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The Global Learning Crisis: What We Know, What We Don't Know

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Oxford Policy Management

Blavatnik School of Government, University of Oxford

UKaid from the British people

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Bill & Melinda Gates foundation

Main story line of my talk

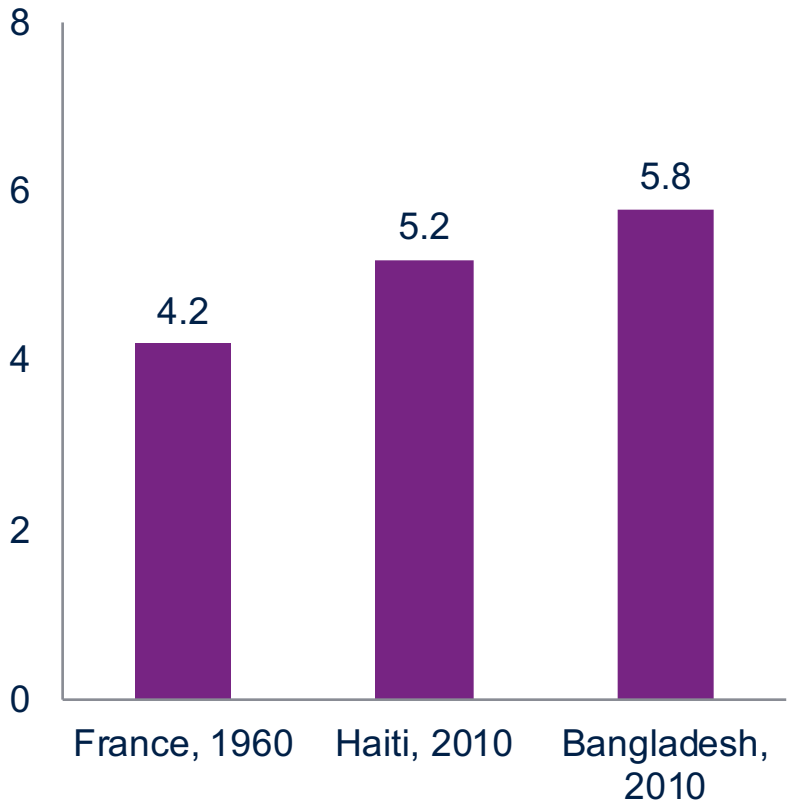
There has been an amazing, impressive, transformational success in expanding the number of kids in school, the number of grades completed: Schooling has been a triumph.

But *education* outcomes: learning, capabilities, skills from that schooling have been dismal.

Fixing that is going to require more than a set of piecemeal reforms, one has to re-orient a system from one aligned for access only to one coherent for learning

Success in expansion: Bangladesh and Haiti have more schooling than France in 1960

- Nearly every child in India now starts some school.
- Most children persist though many years of schooling.
- Youth are leaving school with more and more years of education completed.
- This is a necessary and important step on the path to development and nothing I am about to say diminishes this accomplishment.



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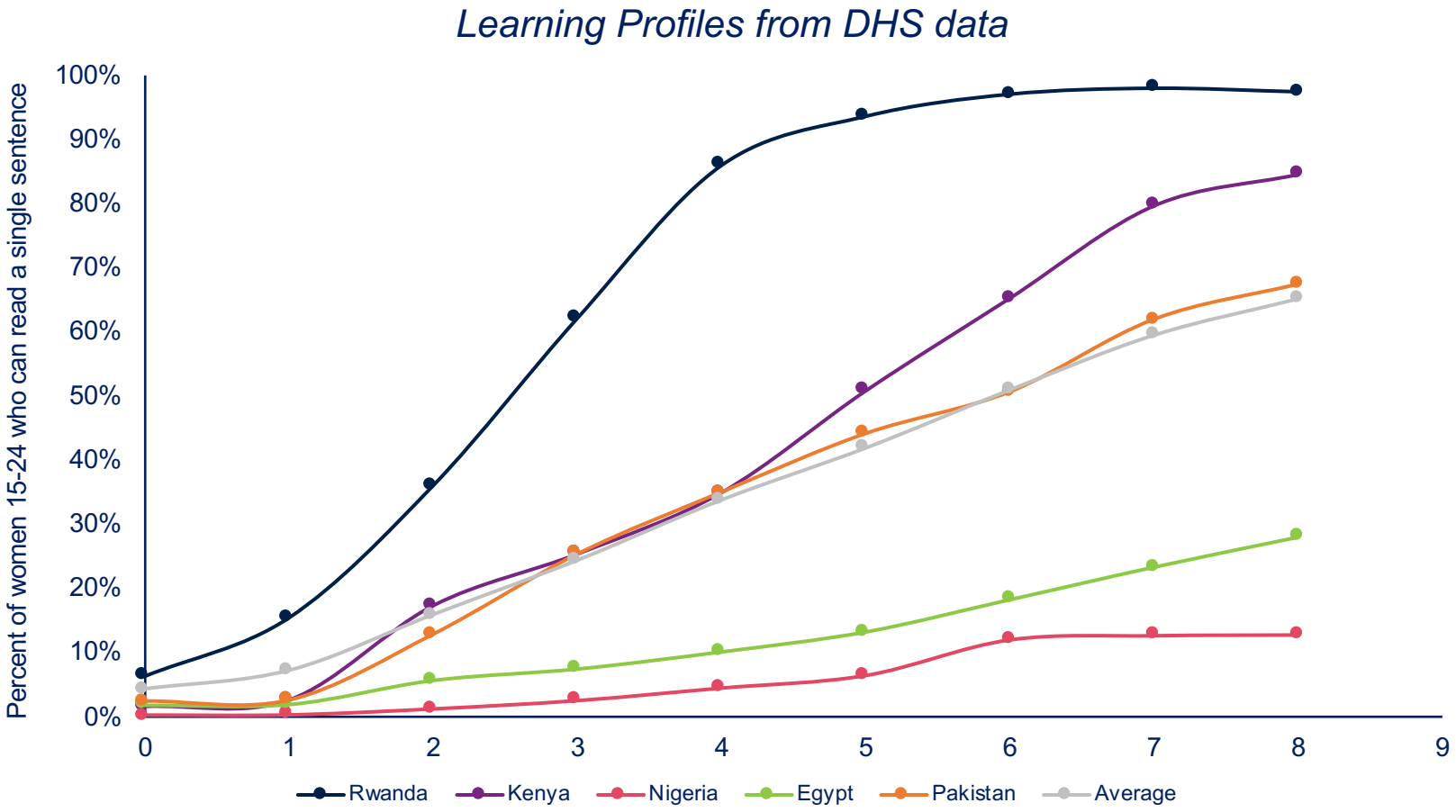
But, youth are not emerging from school ready for life

