INSI RESEARCH MATTERS

The International Network For School Improvement

Personalised Classroom Learning

The purpose of this Research Matters is to consider:

- What may be meant by the term personalised learning

- Why the classroom is the crucial site for personalised learning to become a reality

- What research has to say on classroom practices for realising a positive version of personalised learning for the 21st century.

Why this? Why Now?

The concept of "personalising" is not new, nor new to education. But there is a new focus, mainly initiated by those involved in education policy.

Versions of "personalisation"

In society at large, what is personalisation about? Largest numbers of mentions on the world-wide web go to personalised number-plates, personalised gifts and personalised t-shirts. This could usefully provide some sort of cultural warning to educators – that personalised learning could be influenced by the "Add a small identity marker to a mass-produced product and call it personalised" world, or the "been there, got the t-shirt" world.

In current UK education, personalisation is being talked about because of a wider political context, since New Labour see it as the new "big idea" for public services (as privatisation was in the 1980s & 1990s). In launching this idea, the Minister of State for School Standards suggested that it "overcomes the limitations of both paternalism and consumerism"[1]. And one of the main architects of policy thinking suggested that personalisation was needed because previous approaches of bureaucracy and markets have resulted in public services becoming "more machine-like, more like a production line producing standardised goods".[2] The poster in Figure 1 makes the point.

It is important to note that personalisation is being viewed as "A new script for public services". While many may welcome the idea of a new script, much remains to be seen in terms of how will it be interpreted in detail. Researchers have already warned that the DfES view "consists of five core elements supplemented by an enormous but loosely defined range of policies"[3]. In this context unanalysed assumptions about personalisation could serve to continue the old script rather than forge a new one.

TESTS AND EXAMS DON'T GIVE YOU AN EDUCATION.

Figure 1: Poster by Association of Teachers and Lecturers

Different public services may have different characteristics which influence their scripts. If a public service has as its point of contact an individual (as in individual health) then the notion of individual choice may be salient. But education is organised as a collective through the process of school. So the solution to the "production-line" problem may not be individualisation.
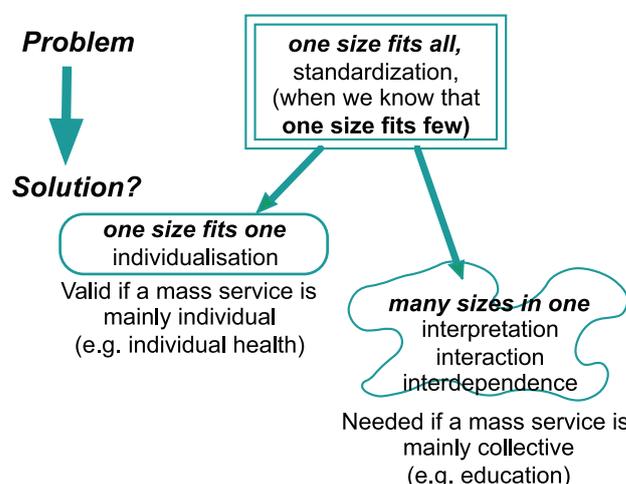

Figure 2: Choice of solutions

The classroom as key focus

Increasing evidence points to the fact that the classroom is much more important than the school for the key purpose of pupils' learning. In research on "School Effectiveness", it has been recognised that classrooms have major impact on the measured performance of pupils, and explain much more of the variation in performance data than do schools:

"Recent research on the impact of schools on student learning leads to the conclusion that 8-19% of the variation in student learning outcomes lies between schools with a further amount of up to 55% of the variation in individual learning outcomes between classrooms within schools" [4]

"Studies of school effectiveness and school improvement indicate that the classroom effect is greater than the whole school effect in explaining students' progress" [5]

So there is good reason to focus on the classroom, also in light of the findings that school "leadership explains only 3 to 5% of the variation in pupil test scores across schools".[6]

Studies of the influences on student learning point to key classroom variables. One review of research examined 11,000 statistical findings[7]: the two most important factors were classroom management and metacognitive processes. Another[8] showed that student beliefs about their personal attributes, about others, how the world works and what is important in life combined with the metacognitive as the key drivers of learning in classrooms. So we focus on the classroom because learning is local and this is the site of most effect. Within the classroom we focus on the management and processes which have an impact on learners' beliefs and on learners' thinking.

