

Intervention Programs in Mathematics and Literacy: Teaching Assistants' Perceptions of their training and support

Jenny Houssart and Richard Croucher

Institute of Education, London; Middlesex University, London

Abstract: We approach the recent argument put in this journal that TAs should be more strongly trained, monitored and supervised in their teaching activities when teaching on intervention programs. We suggest that the argument sits uneasily with much wider management and educational literature on employee motivation and knowledge transfer. We examine TAs experience of delivering intervention programs in mathematics and literacy seen as important in raising pupil attainment. We find that TAs report considerable variation in both their training and the quality of management involvement in their teaching.

Consequently, we argue for a more egalitarian, team-working approach than the model advocated both by Government documents and some researchers if these interventions are to produce successful learning outcomes.

Introduction

There has been considerable recent discussion of the deployment and management of Teaching Assistants (TAs) and we analyse TAs views on their

experiences of training and support in delivering intervention programs with pupils needing extra support in mathematics and literacy, seeking to throw light on training and interactions with colleagues from TAs' perspectives. We argue that a more collaborative approach to their management may be appropriate than those advocated by Government and leading experts.

Our focus is on the support and guidance TAs receive when implementing programs, rather than on program selection. Extensive evaluations of literacy and numeracy programs by Brooks (2002; 2007) and Dowker (2004; 2009) respectively are already available. These evaluations demonstrate that different programs are likely to be differentially suitable for schools and children alike, and that some have been more robustly evaluated than others. This debate is outside the scope of the present article, as is the important question raised by Hancock and Eyres (2004) of whether the current emphasis on such programs is appropriate. Rather, we analyse the current state of TA support and guidance in delivery against the prescriptions of influential researchers, setting these significant broader issues aside.

'Teaching Assistant' is one of many terms used for adults who work in classrooms who are not teachers and their roles have been conceptualised by practitioners, academics and the public in a wide range of ways (Kerry 2005). A large number of TAs work in primary classrooms in England; much of their time is spent interacting directly with pupils. One large study found that when

TAs were in classrooms they were twice as likely to be working with pupils as on other duties (Blatchford et al. 2009a) and they are therefore often fulfilling direct pedagogic roles.

Much of the research on their roles is large scale work commissioned by government departments which stresses measurable outcomes, value for money and effective TA deployment (eg Blatchford et al. 2009 b, c). These accounts are largely framed within a policy and managerial discourse which pays minimal attention to TAs experiences as reflected in their findings and arguments. Thus, Webster et al (2011) criticise TAs for emphasising task completion rather than educational processes, when this appears likely to reflect teacher guidance. Narrative accounts of TA perspectives exist (O'Brien and Garner (2001); Dillow (2010)) and demonstrate considerable variation in practice between schools and classes. Yet since these accounts are not analytic in relation to prescriptions for managing TAs ask what light TA experiences cast on differing recommendations about how they should be managed.

We begin by analysing the literature, showing the importance of intervention programs and introducing two different perspectives on how TAs should be managed. One strongly emphasises training and monitoring while the other takes a more collaborative approach. We then describe our sample and method. Our findings draw on TA accounts of the training and support they received to deliver interventions, showing that they perceive a very heterogenous pattern.

Their detailed accounts of implementation demonstrate that they do not always feel that their own contributions are adequately acknowledged, with demotivating effects likely to reduce their discretionary effort and therefore the overall volume of learning experiences to children in any given school.

Literature

Intervention programs

We define an intervention program as materials and instructions, usually for short or medium term use, aimed at raising selected pupils' attainment and we focus on programs used by TAs in primary schools in England for pupils receiving extra help in literacy and mathematics.

Such programs have been extensively evaluated, with considerable differences in both the nature and scale of the evaluations. Intervention schemes for children with literacy difficulties are considered in two reviews by Brooks (2002, 2007). Brooks draws on studies which included control or comparison groups and concludes that pupils with literacy difficulties will not catch up through 'ordinary teaching' alone, again underlining the importance of specific interventions. Brooks' stress on individual school circumstances raises the question of whether these school-specific circumstances also affect the levels of support, training and recognition received by TAs.