- Learning inside schools in many countries is very bad, low even by standards of other developing countries
- These low learning levels apply from bottom to top, there is a learning crisis at the top too.
- For instance, ASER's "Back to Basics" assessments shows a shocking lack of skills of youth even of those with many years of schooling
- The learning per year schooling is not getting better, it is getting worse

Only ½ of adult women who completed grade 6 in Pakistan can read a single sentence (about 50 country average)



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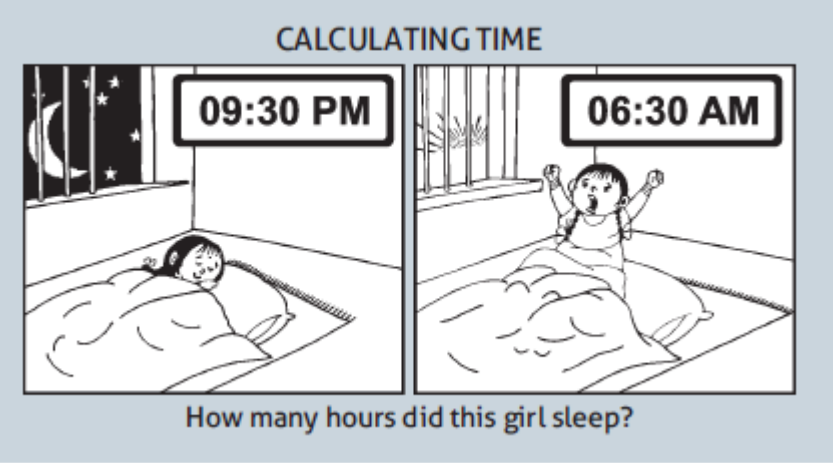
Survey of youth aged 14 to 18 across rural India contained simple application questions like:



Correct answers by level of Schooling (of youth aged 14 to 18)	Percent correct
Less than 8 years complete	
8 or more years of school complete	
Enrolled as undergraduate	

Source: ASER 2017, Beyond Basics

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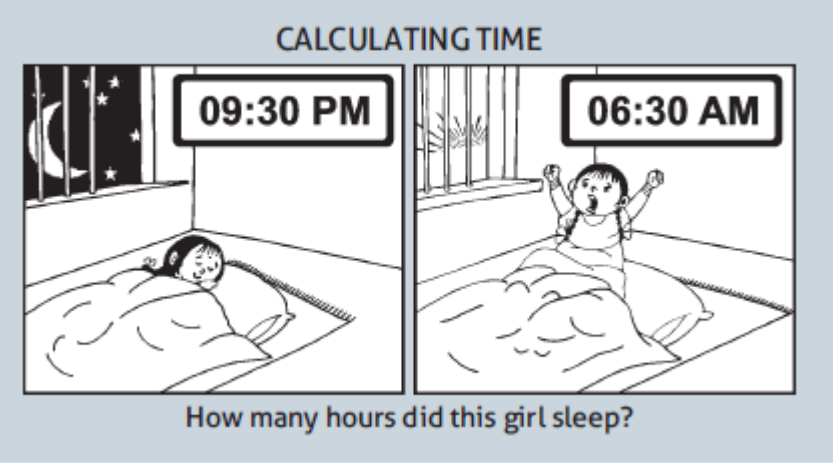
The great betrayal

Survey of youth aged 14 to 18 across India contained simple application questions like:



Correct answers by level of Schooling (of youth aged 14 to 18)	Percent correct
Less than 8 years complete	26.8
8 or more years of school complete	41.4
Enrolled as undergraduate	54.4