Changing the script of the classroom – or continuing it?

A focus on changing the script of the classroom presents a considerable challenge. The classroom is noted for its constancy in the face of change . The basic form of classrooms is remarkably similar across the world, and has changed little since the earliest times. Figure 3 shows the earliest known classroom, excavated in 1934.

Figure 3: Earliest known classroom [10]

This example comes from Sumerian society 3000BC, yet its form is immediately recognisable. To change the script of classrooms there is much to be done!

Versions of learning and personalisation

When we come to talk about learning, one of the curious things is that we often don't talk about learning. Instead, other themes hijack the conversation[11]. Foremost amongst these are:

1. Teaching. Phrases such as "teaching and learning policies" or "teaching and learning strategies" are used more and more, but closer examination suggests that they might better read "teaching and teaching", since the real attention given to learning is minimal. This example alerts us to the way that matters of learning are regularly attributed to features of teaching.

2. Performance. "Performance" is not learning, though it may develop from learning. In some eyes, the goals of school have been reduced to measurable outcomes of a limited sort: performance tables, performance pay, performance management. But high levels of performance are not achieved by pressurising performance.

3. Work. This is the dominant discourse of classroom life: "get on with your work", "home work", "Schemes of work", "have you finished your work?". But it can lead to a situation of meaningless work, as when people talk about being "on task" without assessing the learning quality or engagement.

When we come to talk about personalised learning the hijack can be clear. For example, one writer suggests that learners "should be able to tell their own story of what they have learned, how and why, as well as being able to reel off their qualifications, the formal hurdles they have overcome"[12]. The first part sounds like a new personalised script for learners. By contrast the DfES introduces personalised learning in the voice of a (fictional?) teacher: "I really stretch each of my pupils. I pitch their work carefully so that they can do it but still find it challenging. Then I can decide exactly how to tailor the next stage"[13]. So the conversation becomes one of personalised teaching and personalised work.

On other occasions it becomes personalised performance as when the Minister states that a key process is "Assessment for Learning that feeds into lesson planning and teaching strategies, sets clear targets, and clearly identifies what pupils need to do to get there".[14]

Researchers who understand these issues in talking about learning and their implications for classroom change have warned: "it will need considerable resolve to prevent discussion of Personalised Learning losing its focus on learners and learning and slipping back into over-simplified consideration of teaching provision and associated systems".[15]

Given this potential for distortion away from a focus on learning, what view of personalised learning is beginning to emerge in the UK? Taking as an indicator the 100,000 UK web pages which use the term,

36% of them are associated with "individual"

35% of them are associated with ICT/web/e-learning

17% mention the classroom, mostly in passing.

The proportion which mention individuals and groups in classrooms, without ICT, web etc is just 0.3%.

So we are at risk of the dominant interpretation of personalised learning becoming individual learning with ICT. And the idea that "personal" = "individual" is found in Government statements: "The central characteristic of such a new system will be person-alisation - so that the system fits to the individual rather than the individual having to fit to the system" [16]

To expand from this as the only version of personalisation, this paper outlines three different versions of what could be meant, and draws together research on each.

Each version represents a different answer to the two key questions about personalised learning:

• *What view of the person is this?*

• *What view of learning is this?*

For each version an indication is offered of the classroom practices and the research base. And the research covers a number of decades. "Personalized learning has been developing as an instructional model since the mid-1970s"[17]. The spelling with a z indicates the source is USA, as does the term "instructional model", which broadly means teaching.

Versions of learning and personalisation 1:
The Individualised Teaching Classroom

Telling tailored to the individual

In this version the term "person" equates with "individual", but no further understanding of the person is sought. The concept of learning is the dominant one of being taught. So the process of personalisation is about making the mode of "delivery" (i.e. the teaching – whether by a person or a mechanical substitute) particular to the individual (to some degree).

In classrooms, there has never been a system whereby one teacher teaches 30 pupils individually, so various appeals to resource-based learning and to forms of technology are made. An early example, "Personalized System of Instruction" (PSI), can be traced to the most simple view of the person and of learning – behaviourism. Features included:

"(1) The go-at-your-own-pace feature, which permits a student to move through the course at speed commensurate with his [sic] ability [sic] and other demands upon his time.

(2) The unit-perfection requirement for advance, which lets the student go ahead to new material only after demonstrating mastery of that which preceded.