Evaluations of mathematics intervention schemes by Dowker (2004, 2009) confirm growing use of such interventions between these dates, concluding that different schemes may suit different children and that effective training and management are crucial to success. Her report contains summaries of particular programs and we note that even where materials are freely available to schools, the report considers them only in the context of their careful implementation as part of a wider project, usually co-ordinated by local authorities. This is significant local authority support has been severely reduced in many areas since 2009. Discussion of intervention strategies also occurs in the Williams review of primary mathematics (Williams 2008), which makes ten recommendations for a proposed intervention program to be developed nationally. The first recommendation is that programs should be led by qualified teachers, though a later recommendation on the same list acknowledges that appropriately trained TAs may lead less intensive interventions.

Reports on mathematics and literacy intervention studies thus increasingly suggest such interventions as the way forward for children with difficulties. The detail of implementation in so far as it involves TAs is essentially unexplored though the need for effective training and management are widely recognised and indeed emphasised.

TAs, intervention programs and their management

Several studies point to the success of intervention programs delivered by TAs (eg Evans 2008; Savage and Carless 2008) and a research review concludes that they are likely to raise attainment if accompanied by appropriate training and guidance (Alborz et al. 2009). Hancock and Eyres (2004) suggest that TAs' role in the implementation of the National Numeracy and Literacy strategies has been undervalued.

An alternative, more pessimistic but also influential view has been advanced, linked to prescriptions for close management of TAs. OFSTED advanced such a view at an early stage, seeing tightly prescribed interventions as an effective way of deploying TAs (OFSTED 2002 p.5). This has been followed by much research commissioned by Government. Some of this research questions TA effects on pupil progress in English and mathematics (Blatchford et al. 2011). Blatchford (2011) and other researchers suggest that one way forward may be for TAs to run targeted intervention programs (Blatchford et al. 2011; Webster et al. 2011; Alborz et al. 2009). These are seen as increasing the likelihood that interventions will have a positive impact on pupil attainment, provided that sufficient training, support and guidance is given. Webster et al (2011) argue that an initial decision must be taken as to the 'elementary' question of whether TAs should continue to have a pedagogic role at all. Given the great extent of their use in schools in this capacity, it appears unlikely in practice that the trend towards an increasing pedagogic role is likely to be reversed. Webster et al

(2011 p.17) argue that if TAs are to continue in their pedagogic role, then ‘at the least, the TA’s role should be restored to a secondary educator role’ and that not only better training—a feature common to many commentators, whatever their other views—but better ‘monitoring’ are essential. Debate between the two schools has ensued. In a critique of pessimistic views, Fletcher-Campbell (2010) questions many of the assumptions behind suggestions that TAs are ineffective and the proffered solution of deploying them on structured interventions.

The prescriptions criticised by Fletcher-Campbell are based on a neo-classical management approach that stresses control and monitoring, a tradition founded in the early Nineteenth Century which extended as industrialisation proceeded. The prescription explicitly refers to organisational hierarchy (the ‘secondary role’) but an organisational emphasis on hierarchical role definitions has been shown to be ineffective in building social capital and by extension knowledge transfer in other settings (Gooderham, Minbaeva and Pederson 2011). The social capital concept encourages a non-hierarchical view of employees’ potential contribution, recognising the specific skills and experiences brought by employees of different formal skill levels (Adler and Kwon 2002; Whitley 1999). Employees acquire important knowledge by virtue of their proximity to tasks central to organizational success. In this conception, upward knowledge flows are at least as significant as those in a downward direction and

recognition of this is central to employee involvement and motivation. Where this is inadequately recognised, knowledge hoarding is a more likely outcome. More collaborative approaches that recognise and seek to unlock the tacit knowledge embedded in employees by encouraging employee recognition and voice mechanisms facilitate the development of employee contributions to organisational capacities (Whitley 1999). These have been shown to be reflected in greater discretionary effort put in by employees, resulting in enhanced performance in those European firms that use them (Rizov and Croucher 2009).

Educational research tends to have been conducted with little reference to wider management inquiry and its results. Nevertheless, ideas resonant with aspects of this management research have been advanced by educational researchers (Mistry, Burton and Brundrett 2004; Cremin, Thomas and Vincett 2005; Williams 2008). Peer coaching for example is predicated on an equal relationship between the partners and was originally introduced by Joyce and Showers (1980) as a vehicle for enabling teachers to work together to implement change. It has since been recognised as a way of encouraging collegial working within schools beyond specific initiatives. Cremin, Thomas and Vincett (2005) stress the advantages of collaborative working between teachers and TAs where role clarity exists. These more collaborative methods

are also advocated by Williams (2008) in relation to TAs and mathematics interventions.