Source: ASER 2017, Beyond Basics

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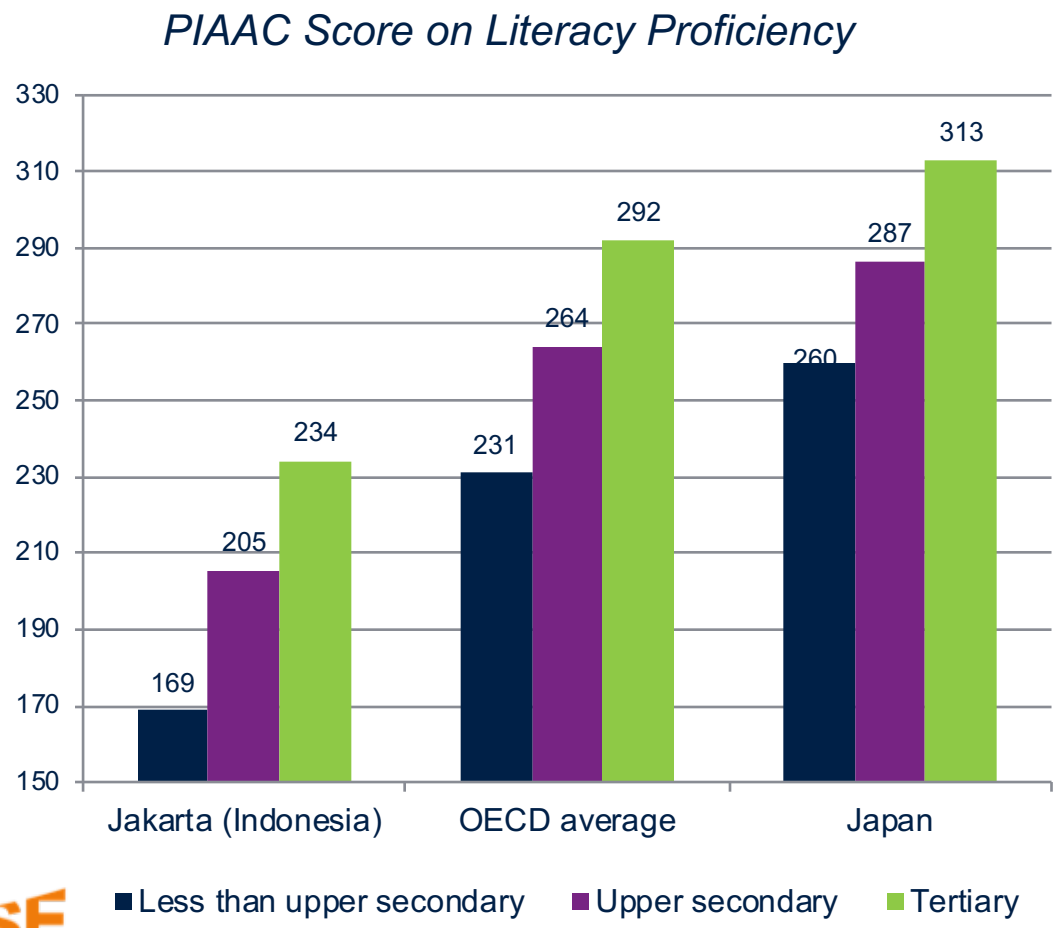
There is a crisis at the top too…and hence expansion is (mostly) pyrrhic

Indonesian (Jakartan) *tertiary* graduates have lower functional literacy than *high school drop-outs* in Japan (about the same as average of OECD)…



Expansion of schooling cannot solve the skills problem….even if everyone in Indonesia had a tertiary degree the average literacy would still be far less than the those in the OECD with high school only (234 vs 264)…and the real wages of HS workers in the USA have been falling for decades so it is not obvious that level of skill is now globally adequate

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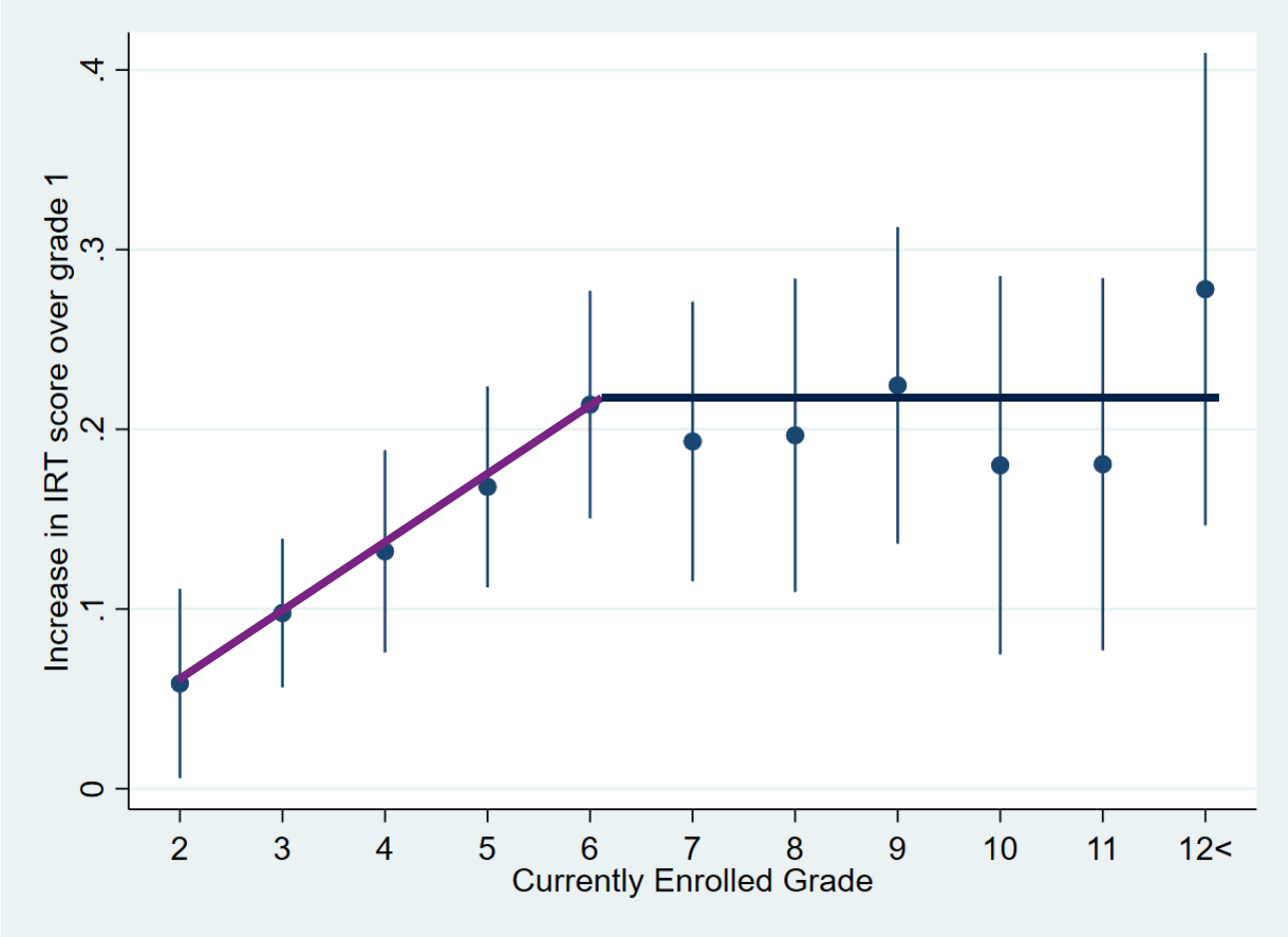
Four strategies to address the learning crisis that will fail

