis on the abduction from a finished object to an intention in the mind of an individual creator. As a consequence in recent years there has been rather less emphasis on creating whatever appeals to you in a contingent and haphazard fashion. However, for reasons that we shall explore later, the latter has retained its appeal, and Lego has re-engaged with its core building blocks. So running in parallel to the collective dipping in to buckets of mess, there is the minute assembly of pre-determined themed universes, some of them with an explicitly educational focus. The result has been an increasingly differentiated product, and a greater emphasis on prescription. There are currently around 3,000 different pieces across the Lego range, with items as diverse as wizards' hats and pterodactyl wings. Over time, of course, many of these end up in the same large storage boxes as the classic 2 x 4 bricks, as what were once clearly defined kits mingle with the vestiges of their predecessors in a contingent and haphazard manner. Single-outcome sets may indeed encourage preservation rather than destruction, but the wages of time have a subversive influence. This is a clear testament to the messiness of human existence (or, to employ the discourse of the Lego Movie, to everything-is-awesome anarchy). Lego bricks are extremely durable. One of the reasons for the success of the brand is that bricks subsequently appear in creations that extend far beyond what was envisaged in the original instruction leaflets.

### **Lego and policy bricolage**

At this point we move beyond the level of the individual and consider parallels on a systemic level. The parallels between the development of Lego and education policy are not difficult to discern. We argue that the same market pressures that were brought to bear on the Lego group and the concomitant emphasis on teleological solutions have become manifest in the European education policy arena in recent decades. According to Hargreaves and Goodson (2006), the key driver of successive phases of education reform from the 1970s onwards has been the need to compete effectively in the global marketplace. This tendency reached its

apotheosis in the period after the publication of the Lisbon Strategy and the Education and Training 2010 work programme (ET 2010) (CEU, 2002). The large-scale curriculum reform and the emphasis on the professional autonomy of teachers that characterised the 1970s led to an increasing focus on external control of schools, teachers and students through a regime of inspections, evaluations and assessments, and the setting of EU benchmarks. This tendency has persisted, despite the recognition that ‘the benchmarks will not be achieved, apart from the benchmark of increasing the number of math, science and technology graduates’ (CEC, 2011, 7) (cited in Novoa 2013,110). In the 1990s, the growth of interest in school effectiveness and accountability peaked as education policy continued to evolve in response to the demands of global free-market capitalism. Yet as Stephen Ball has pointed out, it is erroneous to see ‘policy as driven by a single rationality like globalization or economic competitiveness’. Given our focus on Lego, it is not without irony that we regard education policy development as a form of bricolage. As Ball explains, ‘policies tend to be much more incoherent, they consist of *all sorts of different bits and pieces that don’t necessarily fit together*’ (our emphasis).<sup>v</sup> It appears that recycling in terms of the re-composition of component parts is as much a feature of policy development at the national and European level as it is of play with Lego.

Lego’s response to the pressures of the market was the development of themed kits. These emerged in the 1970s and 80s, in the era described as the age of *optimism and innovation* in relation to education reform (Hargreaves and Goodson 2006). The genre reached its apotheosis in the 1990s (the age of *complexity and contradiction*) with the development of standardized and specific fantasy worlds (and accompanying narratives) that approximated to those circulating in the media at the time. The Lego adventurer Johnny Thunder bears an uncanny resemblance to Indiana Jones. These market-driven developments coincide with the period in which market values are in the ascendant in education reform cycle (i.e. from the mid-90s onwards) (Sahlberg 2006). During this period there has been ‘an inflation of discourse that seeks to compensate for a shortage of results’ in the areas of on-the-job training, employability and the raft of initiatives designed to tackle youth unemployment (Novoa, 2013). The re-emergence of headline targets in ET 2020, despite the manifest failure of this approach in ET 2010, indicates that fantasy plays

as significant a role in education policy discourse as it does in the Lego universe. In the interview quoted above, Stephen Ball points to problems with

... the whole issue of competitiveness, and the knowledge economy, and the high skills economy and wanting to transform education into a high skills production system for the international market [namely] whether or not that actually reflects the real economy rather than a fantasy economy.

In sum, it appears that Lego is not the only universe in which fantasy worlds have wreaked havoc (see below). In the case of education policy, the focus on a knowledge-based and information-rich economy has detracted attention from the fact that 'the major growth areas in the UK labour market over the last 30 years are the service industries'.