(3) The use of lectures and demonstrations as vehicles of motivation, rather than sources of critical information."[18]

The message here seems to be self-instruction of a traditional type, using texts and tasks designed by the teacher. Applications of the model have been seen in universities since the 1960s, and in some cases led to the adoption of large-scale introductory PSI courses, but these were suspended amidst conflicting perceptions from participants and observers[19]. In an example where PSI had been used for eight years[20] student grades, overall satisfaction, and perceived effort were generally similar to those from a lecture-based course.

In school contexts there may be parallels to be made with resource-based schemes which promote individual pathways through them, such as SMILE mathematics. These schemes often find themselves inhibited by the view of teaching which is dominantly held by teachers, policy-makers and others – that the teacher is there to "teach", not to help learners through a resource system.

Most units designed within a PSI framework have emphasized lower-order knowledge acquisition. As such, they may sustain a depersonalised, decontextualised, primarily written approach to knowledge, which is regularly found in classrooms and schools.

The emphasis on testing in order to allow progress through the scheme reflects a view of assessment based in traditional views of learning. It is the idea of procedural display: "I show you" and then you are tested by being asked to display: "Show me".[21]

Systems such as PSI suggest that this version of learning and personalisation do not provide responsive environments of the sort that Government seems to hint at, since learners adapt to it rather than it adapting to them. Active and collaborative components are not a feature: overall the person is treated as a detached individual, a consumer of the programme. The research summarised above suggests that the mere addition of some tailoring to what remains a predefined programme is unlikely to significantly alter the script of classrooms. Such consumerist notions seem to ignore the fact that learning is not like shopping. And these notions are ineffective for improving engagement: on occasions when attempts to "improve motivation" have been derived from this view, for example by the addition of monetary incentives, these have been ineffective in improving performance[22].`

Instead we need to review the conception of learning – and the conception of the person.

A note on technology

Given the emphasis which the popular view of personalised learning gives to ICT, it is important to consider the evidence.

Much ICT software brought into classrooms embodies a narrow conception of learning. "Teaching machines" of the 1960s claimed to offer a personalised route, but the offer was limited to some choices through a prescribed programme of pathways. This conception maintains today.

Figure 4: The common view of personalisation and ICT?

But even by the 1990s, ten years' work analysing the introduction of technology into the classroom showed that learning gains occurred when "teachers extended their traditional views of teaching and learning - from instruction to knowledge construction"[23]. Today the same point is made about personalised learning, highlighting "a danger that Virtual Learning Environments will be used to give a personalised technological veneer to current methods of teaching rather than making the difficult but necessary shift from an instructivist teaching model to constructivist".[24]

Versions of learning and personalisation 2:
The Personalised Inquiry Classroom

Meaning-making by many

In this version, the person is seen as an active interpreter of their world, and learning is seen as a process of actively building understanding. The term 'personal' may emphasise different understandings which different learners construct, in part reflecting the different meanings they bring. So the process of personalisation is about engaging with the variety of meanings learners bring, and helping them to construct new understandings through a process of inquiry and investigation. Social processes may be referred to, but as a route to individual outcomes.

In a classroom, practices might include adapting the curriculum to learners' questions, supporting them in planning learning, engaging and addressing multiple interpretations, and promoting learner review of the process. Elements such as these are sometimes summarised in the phrase "Choice and voice".

In classrooms pupils might exercise choices affecting what they learn, how they learn, how well they learn, and why they learn. This would be in support of improving their enquiries rather than for its own sake. Even young children accept limits of choice: "I want to make my own choices . . .sometimes"[25].

When learners are given opportunity for self-direction, there is:
- Increased intrinsic motivation[26]
- Higher learner engagement[27]
- Improved performance[28]
- Stronger orientation towards learning[29]
- Fewer reports of disruptive behaviour

When learners are not given opportunities for self-direction:
- Learners choose less challenging tasks[30]
- Students depend on others for evaluation[31]
- Student problem-solving is less effective[32]

