The mass production of learning: positive behaviour in a datafied education system
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ABSTRACT
School-wide positive behaviour support, SWPBS for short, is the collective term for whole-school intervention schemes that aim at redirecting unwelcome behaviour towards learning. SWPBS developed in response to what is thought to be a rising tide of social problems caused by youth. During the last decade, in particular, SWPBS schemes have become mainstream, also in Scandinavian countries. Using a social epistemological lens, this study critically reviews the present popularity of SWPBS in light of a contrary finding: namely, that there is no clear evidence of a reduction in youth-related social problems in SWPBS studies. Studies instead reflect significant epistemic drift in what SWPBS is thought to be an answer to, away from social problems and towards school effectiveness. The discussion highlights a general consequence to this epistemic drift. SWPBS generally commits schools to increased levels of data production and strict loyalty to intervention routines. In effect, learning drifts towards a technology. The text concludes with reflection issues that apply to a technologizing system of education.

Introduction: learning behaviour under social construction
This study turns to social epistemology in analysing empirical developments in school-wide positive behaviour support (SWPBS), as reported in research articles over time. This seems a worthwhile undertaking because early studies considered it an answer to rising social problems caused by youth, while subsequent studies have collected little evidence in support of that claim. Given the present success of SWPBS, the question becomes why SWPBS is spreading across schools and countries in absence of empirical evidence; this study offers one possible response to that question.

School-wide positive behaviour support is the extension, to the whole of a school, of principles developed for positive behaviour support. Positive behaviour support (PBS) developed as a behaviour management system for the individual treatment of violent tendencies. It uses a diagnostic system of functional behaviour assessments, aimed at discovering and neutralizing the contexts of and triggers for disruptive behaviour, generally within a context of nurturing values. A PBS therapeutic intervention programme involves, in turn, identifying the specific behaviours to address; establishing the goal for change and the steps required to achieve it; procedures for recognizing and monitoring changed behaviour; and choosing the appropriate behavioural strategies that will be most effective (Carr et al., 2002; Dunlap, Sailor, Horner, & Sugai, 2009; Johnston, Foxx, Jacobson, Green, & Mulick, 2006). SWPBS has turned this individual, clinical approach into a school-wide screening system aimed at identifying pupils deemed at risk. It has spread from the US and the UK into Scandinavia (Hallberg, 2015; Sørlie & Ogden, 2015; Västra Götalandsregionen Närhälsan, 2017) and other countries.

It is worth noting that ‘at risk’ is a flexible container. According to Sociologist Ulrich Beck, the notion is founded on scientific knowledge of data production and mining in relation to non-immediate dangers (Beck, 1992). SWPBS is a good example of Beck’s claim. Under generally strict application of SWPBS schemes, all pupils in a school are proactively screened for signs of unwelcome behaviour. Thereafter,
coordinated primary, secondary and tertiary behaviour interventions are put in place to pick up signs of risk. SWPBS schemes therefore involve mostly significant, rigorous and fairly constant data collection on pupil behaviour using standardized reporting protocols. In what follows I will generally use the term unwelcome behaviour in reference to behaviour singled out by the normative appeal implied in SWPBS: pupils are constantly searched for behaviour deemed in need of correction.

Further, in keeping with the social epistemology I will introduce shortly, I will consider SWPBS a technology. A technology is a systematic (that is, intentionally orderly) process designed to achieve a given end. A technology is likely to involve both instruments and techniques of some sort, even if these merely involve making and keeping notes, for example. ²

**On method**

All that I report here arose in the context of a larger study in social theory that I was conducting into a claim by two German sociologists, namely that education is not amenable to a technology (Luhmann & Schorr, 2000). The claim is attendant upon Luhmann’s systems theory, which treats the social system as an operationally closed system. It is closed even to individuals, which he considers separate and equally closed (psychic) systems. Since psychic systems are outside to the social system, a situation applies in which – as Luhmann expert Raf Vanderstraeten put it – a pupil can always reject the role of someone who needs to be educated (Vanderstraeten, 2000). For Luhmann, pedagogy is trying to achieve something impossible, because external to it: the education of psychic systems. This is, in essence, the problem that SWPBS confronts, but now cast in Luhmann’s social theoretical rather than psychological description. Since it seems clear that SWPBS is trying to get pupils to act theoretically rather than psychological description. Since it seems clear that SWPBS is getting pupils to act

One further comment on the theoretical framing is appropriate. While reading SWPBS studies, I soon determined that there seemed ample indication of what in social epistemology is called epistemic drift. It is a term coined by Swedish science theorist Aant Elzinga. It names the tendency ‘for epistemic criteria to drift from ones that are likely to push back the frontiers of knowledge to ones that are likely to serve some socially desirable ends’ (Fuller, 2002, p. xvi), or otherwise put, a shift from emphasis on internal quality control to external relevance assessments of research as exploitable or marketable good (Elzinga, 1997). Epistemic drift is a key focus in this study.