As intimated above, the introduction of themed Lego kits in the 1970s and 1980s was not a success, and indeed by 2003 the company had come close to total collapse. The severe downturn in the company's fortunes has been regarded as a direct result of shifting the emphasis from the almost infinite possibilities for construction centred on the basic brick to themed sets that involved very little in the way of construction (Robertson 2013). This was the culmination of another development that had begun in the 1990s, when the small Lego figures first introduced in the 1970s became increasingly differentiated. Some were given names and ascribed particular roles in the various thematic universes. This was partly to overcome the perceived difficulties in creating play narratives due to the small stature of the figures, their limited range of movement and the 'general lack of personal character traits' (Hjarvard 2004, 56). Narratives (in the form of information about the characters and storylines) were circulated through other media, with sales catalogues, magazines, computer games and theme parks acting as vectors for the distribution of narratives about the Lego characters. Increasing involvement in audio-visual production and in computer and video games from the 1990s onwards provided further opportunities for developed story lines. These developments appear to foster time-limited task-oriented behaviour rather than the responsive, improvisatory play that evolves over time that was the hallmark of Lego's initial success.

It is a peculiar feature of Lego themed universes that they are much less likely to be torn asunder and put back together again. They may retain their original integrity,

but many of them end up gathering dust on a shelf. This puts an end to play, and, as Lego discovered to its great cost, to consumer demand. The key to Lego's durability as a successful global brand is that basic plastic bricks are compatible with subsequent developments, such as motors, battery packs, lights, switches, small rubber tyres, mini-figures (patented in 1978) and the Mindstorms smart bricks that allow for information-based play. Moreover, Lego sets for young children (Duplo) are compatible with those developed for teenagers (Technic). This no doubt plays a major role in the inter-generational appeal of Lego and the continual creative re-enactment of the 'human excellences' identified by Hirst and Peters (1975, 57). Anyone who has observed adults and/or children fiddling with the myriad and brightly coloured components of Lego will acknowledge that it provides a rare opportunity to recapture the being-in-the-present that Dewey considered one of the excellences of childhood. To paraphrase Dewey, the future just as future may lack urgency and body, but Lego brings both urgency and body to the present. As one reviewer of Lego Architecture points out, the emphasis can rapidly shift from 'carefree play to competitive panic, with the thought that someone else might take all the corner pieces you needed before you'd completed your Mayan ziggurat of doom.'<sup>vi</sup> Lego Architecture, which provides users with the means to create scale models of buildings as diverse as the Sydney Opera House and Frank Lloyd Wright's Fallingwater, clearly encapsulates the view of creativity where the emphasis is on the 'abduction from a finished object to an intention in the mind of an agent' (Ingold 2010, 3). Nevertheless, as we have seen it does not necessarily foreclose the possibility of creating an unscripted Mayan ziggurat of doom.

In contrast, it appears that European education policy has remained attached to a teleological focus, despite the manifest failure of such an approach. Furthermore, in recent years there has been a marked 'tendency to reduce educational issues to the "needs of the economy" and to the preparation of professionals capable of joining the job market' (Novoa 2013, 112). The evaluation of progress and achievement through comparable benchmarks and indicators can be compared to the meticulous construction of pre-determined kits, the outcomes of which can be compared. To return to the Lego analogy: one Harry Potter universe will look very much like another, if the instructions are followed to the letter. The argument advanced here is that the relentless focus on indicators, benchmarks, strategies and programs has

resulted in the construction of successive European ziggurats of doom, namely ET 2010 and ET 2020 (Novoa 2013).

We shall now consider how despite the challenges presented by mediatization and disenchantment the development of Lego may provide some insight into how the 'renewal of the social aims inherent in the original democratic ideals of liberal education' (Gillies 2014, 78) might be achieved. As we shall see, this implies a rebalancing of the respective roles of embodiment and cognition.