Reviews of this field note the change in style of the teacher's planning: "students can be In classrooms which promote learner-driven learning, pupils might be encouraged to assume some responsibility for school learning with less rather than more instructional mediation. This is not to suggest that teachers avoid planning. Rather it suggests that teachers avoid **over-engineering**, through gradually released control of certain processes and objectives"[33]
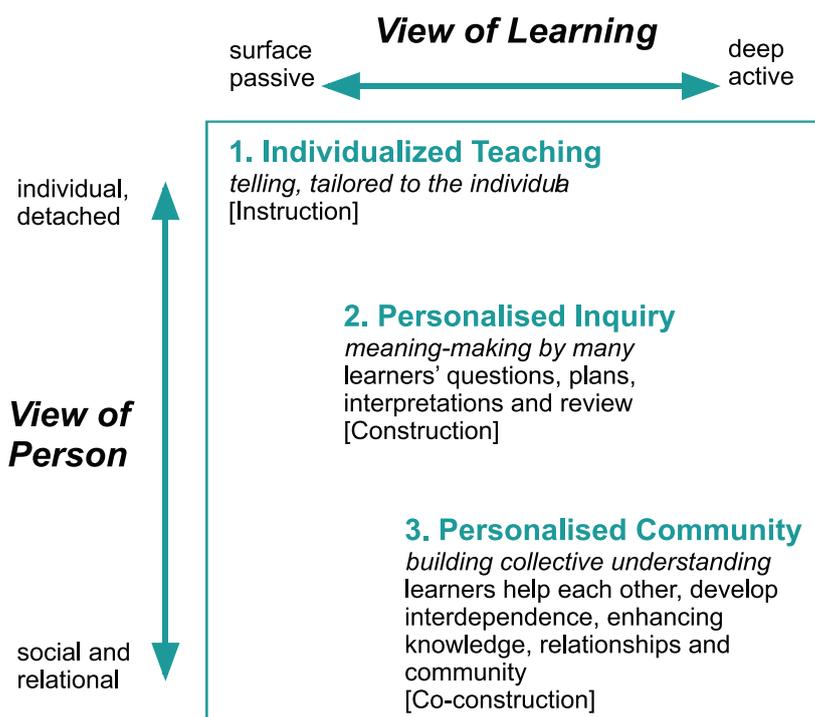
View of Learning

surface passive ←――――→ deep active

individual, detached

1. Individualized Teaching
telling, tailored to the individual
[Instruction]

2. Personalised Inquiry
meaning-making by many
learners' questions, plans, interpretations and review
[Construction]

View of Person

3. Personalised Community
building collective understanding
learners help each other, develop interdependence, enhancing knowledge, relationships and community
[Co-construction]

social and relational

Figure 5: Three versions of personalised classroom learning

Versions of learning and personalisation 3:
The Personalised Community Classroom

Building collective understanding

In this version, the person is seen living at the centre of a web of relationships and contexts, and learning is seen as fundamentally social, the means by which people join communities and become who they aim to be. Here the personal is necessarily social and the person is seen as developing through interaction with others. So the process of personalisation is about building participation through belonging and collaboration, so that learning advances the collective knowledge and, in that way, supports the growth of individual knowledge. Key processes of interpretation, interaction and interdependence are promoted, and these contribute to becoming fully human.

In a classroom, practices might include[34]:
1. Building affiliation
   getting to know each other
   telling the story we bring, appreciatively
2. Creating a community agenda
   eliciting the questions brought to the theme
   helping learners plan intentional learning
3. Community activities for learning
   reciprocal teaching
   development of dialogue
   jigsaw tasks
   reviewing how the community is learning
   group goals for assessment
4. Community governance
   classroom reviews, "the classroom we want"
5. Community climate
   development of trust and pro-social behaviour
   helping each other to learn
   bridging to other communities

Through these sorts of processes, pupils become more active and engaged as they create knowledge resources for each other, they learn more about collaboration, and regularly are involved in taking the consequential products of their learning beyond the classroom wall. In summary, students are crew, not passengers. Various research studies reflect this.