There is evidence to support the proposition that such an approach might be fruitful in this context. It has been argued that TAs already possess relevant skills and knowledge. A study by Bach, Kessler and Heron (2005, 2007) from an industrial relations perspective showed that TAs bring significant tacit knowledge to their roles, often acquired from domestic contexts or from proximity to the local community. The same study suggests that assistants' roles vary considerably due to local factors; in one school with a stable group of TAs and a high turnover of teachers, the deputy head pointed to high quality phonics teaching conducted by TAs who have been at the school longer than the teachers and can be called on to demonstrate phonics teaching to new members of teaching staff (Bach, Kessler and Heron 2006 p. 16).

Collaborative approaches may improve educational processes for pupils. Positive outcomes of collaborative work between TAs and teachers are noted by Cremin, Thomas and Vincett (2005) who used an intervention strategy to develop three classroom models for teamworking. Each model was introduced to two schools for use in literacy lessons and the researchers reported increased pupil engagement in all cases in addition to positive feedback from the adults concerning enhanced teamwork and role clarity. Mistry, Burton and Brundrett (2004) observe in the context of a whole-school case study that teamwork and

communication were key factors in effective TA deployment. TAs implementing intervention programs are likely to work across classes, making teamwork more complex and potentially challenging for all involved.

In summary, the debate has centred on how effective TAs are under different circumstances and on how they should be managed. Two broad approaches have been advocated. One is based on stressing TAs' subordinate role and their training and monitoring while the other rather emphasises teamworking. Whilst opinion is clearly divided on their effectiveness, large-scale survey evidence and official opinion tends to the more negative view of TA capacities and to advocate tight training, monitoring and control of TA teaching activity.

Significant alternative perspectives have however been offered and these are based in conceptions of collaborative working that resonate with wider management literature.

Research questions and method

We derive the following research questions from this debate:

How far do TAs report receiving training, preparation, guidance and support related to intervention programs and how useful do they find these?

This first question is intended to capture both assistance given to teachers and downward information flows. Yet recognition of specific expertise, upward

information flows and the texture of TA-teacher and TA-manager interactions are also theoretically important, hence our second question:

How far do TAs claim and demonstrate expertise and to what extent do they feel this is acknowledged and accessed by teachers and managers?

The data are transcriptions of in depth interviews with 24TAs from mainstream primary schools in England, mostly women with families (in line with the national profile of TAs), and two thirds of the sample considered themselves to be white British. Semi-structured exploratory interviews (Kvale 1996) lasting up to an hour focussed on TA experience in intervention programs relating to our research questions. Analysis of interview transcripts was based mainly on those extracts from the transcripts that discuss intervention programs, which were coded in line with the two research questions.

Findings

Involvement in intervention was mentioned by the majority of TAs interviewed, with three describing the running of intervention programs as the main part of their job and over half of the remainder regularly working on these programs. In some cases TAs reported that another TA in the school ran interventions, but only a few schools appeared not to use interventions at all. Because of broad and indeed liberal use of the word ‘intervention’, decisions had to be made

about criteria for inclusion; the subsequent discussions consider only interventions in literacy and mathematics used with pupils with apparent difficulties. The interventions considered are based on named programs with accompanying instructions, though some respondents were unaware of the official names and did not necessarily show detailed knowledge of instructions. Quotations are only provided when they are broadly representative of opinion within our sample unless they provide specific insight in relation to our research questions. We seek to make the difference evident in our account.

Training and preparation

Wide variation in training was reported. Many TAs in the sample had attended training, but about a third reported little or none while others had substantial criticisms of the training offered. Some reported simply being handed written instructions in lieu of training, and we report Jan's experience below as representative of those who experienced this as de-motivating:

I did have to do a phonics intervention with them over a period of six weeks, which I had to plan from a book. I was given a handbook and "Away you go." (asked if she was happy to plan it herself) Not really, because I'm not confident in what I'm doing. So I kind of just went by the book and did my own thing..... I'm not happy with that at all. (Jan)

Some TAs reported access to training as rather haphazard, with TAs receiving training for only some of the programs they worked on, or training happening after implementation.