### **The mediatization of play and the wages of disenchantment**

Fifty years ago children's toys were made of solid materials: wood, plastic, metal. The nostalgic view is that playing was synonymous with physical activity, even if in the case of construction toys physical activity was restricted to the exploratory and tentative movements of 'thinking hands'. Individual and collective imaginations generated the narratives in which the toys played their part. In the digital age, play has become ever more clearly associated with mental activity. In so far as they move at all, the hands on the mouse, joystick or game pad follow the dictates of mental operations. Hjarvard (2004, 44) describes this process as 'mediatization', 'a core element in current social, economic and cultural transformations, and, as such a key feature of the current move towards the global network society'. However, as its very name suggests Lego Fusion, introduced in 2014, enables users to build in the real world and play in a virtual one, and to move effortlessly between them. Digital images stimulate play with real bricks: users can photograph their creations via an app and upload them to a virtual space. There they remain once the toy has been broken up in order to create something new. As we saw above, there is a tendency for kits to gather dust on shelves after assembly, a phenomenon that brought Lego to the brink of collapse in 2003 (Robertson 2013). Lego Fusion provides a means of combining the analogue and the digital by enabling users to retain a simulacrum of the original creation, thus easing the passage from construction to demolition. In the online environment digitized images of previous creations are reassembled to create virtual towns, castles or car races. The dichotomies between bricks and bytes, and between physical and digital creation become less pronounced. The result is that has become easier to share amongst an every-widening community of practice. Once again, there are parallels with developments in education policy. As Sahlberg (2006, 3) points out 'globalization

has also accelerated international collaboration, exchange of ideas and transfer of education policies between the education systems.'

There are further parallels between the evolution of a global toy industry and trends in education and curriculum policy with regard to the tensions between enchantment and disenchantment. Hjarvard (2004, 46) distinguishes between the role of information technology in production and distribution on the one hand and in consumption on the other. The industrialisation of consumption 'implies an extreme rationalisation of work processes related to consumption and the appearance and characteristics of products (taste, functionality etc).' This in turn produces a constant tension between *enchantment* and *disenchantment* (Ritzer 1999). In order to be successful in an ever-more competitive marketplace 'commodities must be furnished with symbolic qualities that endow purchase and usage with an extra quality' (Hjarvard, 2004, 46). We saw above where this brought Lego, namely to the brink of economic collapse. There has been a parallel expansion in the range and scope of 'educational change knowledge' over the last three decades (Sahlberg, 2006, 2). The three cycles of education reform identified by Hargreaves and Goodson (2006) have moved through large-scale curriculum reform and school-driven improvement to 'increasing control of students through inspections, evaluations and assessments that led to an increase in regulation in schools and decreased autonomy in teachers' (Sahlberg 2006, 2). In the last two decades learning and assessment standards have been subjected to ever more intensive monitoring, driven by the need to find 'solutions for improving economic competitiveness, and thereby economic growth' (Sahlberg 2006, 3). As Ritzer (1999, 102) explains in relation to enchantment and disenchantment, 'ultimately it is the technology of the modern cruise, the Las Vegas casino and Disneyworld that astounds us, not the humans who happen to work in these settings or the things they do'. Lego nearly went under in 2003 because it lost sight of the humans who worked and played with building blocks. The company came back from the brink by reengaging with the basic brick. There is perhaps less cause for optimism in respect of the lessons from European policy.

It may be fruitful to consider curriculum development from the perspective of competitiveness and growth. It is at worst mischievous and at best playful to substitute 'curriculum' for 'the modern cruise', and/or 'contemporary pedagogy' for

'Disneyworld'. Yet broadly the same point could be made in respect of education, with its relentless focus on curriculum development and rapid and increasingly ambitious cycles of policy reform. Hjarvard (2004, 46) points out that one of the drawbacks of rationalization is that it can provoke disenchantment:

For children, Disneyland and LEGOLAND may from a distance appear as magic kingdoms, but the actual experience may just as well be the opposite: endless lines, standardized and calculated experiences, uniform products, personnel that repeat meaningless sentences and behaviour ... The result is disenchantment, a disappointment of not meeting the unique characteristic of magnificent, the exceptional, the unforeseen.

It is not too much a stretch of the imagination to suggest that the current focus on learning technologies and curriculum content or pedagogy at the classroom level and indicators, benchmarks, strategies and programs at the policy level detract attention from the actual process children's learning (and playing). Both these foci might be regarded as further manifestations of the rationalisation of work processes related to consumption. Moreover, as Sahlberg (2006, 3) suggests, 'the educational requirements of building democratic societies and enhancing economic competitiveness often contradict the changes introduced in ... global education reforms.'