When classrooms operate as learning communities [35]
People feel part of a larger whole [36]
Diverse contributions are embraced [37]
Engaged enquiry emerges [38]
Students help each other learn [39]
Productive engagement develops, with an orientation to learn [40]
Students show better knowledge, understanding, application and transfer [41]
Discourse of the discipline develops [42]
Conceptions of learning are richer [43]
Learning together becomes understood [44]

Figure 6: A community classroom – from 1894

As in earlier versions, there are implications for the role of the teacher, and how teachers are seen:

> "The criteria for judging teacher effectiveness shifts from that of delivering good lessons to that of being able to build or create a classroom learning community" [45]

Managing Personalised Classroom Learning

Changing the script of classrooms depends crucially on teachers, their professional vision and how they see classrooms fit for the future rather than for the past. If these elements are not enhanced, the old script will remain. As we move away from the narrow views of personalised classroom learning, it helps to be clear that the teacher's role becomes more one of managing an environment and its resources, helping learners to build inquiries, promoting collaboration and focusing on learning. When such changes are made, teachers operate differently in relation to:

The balance of power – from teacher to more shared in the community

The function of content – from material to be covered to knowledge to be examined

The role of the teacher – from sage on the stage to guide on the side

The responsibility for learning – from the teacher to the learners

The purpose and process of evaluation – from performing and proving to learning and improving. [46]

But alongside such implications for teachers, there are also implications for how teachers are treated:

"All this 'personalization' will come to naught if I and my colleagues who share students do not have the authority to act upon our conclusions about an individual or a group of students. … If we must always ask for permission or refer every change to higher authorities, there is no 'personalization." [47]

These points lead us back to consider the function of the school in building the sort of climate and organisational conditions which are likely to support teachers in their role which in turn contributes to a richly personalised classroom environment.

Personalising schools?

If we aim to improve patterns of learning in classrooms, the school's style of operating may have an impact on the process of improvement. So we need to ask what sort of school organisation would support personalised classroom learning. This question often leads to a focus on structural features, for example its buildings, its number of pupils, its mode of funding etc. But these structural variables do not have an independent effect on classroom learning – their effect happens through the human aspects of the school, especially its culture and the extent to which it operates as a community. For example, much attention has been given to the issue of school size (i.e. the number of pupils on roll). While this has been addressed mainly for large secondary schools in USA, there seems to be good evidence that secondary schools of 600 or even 400 bring benefits to students, especially disadvantaged students and urban settings. But the trends to build smaller schools or to break up large schools into smaller units are insufficient on their own, without attention to the other aspects:

> "small schools should facilitate meaningful staff-student relations, a sense of belonging and attachment, more individualized instruction that can create optimal levels of challenge for all students, and opportunities for both students and teachers to exercise autonomy. In the absence of these effects, we suspect smallness in itself has little value." [48]

Indeed, one study found evidence to suggest that small schools were associated with higher suicide rates among students. [49]

Size or managing the culture?

Structural features such as school size may be associated with particular styles of organisation. For example the primary school typically had year-long pupil connection with a single teacher, while the secondary school has the "egg-crate" design[50] of self-contained classrooms, which is associated with subject specialisation of teachers, departments and hierarchy. It is these features which need re-design.[51]

Evidence from large reforms in USA suggest that what makes small schools work includes:

- Strong ongoing relationships between students and adults, and with parents
- School organisation is flat, not hierarchical
- Teacher learning is embedded and ongoing
- The school develops its own culture [52]

So school size may really be an issue of the manageability of operating a school in a way which moves away from the production-line model. This idea can embrace findings of large schools showing lasting improvement in personalisation when giving extra attention to relationships and processes. [53]

Forces against small personalised schools

A number have been studied:

- The belief that large schools are more cost effective. Although small schools may have slightly higher costs per student, if budgets are analysed by the success rate of students, not merely the number of students, their greater success and lower dropout rates shows among the lowest costs in the system. [54]

- The belief that large schools offer more choice. Greater resources are supposed to allow a wider range of provision, but organisational constraints such as timetables usually mean very constrained choices for an individual student.

- Deeply embedded views of schools. The folk theories of teaching and learning are very slow to change, so orthodoxies of schooling remain. Traditional teacher-centred images work against the idea of personalised relationships for learning.

- Quick fix reforms. While these often increase short-term efforts – especially towards performance goals - they may divert attention from wider issues of the social and learning relationships.

Restructuring large schools

A number of studies have found that, all else equal, schools have higher levels of achievement when they create smaller, more personalised units. In such "communitarian" schools, students are better known, and staff develop a more collective perspective about the purposes and strategies for their work[55]. It is the manageability of social contact which is increased here, and leads to success on other dimensions: "Early findings suggest that despite difficulties of implementation, when small learning communities are used school climate, safety and student attendance improve followed by gains in student achievement. Their more personalized learning environments appear central to improving student outcomes"[56].