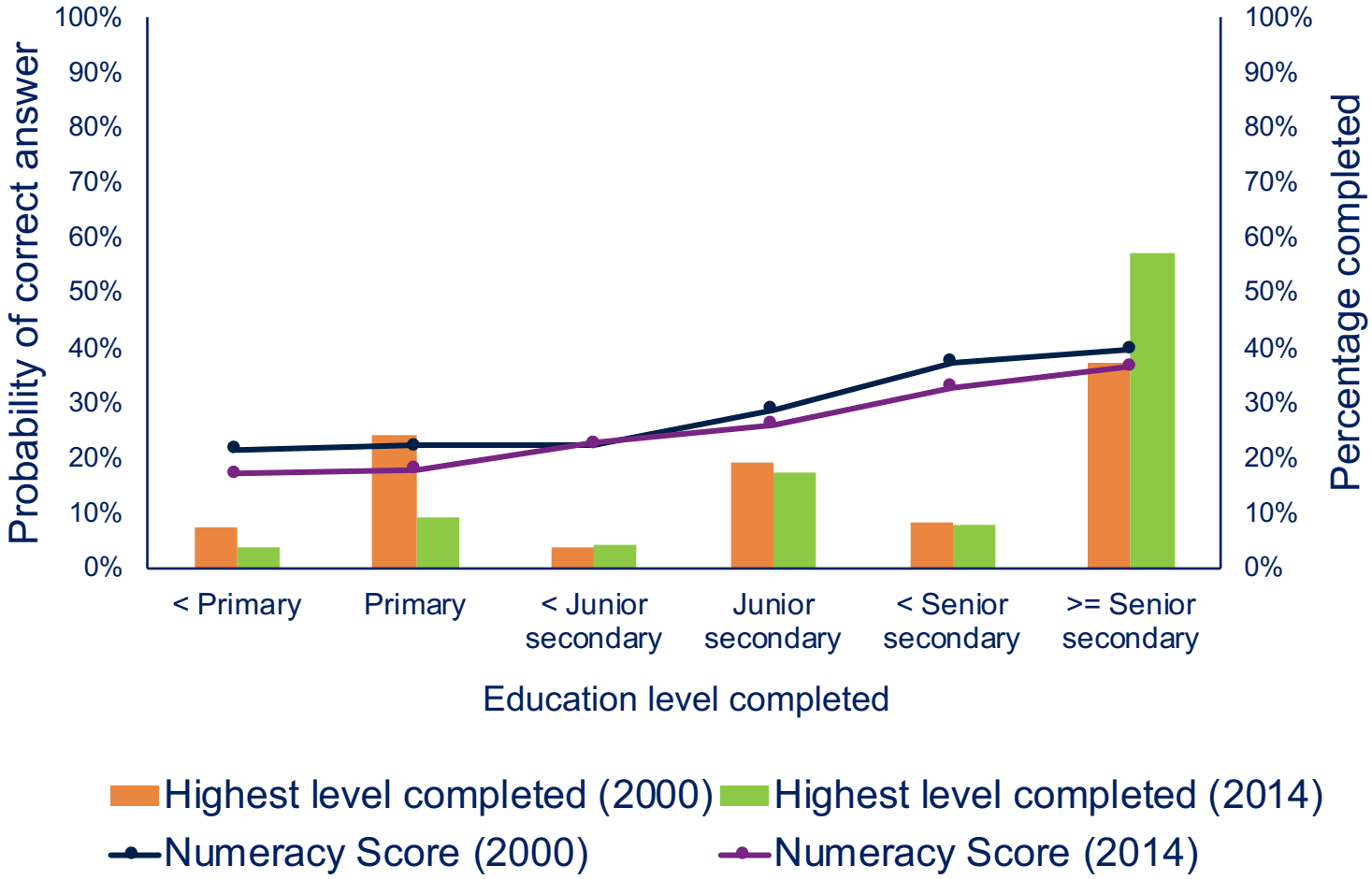
- "Wait and see" and general progress and growth will bring all good things…this will take, optimistically, about 150 years to reach OECD levels
- "More schooling"…won't get to more learning as kids are not learning fast enough (and have dropped out because they cannot learn)
- "More of the same"—SSA, more money, more "thin" inputs…expenditure per pupil has tripled and learning is falling, while SSA happened public schools hollowed out.
- Tighter, top-down, "logistical" control with dashboards, and data, and analytics, and tight demands…cannot get to quality education this way