I mean, I ran that for a couple of years before I actually had any formal training on it, which is quite funny. And I've since sort of taught the other TAs. (Audrey, Read Write Inc)

I've done FLS, but I haven't been on the training for it. Somebody else taught me how to do it. (Ruby)

Both of the above cases are notable for showing TAs socialising their knowledge and experience among themselves in the absence of formal training.

Those actually attending training generally reacted positively possibly because training was often done by materials designers, but was sometimes provided or facilitated by local authorities and TAs were occasionally accompanied by teachers. The latter practice seems likely to promote a shared approach and knowledge sharing at later stages. Typical reactions are given by Tony and Lola:

It's called catch-up, I think. It's an actual, yeah, an organisation. So yeah, proper training, big booklets, lots of interactive whiteboard stuff and videos. (Tony, Catch-up Literacy)

I went to (local authority) learning centre to do that. I did that with the class teacher in year five, so both of us did it, and then I run the intervention. (Lola, FLS)

In other cases, senior staff provided training in schools for TA groups:

We all got given a trolley with some new whiteboards in and some pens and some magnetic letters and things like that, and then we had about a two-hour inset from the deputy head on how to do it, and she also did it in front of us with a group of children and so we can kind of get an idea of how to work it... She's very kind of literacy-orientated, so she kind of went on the main course and then fed back to us. (Jodie, ELS)

The strongest example of this type of in-school training came from Shirley, who described her work on Reading Recovery, a program that is officially only delivered by specially trained teachers (Clay 1993; Brooks 2007 p. 74-76, 205-215). Shirley discussed Reading Recovery at length. Extracts are given below:

Reading Recovery is what I do a lot of.... I watched what Rhona (Reading Recovery teacher) did and how she delivered the book and how she, you know, brought the child in. Sometimes children don't want to read straight away. They might just want to look at the pictures. And I picked all that up from Rhona, which was great, and then went away and did it

myself, put it into practice... I work on my own. I've got a small room on my own. (Shirley)

Considerable detail followed. Shirley confirmed that she did her own planning and discussed how she liaised with the class teachers of the children she supported. Shirley's account fits with suggestions in the literature that TAs might increasingly be used for interventions previously considered the province of specially trained teachers and specifically, it resembles Brooks' (2007, p.51) descriptions of the program FFT wave 3. However, a key point here is that Shirley's positive account of learning from Rhona is closer to the mentoring and coaching mentioned by Williams (2008) in the context of mathematics interventions than the alternative model outlined above.

Some TAs also discussed how they drew on the knowledge gained in training for interventions or in the implementation itself to inform their wider work or potentially that of their colleagues by passing key insights on to others in their schools. Several who received training suggested that it had helped them in their work beyond intervention programs. In short, it had a wider effect than simply preparing them for a specific task. For example, Audrey mentioned how Number Box training gave her a broader understanding of how to use mathematical materials with children. Lola discussed how she works in a classroom supporting 10-11 year olds with difficulties in the daily mathematics

lesson. Asked how she thought she had gained the requisite knowledge she responded:

I've been on a few maths intervention courses as well, and that really helps, and literacy interventions, so you sort of know when you take a group how to support them. What exactly do they need to help them develop and how can you help them to achieve their objective, their learning objective? (Lola)

TAs also gained knowledge about the children they worked with on programs, which could potentially be passed back to teachers. Yet some teachers were reported to lack interest in TA knowledge:

I keep detailed notes on what I do with the children, what they struggled in. Some teachers will actually ask me for them when they're writing their end-of-year reports. Some teachers won't. (Rita, Catch Up Numeracy)

Rita put considerable emphasis on the last phrase, apparently echoing comments elsewhere in her interview where she spoke very positively about the main teacher she worked with, but also explained that not all teachers are interested in TAs' views:

I'm lucky and fortunate that I work with someone who encourages me ...
I have had the experience that they're the teacher, they're not interested
in what you've found or what you've seen. (Rita)

Others confirmed Rita's experience and although TAs often felt the information they passed on was valued, some either felt it was not valued or simply had no opportunity to pass information back to teachers, which TAs found demotivating. Almost all research on TAs suggests more time should be set aside for such liaison and lack of liaison is usually ascribed to time pressures but some TAs apparently felt that it was also sometimes about this being a low priority for teachers. On occasion, TAs themselves restricted their inputs to their teachers because of this, coupled with a sense of how busy they perceived the teachers as being. Sheena, who had developed a number of imaginative ways of teaching children how to handle money, was a typical example. Her teacher runs an after-school club and asked if she had shared her innovations with her teacher, Shhena replied 'I won't even bother pestering her....'.