**The corpus of SWPBS studies**

Although his particular concern is with the methods of medical science, Derkatch (2008) argues that the treatment of methodology is, perhaps sooner than scientific quality guarantee, a rhetorical device that serves as boundary object, a way of policing what is permissible as valid knowledge within a field. Grossman and Leach (2008, p. 329) make a similar point in relation to evidence-based research that also extends to a number of the SWPBS studies. In their case study, evidence-based medicine is a product of methodology and professionalization: ‘all its genes are dominant: in order to qualify as evidence-based, a study has to be right methodologically and right according to the canonical audience’ of experts in the field (Grossman & Leach, 2008, p. 329, original emphasis).

Both these observations seem pertinent to the corpus of SWPBS studies that I read for the critical assessment that follows here. Many of the studies cite a fairly select number of what seem canonical texts. The studies all clearly present attempts at Erklärung, Max Weber’s term for science that is aimed at explanation, at settling some matter once and for all in the direction of lawfulness or robust truthfulness, of school behaviour among pupils. In educational science moreover, such effort is often prior to then proceeding to control that matter, as also holds for SWPBS studies. That general project here meets, maybe for the first time, with an attempt at Verstehen, a reflexive inquiry that is aimed at understanding those self-same studies as science in process, as cultural production in a particular form (and part of understanding the social and behaviour problems that are their target); and that, like all cultural production, inevitably serves the ends of one social group, but not another (Fuller, 2002).
While probably overlooking what some might consider essential texts and data, my method aims at a critical reading of developments in SWPBS empiricism, being alert in particular to conceptual registry. What follows is based on a reading of 35 published peer-reviewed journal texts on (SW)PBS, with social epistemology as interpretative frame. The articles were brought together in reverse order, starting with a recent text that reports success in establishing positive interaction between SWPBS interventions and increasing school outcomes (Madigan, Cross, Smolkowski, & Strycker, 2016), and then searching back for literature that was cited and seemed related, until I arrived at early descriptions of SWPBS that listed precursor achievements that helped to shape SWPBS; that literature, the inputs into my present concern with SWPBS, is listed in the Appendix.

The research question that I address – assuming it is acceptable that such can reasonably be formulated after reading research – is, what is SWPBS thought to be an answer to, given that studies do not seem to be looking for evidence of lessened social problems, and do seem to introduce a powerful technology into education? I take such a reflexive question to be not well-addressed through conventional (meta-) review, which tends to reduplicate the starting assumptions of the empirical studies reviewed. Instead I assume to find, in empirical SWPBS studies, the sorts of social construction generally reported in science and technology studies (for an introduction, see Sismondo, 2010) and more particularly in Fuller’s science epistemology. Specifically, I take the object of a science to be a product of that science, and I take that science to have made particular investments that say as much about the science as about its object (Fuller, 2006).

Finally, my intention has never been to show that SWPBS is socially constructed. I take collective effort as inevitably socially constructed (Hacking, 2000), and as à priori also by way of social epistemology. My analysis rather aims to show that SWPBS is a good example of social construction in the particular form of turning towards a technology, a form that is becoming ever more widespread also in education (Ozga, 2009, 2016). More in particular, I refer to datafication in education when dataflows become the form through which the system of education is specifying what education is and contains (<self-reference removed>; see also Jarke & Breiter, 2019; Lupton & Williamson, 2017; Rouvroy, 2011).

New motive acquisition: towards positive behaviour support

The opening citation by McClelland to my mind most clearly sets up the discovery of SWPBS as instrument of social intervention; and as psychological re-construction of social participation in particular. The idea of prompting subjects into ‘acquiring’ some new motive as a goal for altered behaviour – behaviour that one does not show but can, and perhaps should, or should be expected to, aspire to – arises in 1960s psychological debate among both behaviourists and psychotherapists. The debate at that time focussed, according to McClelland, on whether adjusting personal behaviour is desirable in principle, and possible in practice. McClelland discusses the potential for what he terms ‘motive acquisition’ in the context of complex personality change. Up until the time of writing, McClelland reports, it has ‘proven difficult to identify and systematically vary the “inputs” in psychotherapy’ (McClelland, 1965, p. 321) and measure their effects on behaviour. Key to this conclusion is an assumption that according to McClelland seems widespread in the psy-sciences at the time, namely that most personality traits are laid down in childhood and that these traits are durable, since fairly determined by biological descent, and so resilient to change. Hence, McClelland asks, what hope is there, that a programme of personality change would end up producing a big enough effect to study?