The overall IRT (Item Response Theory) aggregated arithmetic score shows no improvement between those enrolled in 6th grade and 11th grade (and 6th grade is only .2 better than 1st grade)



Source: Berkout et al 2018 (regression estimates of grade in school controlling for various other factors)

Indonesia has a pretty massive expansion in enrollment (20 percentage points higher completion of senior secondary)



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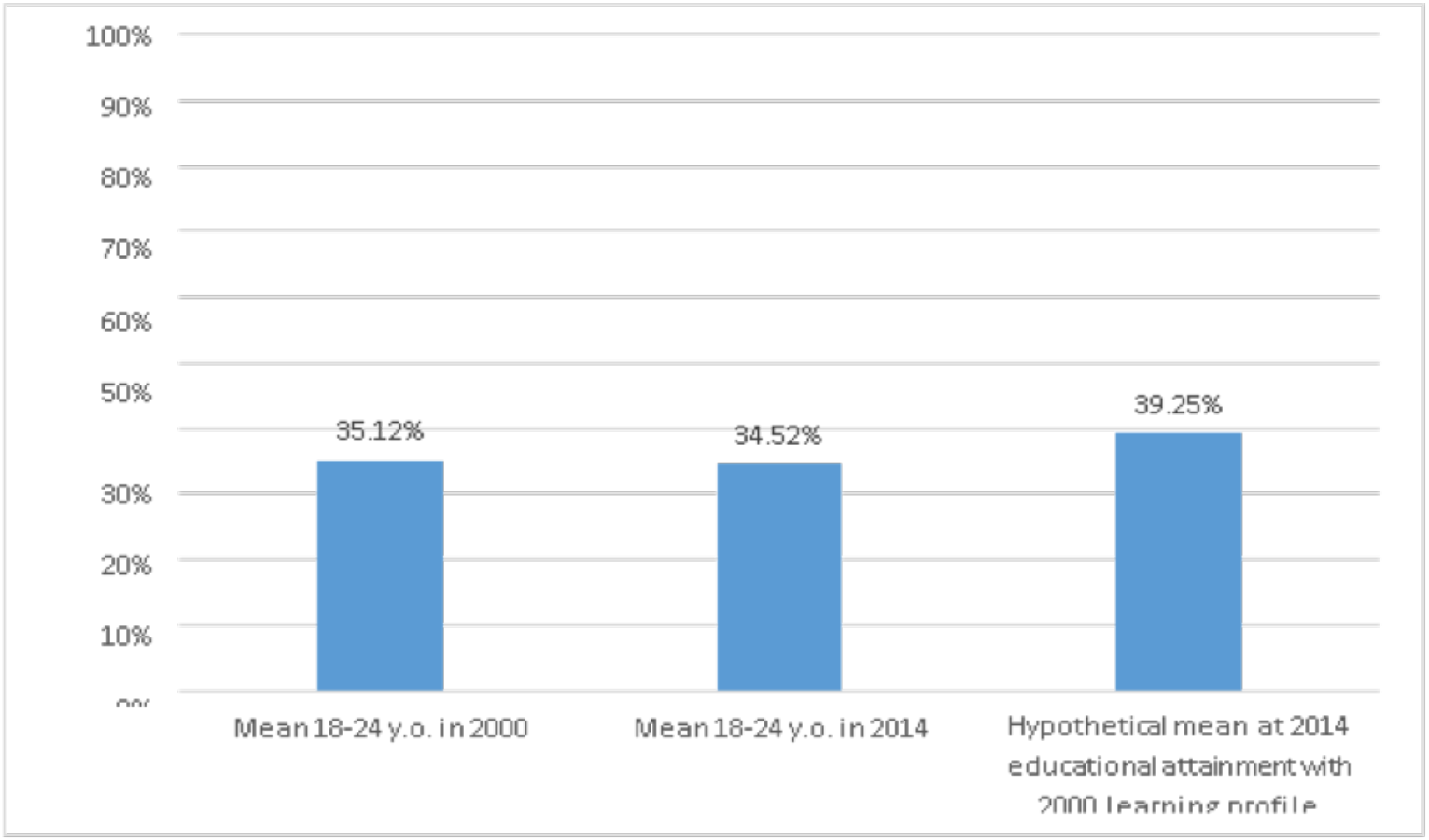
The upshot is that over 14 years of massive expansion of enrollment (and during a *tripling* of per student spending) the youth cohort mastery of simple arithmetic did not rise, it *fell* (slightly)



In the DISE data Tamil Nadu accomplished SSA goals and lost 1.2 million students….