Overall, the evidence illustrates the limitations to knowledge transfer both where hierarchical views are in evidence and where TAs prioritise sensitivity to teacher workloads above sharing innovative practice with them within that wider hierarchical context.

Overall, it was evident that in our sample training was viewed favourably but it was only available to some TAs and access to it was only occasionally available

to both teachers and TAs together. Moreover, while senior teachers sometimes shared knowledge downwards to the TAs, teachers and managers' attitudes to upward knowledge sharing by TAs were more unevenly in evidence.

Interactions with teachers and managers

Responsibility for dealing with TAs wishing to conduct programs in a particular way or to make changes is sometimes delegated to a specific manager or the Literacy or Numeracy co-ordinator but few TAs reported on-going support from more senior staff and most suggested that once trained they were expected to implement without further help.

In the first quotation below, Rita discusses Catch Up Numeracy, available only as part of an integrated resources and training package, with teachers and TAs expected to attend together (Catch Up 2009; Dowker 2009 p.29-30). Dipti discusses the Number Box, also accompanied by training (Five Minute Box n.d. a).

Everything that I do I run past my teacher, and she's quite happy as long as I run it. "Fine, Rita, that's brilliant, that's fine." (Rita, Numeracy Catch Up)

It's all individual, but you can do it as a group. I prefer to do it individually.... (asked if she could make this decision herself) I can, yes, in liaison with the class teacher. Because we can have two totally different children, I prefer if I can give them my one-to-one attention and just support them in what they need. (Dipti, Number Box)

In the example below, Azmina mentions the SENCO, who supported the intervention in her school. This phonics program, called Read Write Inc, was originally designed for all children when learning to read, but is now sometimes used as an intervention program with older children experiencing difficulty (Brooks 2007 p. 69-70, 197-199).

... she believes in it a lot. Not everyone believes in it, because, I think especially when you get higher up the school, it's too basic for those children and a lot of teachers believe that being in the actual literacy lesson, even if the children are not participating, that they're hearing lots of things going on around them. (Azmina Read, Write, Inc)

TAs also discussed contact with senior staff when they were observed working on interventions when in effect, unlike the two TAs quoted above, they were monitored:

... the SENCO at school and the deputy head have both observed me doing Catch Up and were perfectly happy that it was being done correctly. (Tony, Catch Up Literacy)

I mean, I was actually marked down once for delivering one of these programs with a child, I was working with a child who had processing difficulties, and one of the things with Five Minute Box is you don't let them fail. If they have any hesitancy, you step in and point it out. And I was sort of marked down and everything, but that's how the program runs... I was having an observation, and she said, "Well, you're not giving that child any time to process." I was having to say, "Well, no. That's part of this particular program." So it can be difficult when, as a TA, you hold sort of pockets of knowledge that maybe teachers at higher levels don't have. There can be some conflict, then... This was the deputy head at the time. So that was quite interesting, quite difficult. You have to sort of argue your corner a bit. Still didn't grade me any higher, but... (*Laughter.*) (Audrey, Five Minute Box)

There are important differences between these examples. In the first, Tony perceives the observation's focus as being whether the program is 'being done correctly'. This implies that the SENCO and deputy are familiar with the expectations embedded in the programs and favour their realization in their school. This is consistent with the way Catch Up Literacy is supposed to

operate, since it explicitly requires the commitment of senior staff who are required to attend training and to have overall responsibility for the intervention (Catch Up 2011). In Tony's case, since the outcome of monitoring was positive and affirmative, the effect was unproblematic in terms of his motivation.