With cost-effective data production and analysis even at whole population scale, today’s new technologies have made that question trivial: collecting large banks of data has become daily routine in most education systems, as well as in health-care systems, in social support systems and in many other parts of the social system, including the police and legal system. Hence, behaviour change programs and studies into their effects are technically feasible, even at large scale. And indeed, computation has helped to bring about widespread implementation of efforts to alter behaviour and motivation towards certain kinds of behaviour in various educational contexts.

The psychological techniques that were needed for altering behaviour as such (if not perhaps personality change) already existed in McClelland’s day, although not in psychotherapy. Experiments conducted by those McClelland calls ‘operant conditioners’ (radical behaviourists), that is, clinical psychologists with no time for the notion of motive, had shown that ‘if you want a person to make a response, all you have to do is elicit it and reward it’ (McClelland, 1965, p. 322). Hence, McClelland concludes that a Martian might observe that instilling a personality change in humans seems difficult only to humans who think that it is difficult to do.

McClelland’s own work on changing motives among volunteer adults in entrepreneurial training resulted in 12 propositions about the acquisition of new motive, which have come to form the general background to present-day SWPBS interventions. The first two cover the individual being willing to develop new motive, and second, the new motive must seem reasonable, or ‘consistent with the demands of reality’ (McClelland, 1965, p. 325). Further propositions stress persistent
practice and consistent exposure, as well as the need to experience benefits that reinforce the new motive. These include the idea of regular reward and being in a supportive environment shared with others. According to McClelland, internalization of the new motive propels membership into ‘a new reference group’ (McClelland, 1965, p. 330) and as such is experienced as success. McClelland’s text is suggestive in, at one and the same time, anticipating social psychology and the development of collective (e.g., school-wide) interventions in behaviour, and being explicit about its grounding in radical behaviourism: operant conditioning is accepted on pragmatic grounds. Operant conditioning is, in short, both quite simple to do and offers clear evidence of success; both are critical to a science of altering motive, and so behaviour, on any significant scale. I am not alone in attributing behaviourism as originating idea of SWPBS programmes. In an analysis of background sources of Positive Behaviour Support (PBS) as applied science, Carr et al. (2002) note that PBS is indebted to applied behaviour analysis for the notion of three-term contingency, involving stimulus response, setting event and establishing operations, and maintenance; all three key planks of B.F. Skinner’s behaviourism. In the authors’ own words, applied behaviour analysis ‘is the systematic extension of the principles of operant psychology to problems and issues of social importance. Were it not for the past 35 years of research in applied behavior analysis, PBS could not have come into existence’ (Carr et al., 2002, p. 5, emphasis added). This is clear confirmation of PBS origins in behaviourism, while anticipating later (SW)PBS schemes turning to computing for scaling up to school-wide applications of PBS.

A rising tide of youth social problems: the start of SWPBS

Possibility is given justification in later texts that introduce SWPBS as a form of behaviour change that is not only possible but also socially, and thereby pedagogically, desirable to do. Calling it support for ‘positive’ behaviour highlights the normative appeal of SWPBS in the direction of social order and conformity, as opposed to the negatives of social disorder and disruption. In an early and often cited text on SWPBS, a case is made for schools having ‘a key role to play in addressing the rising tide of at-risk students who bring antisocial, aggressive behavior patterns with them’ (Walker et al., 1996, p. 195). Pointing out that schools have unique access to children who live in adverse conditions and are at risk of challenging behaviour, ‘including poverty, abuse and neglect, family conflict, weak or incompetent parenting, drug and alcohol involvement of primary caregivers [and] dysfunctional family situations that are chaotic and highly unpredictable’ (Walker et al., 1996, p. 195), schools might marshal resources and expertise to address the problems that these children are thought to have. Note that problems are to be understood as problems of behaviour in disadvantaged social groups, presupposing that an evident association exists between social disadvantage and a common notion of widespread misconduct.