Table 7: Data from the State Report Cards taken from EMIS system in India, the District Information System for Education (DISE) for Tamil Nadu

	Enrollments			Inputs		
	Enrollment in Government	Enrollment in Private	Percent in government	Percent with drinking water	Percent with Girl's toilet	Pupil Teacher Ratio
2004/05	5,487,221	4,297,171	56.1%	79.8%	25.4%	55
2011/12	4,226,225	5,229,293	44.7%	100.0%	75.3%	29
Gain/loss	-1,260,996	932,122	-11.4%	20.2%	49.9%	-26

Source: State report cards, various years, downloaded from http://www.dise.in/src.htm

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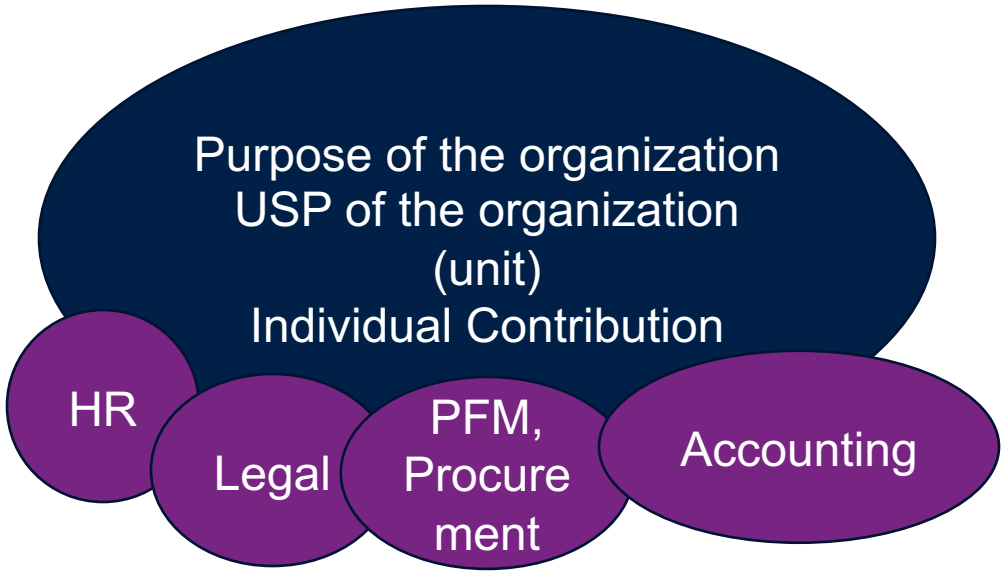
A functional organization, with support



Routine management and administration is just keeping this moving ahead, sustaining the purpose, the USP and the individual contribution

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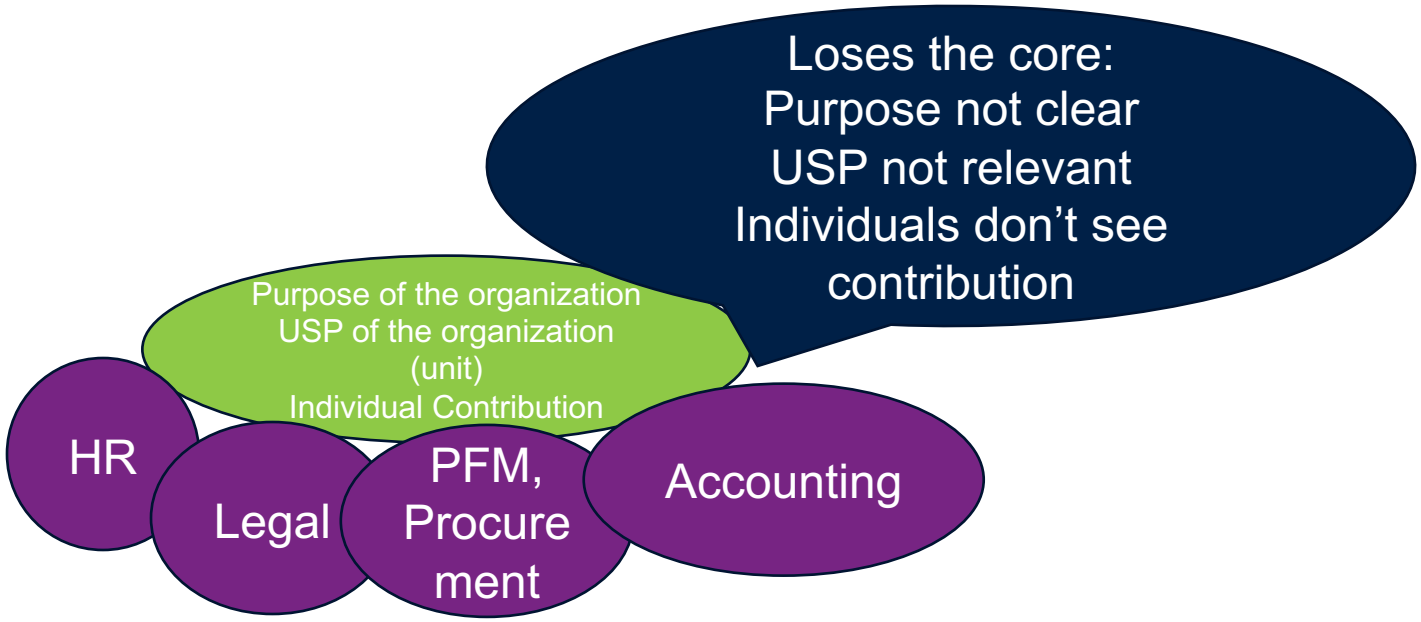
When organizations lose any or all of the three the core shrinks and becomes a carcass off which the “support” feed and it is a zombie



When the organizational core is lost, you cannot use the “service” functions to improve the organization. At best one will get a compliant zombie (at best).

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You cannot beat a turtle into moving

- The head has to come out for the body to move

- Organizations can survive external attack…by not moving

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Hard messages for countries that now have mediocre/poor learning outcomes

- First things first: universal, early, conceptual and procedural mastery of basics has to be the priority
- Everything else: grade/enrollment expansion, tertiary, vocational training, 21st century skills, etc. is (roughly) irrelevant at best or pyrrhic at worst
- Improvement will be hard and has to be systemic (not the result of piecemeal “treatments” or “projects”) and not jut “more of the same” but based on realism of the challenges (and this agenda will be strongly resisted by educated and educationist elites)
- “Equality” or “inclusion” is not a sufficient agenda as there is a learning crisis at the top too—the (statistical) elite is getting a globally inadequate education too.