Audrey's evidence shows a rather different situation, one which led to some teacher-TA conflict. Audrey was clear in her explanation, feeling she knew more about the program than the deputy head and was implementing it as intended by the designers. Both publicity from the designer of the program (Five Minute Box, n. d. b,) and evaluation (Brooks 2007 p.52, 164) provide clues about the program's approach, including the need for consolidation and the importance of not letting children fail. Audrey's implementation may therefore have been in line with the program designers but her approach was inconsistent with the deputy head's conception of high quality teaching. The school therefore appears to have 'bought in' a program with an approach inconsistent with the school's aims and values, a possible danger especially if senior staff are insufficiently involved from an early stage. In common with other TAs, Audrey suggested that:

You actually become more knowledgeable about the way the program runs than the teacher does, so they start coming to you. They sort of discuss the difficulty with the child, they ask you to start on the program,

and they then don't actually have much understanding of how the program works. (Audrey)

This quotation points up the importance of upward information flows, which Audrey suggests is recognized as useful by some teachers who grasp the TA's specific accumulated expertise acquired through proximity to the task. On occasion, TAs reported that this specific expertise was not fully recognized through the ways that they were deployed. Ruby for example reported that she had been 'stuck back in the classroom' instead of continuing to develop her work on interventions which appeared to us positively innovative.

Support to TAs is also related to the timing of their work, over which they have little control:

I'm timetabled to do that in the afternoon ... which is quite sad, because I think focused learning like that should be done in the morning when the children's brains are fresher. I get them when they're tired after lunch, and normally the more fun activities are going on in the classroom, and I'm taking them out to do more maths. So if I had my way, I'd have it programd for the morning ... (Rita, Catch Up Numeracy)

The current approach to meeting individual needs makes it clear that children deemed to need extra input in mathematics or literacy should still be included in

normal literacy and numeracy sessions. This creates a problem for schools when timing intervention programs, and TAs often had reservations about the solutions which were adopted. TAs sometimes made a link between this and the need for them to make the sessions a positive experience for the children. For example, Rita later spoke of how she sought to enhance sessions by including materials she bought herself:

... in the pound shop they've done these little cars ... and they had these little butterfly things, and we replaced the counters with those, and the children love them ... Because I was noticing, they'd see me coming, and they'd be painting and doing whatever in the afternoon, and they wouldn't want to come, because they'd want to be doing the painting, the clay activities, et cetera, so I had to try and make it as fun as possible... Otherwise, I think if it isn't fun I can't get them to engage. (Rita, Catch Up Numeracy)

Rita appears to have gone to some lengths to retrieve a difficult situation and make the program enjoyable for the children. Given that she was careful about the program's assessment and record keeping aspects, it could be argued that her aims are complementary to those of the designers who stress careful assessment and design of activities. However, the central point here is that situations are structured *for* TAs and that while the possibilities for restructuring them may be limited or non-existent, TAs perceived themselves to

have and indeed appeared to us to have showed considerable expertise in overcoming the difficulty.

Conclusion

Our first research question asked how TAs perceived training, preparation, guidance and support related to intervention programs and how useful they found these. The first question is intended to capture both the assistance given to TAs and downward information flows. These matters, in common with those raised in our second research question, have considerable consequences in terms of TA motivation and thus are likely to have consequences for the discretionary effort that they contribute. Training provision for TAs was reported as patchy and very varied in quality, and ranged from quite appropriate training at one end of the spectrum through to none at the other. TA reaction to the training provided was nevertheless generally positive and in some cases TAs felt that it had increased their capacity to fulfil their role more widely than simply on the interventions. In terms of preparation, some TAs reported positive experiences from working closely with specialist teachers and deriving considerable benefit from it. Such experiences epitomise the collaborative, coaching and mentoring model identified as useful by other educational researchers.

Our second question asked how far TAs claimed and demonstrated expertise and how far this was accessed by teachers and managers. TAs frequently claimed expertise in using intervention schemes and in tailoring them to the needs of specific children. Interestingly, while we recognise the obvious limitations of asking TAs about their own practice, we should report that there was no indication that they emphasised or prioritised task completion over educational processes as suggested by some researchers. Recognition of the contribution that some TAs wished to make in terms of understandings of specific pupils and how to motivate them or in wider senses was reported by the TAs in our sample to be uneven. In some cases, senior staff in schools were not perceived by TAs to be well-informed about the programs that they were using and these staff were not therefore well-placed to monitor or advise TAs; in fact, TAs were best placed to advise them.

Overall, TAs showed an underlying preference for an inclusive management approach that fully recognised their contribution, in line both with much wider management research from outside of the educational setting and a significant school of thought within the educational world. It nevertheless sits uneasily with some influential current thinking.

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