### **Another brick in the wall: the Scottish case**

Let us now consider how the Lego analogy with global reach plays out against the background of developments in a particular jurisdiction. The standardized and calculated experiences, and the uniform products of Disney or LEGOLAND described above recall the image of the classrooms in the trenchant critique of contemporary curriculum development in one jurisdiction of the UK (Priestley and Humes 2010, 358). They argue that the Scottish *Curriculum for Excellence* 'is an uneasy mixture of the three archetypal models'<sup>1</sup>, and that it is 'essentially a mastery curriculum [i.e. a kit] dressed up in the language of the process model [i.e. something built brick by brick]'. The authors suggest that curriculum is yet another commodity that is embellished with symbolic qualities that may enable greater purchase in the short term but ultimately compromise the long-term success of the

---

<sup>1</sup> These were first identified by A.V. Kelly (1999) and are as follows: curriculum as content and education as transmission; curriculum as product and education as instrumental; and curriculum as process and education as development.

initiative. In short, the new curriculum in Scotland is subject to a number of structural contradictions, the net effect of which is that classrooms are rendered 'predictable, limited and uncreative' by over-reliance on methodology as reified practice. The 'freedom and creativity of teachers and learners' is reduced in the interests of achieving predictable and certain outcomes (Priestley and Humes 2010, 359).<sup>2</sup> The discursive alignment of freedom and creativity in the above quotation is a further testament to the way in which creativity has been harnessed to the neoliberal education agenda. Education might afford the possibility of meeting the magnificent, the exceptional and the unforeseen. However, it might also involve a degree of passivity or absorbed fidgeting rather than the restless pursuit of some pre-determined and taken-for-granted educational end. In that sense watching a fly on a windowpane might also be described as an educational experience (Thoutenhoofd and Pirrie 2015). One might argue that the same could be said of dipping into a bucket of Lego bricks. These have proven more durable than their assorted instruction leaflets, and, like the policy cycles to which Ball refers, afford endless possibilities for fresh combinations of different bits and pieces.

In short, the parallels between the disenchantment of LEGOLAND and the disappointment that often hangs over the educational process as evidenced by the forensic analysis of the Scottish curriculum are not difficult to discern. Critiques of the pervasive influence of human capital theory upon education policy can be regarded as examples of disenchantment with the symbolic qualities that have imbued curricula with that elusive market edge. Success, confidence, personal effectiveness and responsibility have been stretched like ill-fitting masks over the vulnerability and helplessness that is at the heart of our humanity. As the psychoanalyst Adam Phillips suggests, helplessness is perhaps 'something that we shouldn't want to think of ourselves growing out of. We can become more competent but we shouldn't imagine that we become less helpless' (Phillips 2010, 130). As Phillips (2010) points out, the social and moral consequences of helplessness have preoccupied psychoanalysts since Freud, whose entire scientific enterprise might be construed as an account of what MacIntyre (1999, 5) calls 'the

---

<sup>2</sup> The same tendency is evident in Lego Education. 'Lego® Education LearnToLearn contains 28 identical brick bags, each containing the 72 Lego elements needed to complete the 15 activities included in the activity pack.' <http://education.Lego.com/en-gb/preschool-and-school/lower-primary/5plus-learntolearn/the-first-brick>

distinctive virtues of dependent rational animals, whose dependence, rationality and animality have to be understood in relation to each other.'

Educationalists, on the other hand, appear to pay as scant regard to helplessness and incapacity as they do to the magnificent and the unforeseen. Indeed, the fixation on key competences, capacities, capabilities, achievement, performance, ability and the concomitant systems for benchmarking that are evident in education policy in Scotland and elsewhere in Europe and beyond may partly explain why there is relatively little attention paid to embodied presence in educational discourse: or, to return to the Lego metaphor again, to fiddling about with the building blocks of learning.

It is time to go back to the playroom and tell more of the Lego story. The playroom is one of the few places where digression is not only permitted, but it is actively encouraged.