What needs to happen to make sustained gains is the creation of an education system coherent around learning goals.

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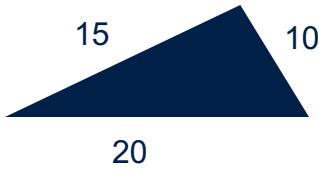
What learning goals would I recommend that systems attempt to achieve coherence around?

- Universal
- Early (by Grade 3 or 4)
- Conceptual and Procedural Mastery
- of Basic Skills (especially reading and mathematics but also other reasoning and analytical skills and functions)

About half

Less than guessing

- Mechanical Questions

	Correct
Write the answer 713 x 24 =	48%
What is the Perimeter of this shape?  ___cm	48%

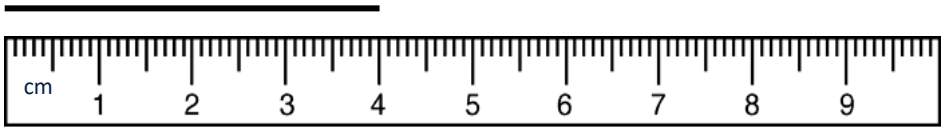
- Conceptual Questions

	Correct
How much more is 25*18 than 24*18?	21%
A thin wire 20cm long is formed into a rectangle. If the width of the rectangle is 4cm what is the length?	17%

Source: Educational Initiatives (2010 pg.30)

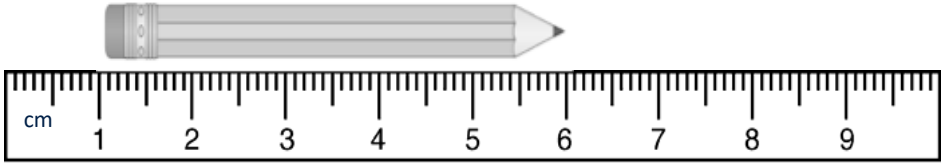
Length and measurement—even in 8th grade more students give the wrong rote answer than the correct answer—on a “level 0” skill

Class 4, 6, 8 Math



The length of the line in the figure above is 4 cm.

How long is the pencil shown in the picture? (Use the ruler shown in the picture.)



	5 cm (right answer)	6 cm (just reads end of pencil)
Class 4	23%	46%
Class 6	22.1%	41.7%
Class 8	34.7%	38.8%

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Opposite of many systems

UECPMBS

- Universal
- Early
- Conceptual and Procedural Mastery
- Basic Skills

Typical system

- Systems are seen by all as “selection” systems which are to select the “capable” not education systems
- Systems assessed late in high stakes for students ways and hence children are passed through early
- Too much is “taught” without feedback on what was “learned” and fundamental conceptual errors persist even when students can perform some tasks by rote
- Curriculum attempts to cover too many subjects and too many items within subjects not leaving time for true mastery of basics

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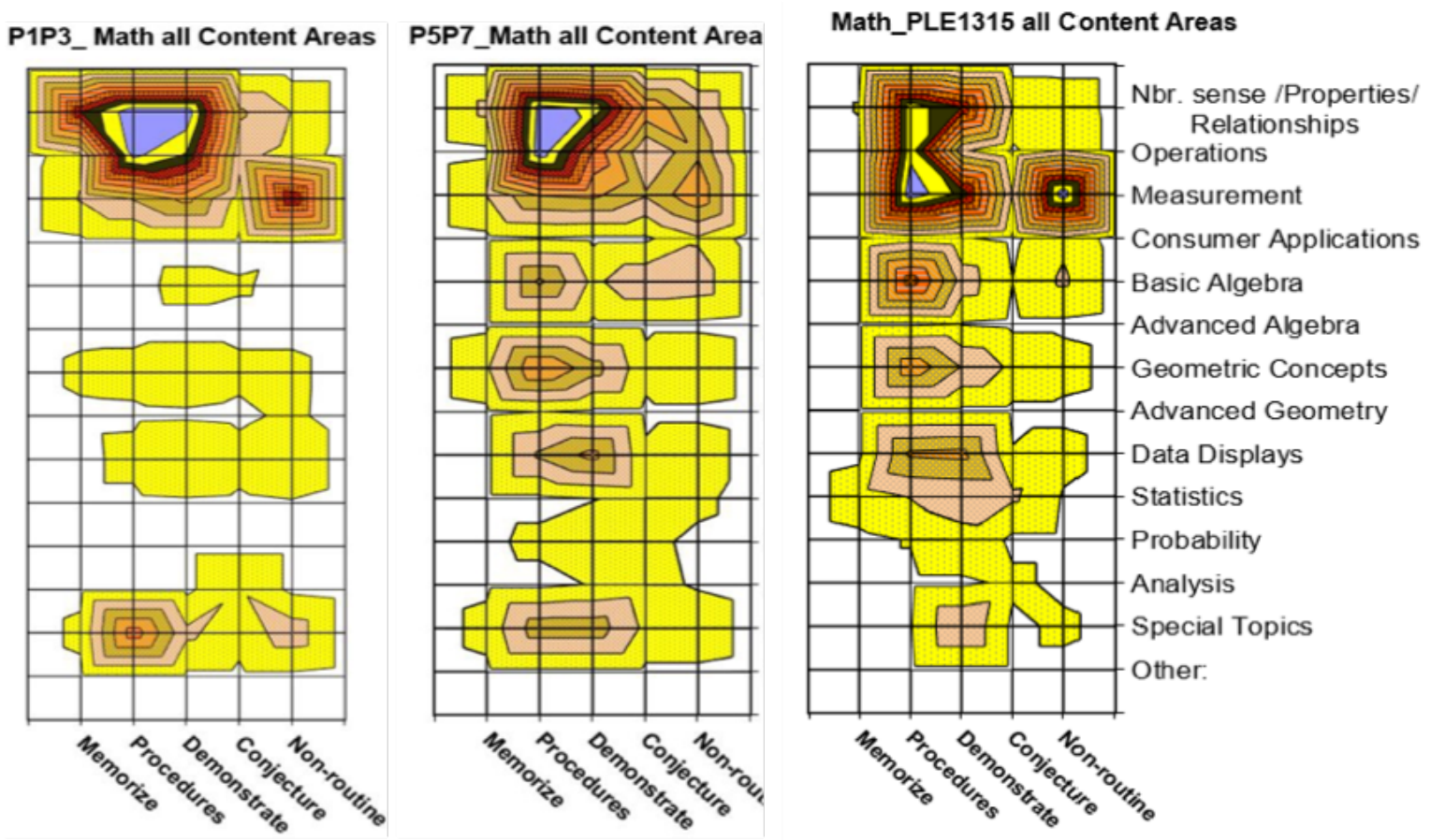
Heat maps of teaching of mathematics in Uganda, a thought experiment