Under this assumption schools can, so it is reasoned, play a key role in reducing factors that might propel youth into ‘a host of unfortunate outcomes, including violence and criminal behavior’ (Walker et al., 1996, p. 195). For schools to play this role, an approach is needed that according to the authors puts in place a coordinated effort, that screens pupils in order to identify those showing antisocial or aggressive behaviour; that offers intervention scaled to urgency; that is aimed at converting behaviour that puts pupils at risk of delinquency; and that fosters ‘prosocial and safe learning environments’ (Walker et al., 1996, p. 196). Screening sorts the pupils in a school according to a tripartite categorization: in ‘any school, one can identify three types of students: (a) typical students not at risk for problems, (b) students with an elevated risk status for developing antisocial behaviour problems, and (c) students who show signs of life-course-persistent antisocial behaviour patterns and involvement in delinquent acts’ (Walker et al., 1996, p. 200). The categorization sorts pupils by a propensity for unwelcome behaviour at the same time as introducing a singular norm: pupils with elevated risk are considered so in contrast with more ‘typical’ pupils (from normal families), assumed to be those who show no problematic behaviour and are hence not associated with social problems. This tripartite categorization of pupils is present in all later SWPBS descriptions. Walker and his colleagues are among the first to advocate a school-wide approach to altering behaviour, explicitly justifying its need by way of a widespread but nevertheless questionable supposition that schools have been witnessing a rising tide of problem behaviour.

Widening the inclusion categories: subsequent SWPBS studies

Subsequent SWPBS studies have attempted to further specify and adjust the contents and nature of SWPBS interventions and thereby standardize what is meant by and ‘done’ as part of SWPBS work. A link between SWPBS, unwelcome behaviour and mental disorder was established with positive behaviour support being introduced with amendments to the US Individuals with Disabilities Education Act and picked up by SWPBS advocates (Sugai et al., 2000). The Act stipulates that pupils have an entitlement to schools putting in place positive behaviour support in addressing behaviour that impedes their learning. Although the Act studiously avoids reference to school-wide implementations, it provides sufficient ground for advocates to widen the ‘at risk’ population targeted with SWPBS, including further categories of pupils that might show challenging behaviour.
According to Sugai et al., these include a ‘growing number of students in our schools [that] have English as a second language; limited family supports; significant learning and/or behavioural problems; families who face financial barriers; and a great need for mental health, social welfare, medical, and vocational assistance’ (Sugai et al., 2000, p. 132). In effect, the description is extended to cover all pupils regarded as having lesser educational propensity. In accordance with the assumed effects of educational misfortune, SWPBS is described as teaching designed to achieve ‘socially important’ behaviour change (Sugai et al., 2000, p. 133), and as the application of a ‘behaviorally based system approach’ that seeks to establish ‘effective environments’ that link research-validated practices with teaching and learning (Sugai et al., 2000, p. 133). In likely reference to pupils with a non-English speaking home background, and presenting a further and quite striking novelty, SWPBS interventions are deemed ‘culturally appropriate’ in that they take into account the ‘individual learning histories’ of all pupils – including self-evidently, though now no longer exclusively, those pupils showing problem behaviours. Data-based problem solving and planning are thought to establish self-justifying interventions, whereby individual learning histories determine how data are ‘summarized, analyzed, and used’ (Sugai et al., 2000, p. 134).

In another study (Lewis, Jones, Horner, & Sugai, 2010), the connection between mental disorder and SWPBS is further specified by foregrounding the poor educational outcomes for pupils with emotional/behavioural disorders (EBD). The purpose of the study is to add evidence to the call for a broader prevention system aimed at identifying and supporting students with social behaviour problems within an SWPBS framework (Lewis et al., 2010, p. 83). Since the authors are uncomfortable with a definition of EBD being founded upon supposed underlying psychopathology, as well as with the continued use of medical models in identifying pupils with EBD, they propose to supplant psychopathology-based diagnosis with a pedagogical ‘needs-assessment’ framework. The proposal is thought to be both justified by, and founded upon, the success of SWPBS: the authors note that SWPBS, being firmly grounded in the ‘science of applied behavior analysis’ (Lewis et al., 2010, p. 90) is reported to attract widespread support among EBD professionals. Or, implicitly, more so than the handling of EBD as psychopathology. The authors acknowledge that their proposal might seem a little premature, since at the time of writing the ‘impact of SWPBS on the prevention of EBD cannot be unequivocally established’ (Lewis et al., 2010, p. 86).