### **From bricks to (sound) bytes: narratives of play, education and policy**

The colourful interlocking bricks that we associate with Lego were developed in the 1950s and first patented in 1958. During the first two decades Lego bricks were intended to stimulate construction play: children (including many who would go on to become architects) built models of objects that they saw in the adult world around them: houses, trains, roads, bridges, cars, etc. As the system became increasingly differentiated, there was scope for even more ambitious projects and realistic representations of the real world. The themed sets that became popular in the 1970s and 80s were not provided with narratives. As Hjarvard (2004, 56) explains:

The construction work itself was in a very simple sense narrativized, because the instruction manuals provided a detailed scripting of the building process...The instruction manual prescribed in detail how each brick was to be used, and in which order, to reach the final result. [However] when the model was ready to use, there were practically no suggestions or instructions for the subsequent play.

A remarkable feature of the Lego brand is that the bricks made today are compatible with the original interlocking counterparts (the standard 2 x 4 rectangle, for example). As a spokesman for Lego explains<sup>vii</sup>: 'children still get bricks and they can combine them ... the bricks will probably end up in big boxes in homes and that acts like a pool of creativity'. The fact that bricks endure means that they become divorced from the single rationality that lay behind the intensively narrativized sets

introduced from the 1990s onwards. The narrative requirements generated in the process of play may call for more grandiose architectural creations, and often these arise from the rubble of previous creations. However, as we saw from the example of Lego Fusion above, demolition does not necessarily mean that the original creation disappears from view entirely. As we saw above, bricolage (no pun intended) is as much a feature of the policy universe as it is of the Lego universe. In the interview quoted above, Ball points out that in the arena of education policy, the fact that 'further education has been massively transformed by the attempt to link the work of further education through skills to the supposed needs of the economy' is in some sense 'a return to a very old policy where there used to be vocational tracks'.

In the early years of Lego there was no detailed script for the building process. Rather like policy 'innovation', construction was informed by previous experience. The instruction manuals of the time were progressively sidelined, like superseded systems of accreditation or defunct policy cycles. In contrast, in respect of education policy,

there are more continuities than changes in the way European construction is conceptualised. And the changes that occur contribute more to narrowing the debate than to opening up new ideas and perspectives (Novoa 2013, 112).

I have attempted to demonstrate that there are parallels with the evolution of curriculum theory. As Priestley and Humes (2010, 359) point out with reference to Scotland, 'historical amnesia and lack of theoretical sophistication' also had a deleterious impact on curriculum development. The implicit emphasis on process that was evident in the early *Curriculum for Excellence* documentation has gradually given way to outcomes that restricted individual and social development. Moreover, they articulate a 'linear and teleological view of knowledge' that is widely considered to work against the concept of education that puts the emphasis on a vision of being and becoming (Priestley and Humes 2010, 257). These authors conclude that *Curriculum for Excellence* is 'essentially a mastery model dressed up in the language of the process model' (2010, 358). As we have seen, the same might be said of the Lego themed universes that gained currency in the 1990s and almost resulted in the collapse of the company in 2003. The themed sets were deemed

predictable, limited and uncreative and failed to retain the attention of their users in the longer term.

The teleological focus that has become so dominant in education policy discourse is also evident in developments such as Lego Education, where mastery also appears to have been dressed up as process. Lego Education purports to offer ‘progressive solutions that enable [educators] to delve deeper’ into key areas of the school curriculum: literacy; maths; science; social studies; and design and engineering.<sup>viii</sup> Lego education has developed over the past thirty years in response to the same global market pressures that have had such a marked influence on education policy in recent decades, culminating in the introduction of MoretoMaths in 2015.<sup>ix</sup>

The response of the Lego brand to market pressures has been played out in an era in which the age range in which children are interested in children’s toys is shrinking. This is paralleled by developments in education that Lego has been quick to seize upon in order to garner further competitive advantage. As the managing director of Lego Education Europe explains: ‘we’ve got to prepare young people for living in the 21<sup>st</sup> century, and we’ve got to get them thinking from a very young age’. Rather ironically, given developments in the area of mediatization, he goes on to observe that ‘children are exposed to so much technology that they need something extra and we need to be ready to provide that.’

## **Conclusion**

I have attempted to demonstrate, in broad outline, that the evolution of the familiar Lego brand provides us with the means to arrive at a more nuanced conceptualization of learning as neither social performance nor the exercise of individual agency, but rather as something in between. Viewing childhood and youth through the prism of Lego enables us to reconcile the conflicting views of childhood and youth that are evident in a raft of recent European policy documentation. For children and young people can be regarded as both citizens-in-the-making, future contributors to the knowledge economy *and* as capable of (and indeed pre-disposed towards) haptic and uncertain co-creation.