Another way of understanding this is to consider the anonymity which can characterise large schools. When this is prevalent students act to make them more like small schools, by identifying with a group of friends, and, often a particular subpopulation of students. However the culture of such pupil groups may become detached from the goal of learning, and the challenge is how to reconnect the academic and social purposes.

For teachers too the task of developing their approaches to teaching and learning is best supported within a manageable group of colleagues. Conversation and collaboration among teachers are crucial for improving patterns of learning.

The School as a Community

Some schools operate more as communities than do others. This difference makes a difference to a range of behaviours and capacities as learners. Secondary schools that score high on an index of communal organisation "attend to the needs of students for affiliation and … provide a rich spectrum of adult roles [that] can have positive effects on the ways both students and teachers view their work. Adults engage students personally and challenge them to engage in

the life of the school". Such schools show higher teacher efficacy, morale and enjoyment, and students in such schools are more interested in academics, absent less often, and there are less behaviour difficulties[57]. A study of 11,794 16 year-olds in 830 secondary schools revealed that students' gains in achievement and engagement were significantly higher in schools with practices derived from thinking of the school as a community, rather than the common form of thinking of the school as a bureaucracy[58]. Similarly for primary schools: those where students agree with statements such as 'My school is like a family' and 'Students really care about each other' show "a host of positive outcomes. These include higher educational expectations and academic performance, stronger motivation to learn, greater liking for school, less absenteeism, greater social competence, fewer conduct problems, reduced drug use and delinquency, and greater commitment to democratic values"[59]. When students' sense of school membership is high, their patterns of behaviour outside school are also affected, for example significantly lower drug use and delinquency. So schools that are experienced as communities may enhance students' resilience[60].

Again, some parallel processes operate for teachers. The sense of community amongst teachers has been shown to relate to the achievement of pupils, and this in turn relates to the style of pedagogy which teachers lead in their classrooms.[61] And when teachers take collective responsibility for students' academic success or failure rather than blaming students for their own failure, there are significant achievement gains[62].

Banning Anonymity and Building Agency

Findings in this section indicate that the school has a significant effect on two key issues: pupils' affiliation to school, and teachers' beliefs about changing their classrooms. When students feel personally known and teachers feel professional efficacy, many benefits follow.

The aspects of school which have been highlighted here are the social arrangements and processes. Successful schools operate in a connected community fashion, not a fragmented bureaucratic fashion. The latter characterises orthodox organisations, as the metaphor of the machine and the image of production line indicate. The processes which are important at the school level parallel those which are important at the classroom level.

Forces against a rich view of personalised learning

There is a range of dynamics which could serve to make the creation of a rich version of personalised learning more difficult in classrooms. The first is inertia, because to change the script of classrooms is to go against the dominant trend and the pattern which has existed for some time:

> "Personalised Learning challenges the mutual accommodations which often grow up in routine teacher-pupil classroom practices and calls for high expectations, positive responses and new forms of learner-aware pedagogy"[63].

So teachers themselves may feel beyond their comfort zone at first. But there are wider forces too. Returning to the points which stimulated recent interest in personalised learning (page 1), if education has become "more machine-like, more like a production line producing standardised goods", what are the forces which create this picture, and therefore what changes need to be made for education to become more personalised in its best sense? It would seem a necessity to review current forces such as:

• Prescription of curriculum and teaching methods

• Emphasis on individual achievement in performance tests

• Making teachers responsible for student performance

• Talking of teaching as "delivery"

Although the forces indicated here do not determine practice in an individual classroom, they do influence the wider climate of classrooms and the patterns of learning and non-learning we see in them.

Nevertheless, the development of a rich version of personalised learning has the potential to make a significant contribution to changing the script of the classroom for the 21st century.

Prompts for Reflection

What view of the person is important to you (and you would be happy to apply to yourself)?
What view of learning is important to you (and you would be happy to apply to the best of your own learning)?
Which version of personalised classroom learning do you think is worth fighting for?
How do the ideas for classroom practices outlined here relate to any of your best experiences of classrooms?
What experiments or enquiries along the lines of personalised classroom learning can you take now?
What changes do you think will be necessary in the way teachers are seen and treated?
Many forces have created "production line" classrooms: which ones need to change for this state of affairs to alter?

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63 see note 3