The suggestion the authors put forward is, incidentally, particularly significant with respect to understanding the category of EBD – a category of behavioural disorder – in social epistemic terms. The case offers an example of how people are made into kinds of people, a claim put forward by science philosopher Ian Hacking (1991). Hacking’s attempt is to distinguish ‘natural kinds’, kinds that are taken to be a product of biology, from ‘human kinds’, kinds that are founded upon mostly pragmatic agreement between people. The argument set up by Lewis et al. similarly begs the question whether what is contained in EBD as diagnostic category is a biological or a pragmatic kind, since in essence, a dual claim is made about EBD. The first claim rejects both an underlying psychopathology and a medical model for EBD; that is, the suggestion that a physical neurological substrate causes EBD is rejected, in favour, secondly, of an applied behaviour analysis model of EBD, which makes it a pragmatic kind. Lewis and colleagues furthermore clearly suggest that this reconciliation of EBD reflects a more general consensus among EBD experts.

That is all fine, for as long as it is accepted that a substantial epistemic move is made. The move involves wholesale withdrawal from conceiving of EBD as being rooted in a (neuro-) biological pathology of mind and conceives of it instead in terms of a professional pragmatics that rests entirely on social function and performance. Moving the conception of EBD from a natural to a human kind, however, means removing all that EBD ‘is’, other than a pragmatic agreement between experts, subjects behaving in accordance with experts’ agreed description, and such being named in US and Canadian law.

It is precisely this type of bureaucracy-supported social construction that Hacking targets in the notion of societies making up kinds of people (Hacking, 2006). In this case, expert withdrawal from EBD as clinical psychopathology entails the consequence that EBD instead becomes the social product of applied behaviour analysis interacting with youth showing behaviours that are recognized as EBD, and which in turn may be addressed through pedagogical intervention. Should the lack of evidence that SWPBS actually pre-empts EBD behaviour persist, then the question whether EBD names something of substance would need to be resettled, irrespective of laws and experts.

**SWPBS discovers school effectiveness**

More recent texts suggest that there is a general turn to demonstrating the school effectiveness of SWPBS interventions. Luiselli, Putnam, Handler, and Feinberg (2005) report data collected by monitoring a SWPBS implementation in a US school, noting that academic performance improved over the intervention period, while discipline problems decreased over the same time; however, the authors are forced to conclude that the effects could not be attributed to the intervention *per sé*. Features implemented in the school included ‘consensus-driven behaviour
expectations, teaching interpersonal skills, providing systematic positive reinforcement, monitoring through data-collection, involving stakeholders, [and] addressing both risk and protective factors’ (Luiselli et al., 2005, pp. 184–5). The school, with a predominantly non-white pupil population of 550 – a selection that accords with the idea that unwelcome behaviour predominates in schools that contain primarily ethnic minority pupils – was studied using a quasi-experimental design.

Similarly, a study conducted in another US school with 18% pupils from ‘European-American’ families (Warren et al., 2006, p. 191) found that, while the number of disciplinary measures the school needed to take decreased during the first two years of SWPBS intervention, progress arrested in year three. Pupils from ethnic minorities are proving, one might be led to conclude, resistant to behaviour that is taken to be mainstream-scientific norm. Writing in 2008, Bradshaw, Koth, Bevans, Ialongo, and Leaf (2008) note that SWPBS is implemented in over 7,500 US schools. The study analysed data collected from SWPBS conducted in 37 elementary schools, using staff reports. Findings suggest an effect of SWPBS on overall organizational health, as perceived by staff. Further papers in a series based on data from the 37 schools report that schools loyal to SWPBS experience reductions in pupil suspensions and disciplinary referrals (Bradshaw, Mitchell, & Leaf, 2010) and that schools involved in SWPBS have lower rates of teacher-reported cases of bullying, concluding that SWPBS may improve school climate (Waasdorp, Bradshaw, & Leaf, 2012). These studies do evidence that SWPBS interventions – surely predictably – have beneficial effects on teaching and learning. But evidence of this kind has nothing at all to say about out of school youth issues or youth social problems as complex and broadly societal concerns. Whatever other benefits, they are not persuasive evidence for SWPBS having effect on a supposed rising tide of youth social problems. Evidence of this sort sooner points towards potential gains in good school climates; but such gains demand considerable effort and hinge on exactly what is being measured.