I have also attempted to demonstrate that the evolution of the Lego brand can teach us much about the complex inter-relationships between and amongst the cognitive,

affective, social and moral dimension of education, and of childhood itself. The impact of recent social, economic and cultural transformations on the Lego brand in response to the relentless drive for innovation has, I suggest, some parallels with the manner in which education policy and practice communities have responded to similar pressures. It appears that in both spheres – the Lego brand and the European policy arena – the pressures exerted by global free-market capitalism have resulted in the imposition of particular narratives that have had a profound impact on a well-known toy, on the social and moral fabric of education and schooling, and on education policy development. I contend that in all spheres this has arisen as a result of an over-emphasis on teleological approaches at the expense of more personal and social approaches to education and to activity that might in a broad sense be described as educational.

In sum, the argument advanced in this paper is that when applied to the European policy arena, the example of Lego suggests that progressive, person-centred education has been regressively remolded in response to the pressures of the global market economy. Lego came back from the brink because there the company recognised the centrality of making things up, brick by brick. Yet the example of Lego also teaches us that these opportunities for learning as social performance can co-exist with teleological approaches.

The response of Lego to market pressures indicates a reinstatement of the importance of embodied presence as a core educational value rather than (merely) ‘anticipated future needs deriving from economic, technological and social changes’ (Priestley and Humes 2010, 345). Hjarvard (2004, 60) explores how ‘heroes and values stemming from the media industry’s repertoire ... gradually replaced the engineer’. The engineer might be regarded as the entrepreneur of the self *par excellence* – yet her mission is ultimately also a social one. This decentering of the child as entrepreneur of the self brought the company to the brink of collapse. It should not escape our attention that this development occurred at the historical moment when the rhetoric of the child at the centre was reaching its apogee. As Hjarvard (2004, 60) points out, the result of the displacement of the child has been less emphasis on the ‘slow and laborious work of construction’ and more emphasis on ‘idols of consumption’. As he explains, ‘mediatization pushes the toys – and the children – even further into a consumer culture,

because the content of the play becomes invested with consumer values'. We suggest that education policy has also been pushed ever further into a consumer culture. Education is regarded as a driver of economic competitiveness rather than as another brick in the wall of the economy.

Lego bricks have a life of their own, so to speak. Over many decades they have called children and adults alike to slow and laborious construction, in a manner that facilitates opening up to new ideas and perspectives. Like education policy, Lego bricks are surprisingly resistant to change and decay. The argument advanced here is that the bringing together of little bricks amongst many hands is emblematic of a progressive realignment of a 'linear and teleological view of knowledge' (Priestley and Humes 2010, 257) and a vision of education that foregrounds the coming into presence of the individual in community. In respect of education policy, perhaps the main lesson to be drawn from the arguments advanced above is one that emerged through dialogue with a friend and colleague in another university:

Perhaps the 'lesson' is to find the bits of Lego (or policy) that can be made into the models we want – picking the bits of policy out of the 'rubbish tip' of policies and making a new thing?

It seems entirely fitting that this preliminary conclusion was reached through dialogue, a practice of living that is essentially democratic and brings with it the risk of rupture and uncertainty. This is in marked contrast to a vision of education created by the core European institutions from the top down. Perhaps it is time to break the back of the European education policy dinosaur and build something new and more colourful.

## **References**

CEC. 2011 (Commission of the European Communities) *Commission staff working document: Progress towards the common European objectives in education and training*. Brussels: SEC(2011) 526.

CEU. 2002. Council of the European Union. Detailed work programme on the follow-up of the objectives of education and training systems in Europe (2002/C 142/01). Published in the *Official Journal of the European Communities*, 14.6.2002.

Dewey, J. 1938. *Experience and education*. Indianapolis: Kappa Delta Pi.