In considering a range of measures that are used to determine the effectiveness of SWPBS interventions, Brandt, Chitiyo, and May (2014) note that ‘the degree to which school personnel commit to the philosophy of SWPBS, develop a set of positively stated school-wide expectations, teach these school-wide expectations directly and continuously as are academic skills, regularly reinforce students displaying the behavioural expectations, define and apply consequences for behaviours consistently, and accurately monitor progress, will determine a programme’s success’ (Brandt et al., 2014, p. 235). Clearly, these dependencies make intervention fidelity or loyalty a major concern of effectiveness studies, while also having the implication, according to the authors, that each school will have its own unique ‘needs’ regarding SWPBS implementation. Commonplace reporting measures deployed by those studying SWPBS effectiveness include office discipline referrals, suspensions, detentions, the number of positive reinforcements given by teachers or other staff to a pupil, school climate measures, and of course academic achievement. Advantage of the latter is taken to be its ready availability, while the disadvantages of academic achievement as measure of SWPBS effectiveness include its lack of sensitivity to behaviour change, and its different orientation: clearly, a host of factors outside SWPBS control are more key to achievement (Brandt et al., 2014, p. 233).

These weaknesses become much less of an issue once SWPBS is seen as, precisely, aimed at raising academic achievement. This is a highly attractive move, since it turns the measure from being a means of assessing SWPBS, to being both a means of assessing it, and its very purpose. A first meta-review attempt at demonstrating a causal connection between SWPBS implementations and higher academic achievement proved unsuccessful (Gage, Sugai, Lewis, & Brzozowy, 2015). However, the authors do suggest two further and quite central goal dimensions to SWPBS aiding educational standards, namely increasing the amount of time pupils spend in school, and raising the amount of effective instructional time they then receive. The first follows from reduction of the number of suspensions and the amount of absconding, the second from reduction in the amount of behaviour that detracts from learning. The second new goal dimension introduces a further notable aspect to unwelcome behaviour: behaviour that detracts from optimal use of instructional time – including the sort of detracted behaviour that ranks as ADHD behaviour, more persistent fidgeting or staring out of the window – now also becomes eradicable, and its erasure may now be justified by pointing to gains in effectiveness, or instructional time.

This last translation of SWPBS thus introduces, along with a maintained focus on co-opting subjects – that is, on parents and pupils subscribing to SWPBS voluntarily and on grounds of being in their own interest, as well as in the interest of eradicating social problems – the idea of SWPBS as driver of a general will to learn. It is this final and success-critical translation, of intervention re-specifed in terms of a general pedagogical ideal, that of learning free from psychological resistance and so free from teachers’ time being diverted towards repeated calls to attend to learning, that lies behind the claim that SWPBS aims at improving chronically low-performing schools by creating better school climates,
increasing teachers’ self-efficacy and – now moved to last place – decreasing problem behaviour (Gage et al., 2015, p. 199). With SWPBS in this form, scientists can lay significant claim to have both the ability and the social warrant to effectuate behaviour motive change on a mass scale (entire school populations); and in doing so remove resistance to learning as well as raising school effectiveness. It is a claim that is made reasonable in the conjoining of scientific and new technical means, namely databased infrastructure enabling significant routine data collection and processing. After all, SWPBS still projects a clearly popular end, namely to eradicate social problems that are assumed to arise from unwelcome behaviour that is caused mostly by pupils from ethnic and other disadvantaged backgrounds and pupils having lesser educational propensity.

Not long ago, a quasi-experimental study based on data from 21 schools tracked for 4–5 years (during a period of altogether 9 years) did report significant association between SWPBS and increased pupil achievement (Madigan et al., 2016). With this, the transformation of SWPBS into a credible engine of social change noted above seems complete. Starting out as an intervention aimed at preventing gross misconduct among pupils primarily considered to come from disadvantaged backgrounds, SWPBS has transformed into a clearly defined technology aimed at bending pupils’ behaviour towards learning, in the interest of raising overall academic achievement. In the introduction to their article, Madigan et al. note that the ‘need to improve student achievement’ is underlined by findings of other studies noting the impact of academic achievements on economic growth, noting furthermore that challenging student behaviour ‘frustrates teachers and disrupts instruction’ (Madigan et al., 2016, p. 2) while SWPBS delivers proactive discipline aimed at maximizing instructional time for students by minimizing disruption. In so doing SWPBS facilitates student success, achieving ‘improved academic and social outcomes and increased learning for all students, including those with the most complex and intensive behavioural needs’ (Madigan et al., 2016, p. 3), as there cited from the US Keeping All Students Safe in Schools Act.

The construction of SWPBS as a benificent and effective technology

In the same year, a new standard definition for SWPBS was proposed that I can usefully cite here in full (Kincaid et al., 2016):

‘PBS is an approach to behavior support that includes an ongoing process of research-based assessment, intervention, and data-based decision making focused on building social and other functional competencies, creating supportive contexts, and preventing the occurrence of problem behaviors. PBS relies on strategies that are respectful of a person’s dignity and overall well-being and that are drawn primarily from behavioral, educational, and social sciences, although other evidence-based procedures may be incorporated. PBS may be applied within a multi-tiered framework at the level of the individual and at the level of larger systems (e.g., families, classrooms, schools, social service programs, and facilities).’