- EC 2010. (European Commission). *Communication from the Commission: Europe 2020 – A strategy for smart, sustainable and inclusive growth*. Brussels: COM (2010) 2020 final.
- Gillies, D. 2011. "State education as high-yield investment: Human Capital Theory in European policy discourse." *Journal of Pedagogy*, 2 (2): 224-245.
- Gillies, D. 2014. "Human capital, education and sustainability." *Sisyphus Journal of Education*, 2 (3): 78-99.
- Hargreaves, A. and Goodson, I. 2006. "Educational change over time? The sustainability and non-sustainability of three decades of secondary school change and continuity." *Educational Administration Quarterly*, 42 (1): 3-41.
- Hallam, E. and Ingold, T. (Eds) 2007. *Creativity and Cultural Improvisation*. London: Bloomsbury.
- Hirst, P. and Peters, R.S. 1975. *The Logic of Education*. London: Routledge & Kegan Paul.
- Hjarvard, S. 2004. "From bricks to bytes: the mediatization of a global toy industry." In *European Culture and the Media*, edited by I. Bondebjerg and P. Golding. Bristol: Intellect.
- Ingold, T. 2010. Bringing Things to Life: Creative Entanglements in a World of Materials. ESRC National Centre for Research Methods. NCRM Working Paper Series 05/10. [http://eprints.ncrm.ac.uk/1306/1/0510\\_creative\\_entanglements.pdf](http://eprints.ncrm.ac.uk/1306/1/0510_creative_entanglements.pdf) (last accessed 4 April 2016)
- Lawn, M. and Furlong, J. 2011. "The disciplines of education: between the ghost and the shadow." In *Disciplines of Education. Their Role in the Future of Education Research*, edited by J. Furlong and M. Lawn. 1–12. London, Routledge.
- MacIntyre, A. 1999. *Dependent Rational Animals. Why Human Beings Need the Virtues*. Chicago and La Salle Illinois: Open Court.
- Novoa, A. 2013. "The blindness of Europe: new fabrications in the European educational space." *Sisyphus Journal of Education*, 1 (1): 104-123.
- Phillips, A. 2010. *On Balance*. London: Penguin Books.
- Pirrie, A. and Thoutenhoofd, E.D. 2013. "Learning to learn in the European Reference Framework for lifelong learning." *Oxford Review of Education*, 39 (5): 609-626.

Priestley, M. Humes, W. 2010. "The development of Scotland's Curriculum for Excellence: amnesia and déjà vu?" *Oxford Review of Education*, 36 (3): 345-361.

Ritzer, G. 1999. *Enchanting a Disenchanted World. Revolutionizing the Means of Mass Consumption*. Thousand Oaks: Forge Press.

Robertson, D. 2013. *Brick by Brick. How Lego rewrote the rules of innovation and conquered the global toy industry*. London: Random House.

Sahlberg, P. 2006. "Education reform for economic competitiveness." *Journal of Educational Change*, 7(4): 259-287.

Thoutenhoofd, E. D. and Pirrie, A. 2015. "From self-regulation to learning to learn: observations on the construction of self and of learning." *British Educational Research Journal*, 41 (1): 72-84.

## 7538 words

---

<sup>i</sup> See <http://www.us.lego.com/en-gb/mindstorms/community/browse>

<sup>ii</sup> Lego: the building blocks of architecture, first screened on BBC 2, 4 March 2014 (The Culture Show)

<sup>iii</sup> Tom Dyckhoff in Lego: the building blocks of architecture (BBC 2 Culture Show, 4 March 2014)

<sup>iv</sup> <http://Lego.independent.co.uk/news/Lego-letter-from-the-1970s-still-offers-a-powerful-message-to-parents-40-years-later-9878303.html>

<sup>v</sup> [http://www.educationarena.com/pdf/sball\\_transcript.pdf](http://www.educationarena.com/pdf/sball_transcript.pdf)

<sup>vi</sup> Block party. Lego is stepping out of the playroom with a set of building bricks aimed at architects. Oliver Wainright, *The Guardian*, 6<sup>th</sup> August, 2014

<http://Lego.theguardian.com/artanddesign/2014/aug/06/Lego-architecture-studio-could-it-be-useful>

<sup>vii</sup> Lego spokesman Roar Rude Tranbæk, cited at <http://Lego.bbc.co.uk/news/uk-politics-29992974>

<sup>viii</sup> <http://education.Lego.com/en-gb/preschool-and-school/lower-primary/5plus-learntolearn/the-first-brick>

<sup>ix</sup> See <http://Lego.theguardian.com/education/2015/jan/11/Lego-maths-education-moretomaths-schools-teachers>