The definition, as often in evidence-based science, is technicist in orientation: it presupposes a fairly direct and untroubled correspondence between scientific work and suppositions that are made about reality or about practice, and so can straightforwardly present measurement and data collection technology, alongside evidence-based teaching intervention, as the solution to a problem. With SWPBS as a databased technology, it is easy to direct the scientific gaze to practical matters, such as resolving the incompleteness of technologies and other implementation issues. Hence, according to Kincaid et al., the new definition of SWPBS helps to focus on the desirable attributes of good empirical science, such as face validity and uniqueness. Further qualities of SWPBS are noted to be respect for individuals with behavioural needs, as well as for the systems that support that individual, whether that be the state, the school, or the family. All these are qualities that take for granted, as self-evident, such notions as behavioural needs and support systems, the world as captured through an applied science language of managing social order. Respect for individuals inevitably remains, however, respect of a particular kind; even respect is a social product, dependent as it is on how we choose to know the world.

The scholarly construction of SWPBS as a benificent technology probably helps explain why critical analyses have to date been absent. Having all the appearance of a suitably pedagogical response to youth social problems that has the further demonstrated advantage of raising educational performance, SWPBS has doubtless been effective in drawing attention away from the sticky question what particular understanding of social systems and problems is reflected in the knowledge claims that are being advanced, and how these in turn shape the technologies used in driving social order forward (Luhmann & Schorr, 2000; Woolgar & Grint, 1991). Being alert to the epistemic construction of SWPBS as evidence-based pedagogical good, helps instead to make SWPBS visible as a social practice that brings a number of actors and activities together into a socio-material network that backgrounds classic behaviour conditioning and extensive collection of data on pupils’ behaviour, behind a more attractive foreground of objectives presented as being in the self-interest of pupils, parents and schools. Seen from this more critical perspective, SWPBS sooner appears to present as a new educational technology
of learning, servicing a widespread, systems-driven obsession with higher school outcomes. Within a context of sociopolitical expediency, SWPBS programmes succeed in effectuating a commonplace will to learn (learning without the friction of resistance) among school pupils, by de facto enforcing behaviourism as overruling didactic strategy in relation to behaviour that is normatively judged as always at risk.

Finally, not in any of the published texts on SWPBS, is there clear concern with analysing interaction between SWPBS schemes of working and the incidence of youth-related social problems; no findings have been published on the net effect of SWPBS schemes of working on youth-related crime, for example. Nor do studies value or attempt to account for significant social and cultural differences or the varying interest in learning between learners; or consider the rich literature in educational sociology on the persistent role of education and schooling in reduplicating social stratification (Bourdieu & Passeron, 1990; Edgerton & Roberts, 2014), including in special education (Dekker, 2009; Tomlinson, 2012, 2015). Social problems are treated as phenomena that are both self-evidently present and clearly predicted by the behaviour of pupils in schools – neither of which is however the case. The correspondence between the two claims moreover remain largely implicit and remains much in need of more clearly stated underpinnings. In absence of those, the underlying assumption seems to be that social problems are given to social science in much the same way that natural kinds are assumed to be given to natural science by their very nature (Dupré, 2011). Under such a ‘direct correspondence’ assumption, the often noted supposition that social change starts in schools can gain the appearance of being obvious, with no more needing to be said. However, the assumption that the categories by which we interpret the world are ones that are given by the world and are thus self-evidently correct is open to considerable doubt even with regards to natural kinds; it is an assumption that is even harder to maintain with respect to social phenomena.

Discussion: the technological production of learning as reflection issue

In summary of the above, my analysis of the SWPBS literature indicates notable epistemic drift, away from a focus on SWPBS addressing a rising tide of youth social problems, and towards helping to raise school effectiveness instead. Precisely that drift offers a suitable explanation for the present popularity of SWPBS, since epistemic drift typically is from ‘pure’ research object towards engaging with strong drivers for exploiting knowledge gains. Following a focus on identifying the kinds of pupils who might be at risk of significant misbehaviour in earlier texts, more recent studies appear instead to focus almost exclusively on pursuing effectiveness gains for participating schools – and precisely that driver is at present fairly dominant in education systems. Contemporary SWPBS studies in particular are more likely to focus on establishing a statistically motivated interaction between positive behaviour measures and school effectiveness measures.

In their effect on the education system therefore, the studies are most clearly replacing learning as shared discovery of the world with visibly paying attention to teaching as data-based evidence of ‘learning’. Learning is thus replaced by ‘learning’, a behavioural science invention driven by data technology, and designed to support school effectiveness. It is the drive for school effectiveness that is helping to spread SWPBS interventions across the education system, whereby learning risks being replaced by a technological edifice composed of data. This shifts the epistemic force of SWPBS effort from cause to effect: making school-wide productivity gains via SWPBS is now assumed an indicator of fewer pupils being at risk of causing trouble.

How best to summarize the contrast between SWPBS as a response that is justified by a rising tide of unwelcome behaviour in youth – as witnessed by such social problems as immigration, rising levels of mental disorders, and increasing lack of behavioural norms in the social system – versus a more reflexive analysis of social problems as defined and generated on the back of particular social interests, rather than rising ‘naturally’, or as statistically objectively facts, within a given social order? Schinkel (Schinkel, 2013) has argued that social science measures operate as social imagination in a particular form, producing convincing – that is, evidence-based summaries of data streams that feed a popular conception of the way things are. On his argument, Western countries use data-flows and calculative processing to render social life visible, but in a particular form: for example, by rendering distinctions between those who are ‘in’ and ‘outside’ society objectively (that is: calculatively) observable.

This amounts to a process that Callon and Law (2005) discussed as qualcalculation: a calculating or evidence-based manipulation of things that presents calculation as sound moral judgement. Like the production of social problems itself, qualcualabilities are non-trivial in the sense that it takes material and social effort to achieve them, in spaces of competition over attention. As is the case with managing integration (of immigrants) into Western countries via targeted policies, it is precisely easy access to measurement – collecting data in digital systems that can be computed quickly, reliably, and at a scale that is commensurate with the issue being tackled – that interventions such as SWPBS can successfully bid for popular support. SWPBS project education as a safe domain that is, if things are done well, void of resistance to learning and so void of problems; while with social science
measurement technologies it has acquired the computational capacity for both visualizing the problem and pursuing the intervention model effectively.

**Conclusions: learning behaviour technology and educational inclusion**

A corpus of studies that report the outcomes of SWPBS interventions show a substantive and collective epistemic drift, away from seeing positive behaviour support as a testable response to rising youth social problems, and towards the exploitation of SWPBS schemes for raising school outcomes. In doing so however, SWPBS turns education towards a technology that involves substantive data collection and an evidence-based manipulation of what learning is and involves.

As Schinkel notes in relation to integration issues, when ‘crime is a problem of people unadjusted to society, society itself knows no crime and crime becomes a phenomenon related to people outside society who are to be re-integrated’ (Schinkel, 2013, pp. 1156–1157). Similarly, through the routine measurement of behaviour and using the data as basis for intervening, learning acquires new normative meaning in being in principle free from resistance, while education acquires new meaning by being potentially free from pupils who are distracted from learning and, inter alia, put themselves at risk of living a life outside society. Here, evidence-based social science is being used politically by making a frictionless view of learning – which ironically generates a very particular conception of ‘education for all’ – seem both plausible and attractive in the popular imaginary.

Reflecting other social integration interventions, SWPBS interventions thus seem ‘cleansing’ by conceptually placing pupils with unwelcome behaviour into a category that are not supposed to be present in schools (let alone in society), since behaviour that is adverse to learning is attributed to individual persons, who are supposed to personally deal with these issues rather than take them to school. SWPBS interventions project good will in reducing the number of pupil exclusions from school and instead offering pupils at risk what Schinkel terms a ‘bridge’ of behavioural adjustment effort that pupils identified as at risk can positively make in order to remain ‘in’ school and ‘in’ polite society. Yet at one and the same time this projects schools as inside to a community on a moral principle that is substantively enabled by a science technology that both frames and controls learning behaviour through the routine collection of data. The particular technological morality of SWPBS welcomes only those without resistance to learning, while removing choice for pupils with respect to submission to the technology used: pupils are either ‘with’ the school and accept (perhaps even internalize) that their behaviour is data and managed as such, or they are outside to the school.

**Notes**

1. Even while this study was under review, a Norwegian study reported countrywide outcomes of SWPBS using national register data. It found evidence only for indications of reduced classroom noise (Borgen, Kirkebøen, Ogden, Raam, & Sorlie, 2019).

2. For a good discussion of technology in relation also to psychology, see Derksen, Vikkelsø, and Beaulieu (2012).

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Appendix

Corpus of (SW)PBS studies

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