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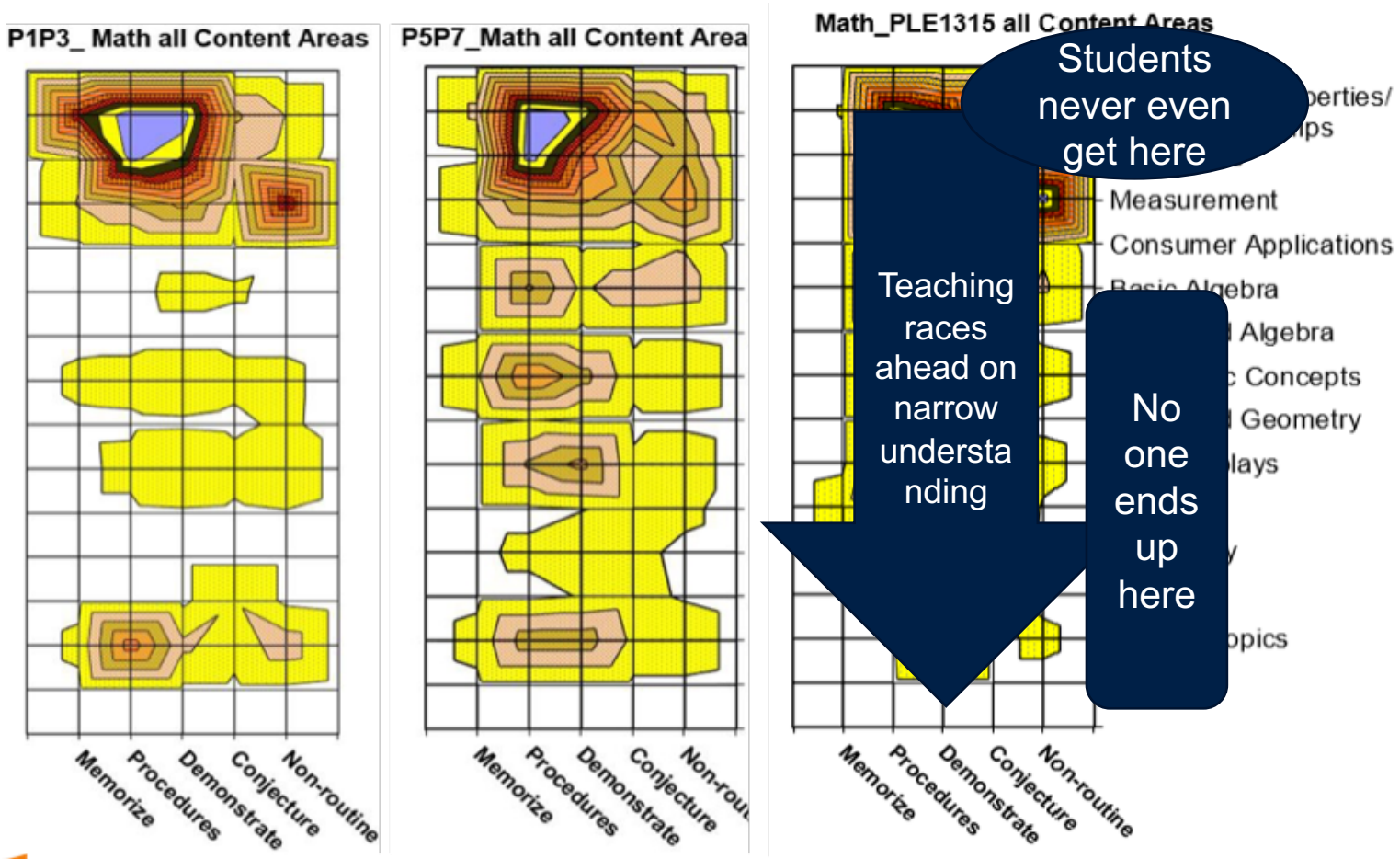
Many education systems race ahead with showing lots of things at the expense of knowing anything



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A system coherent around learning?

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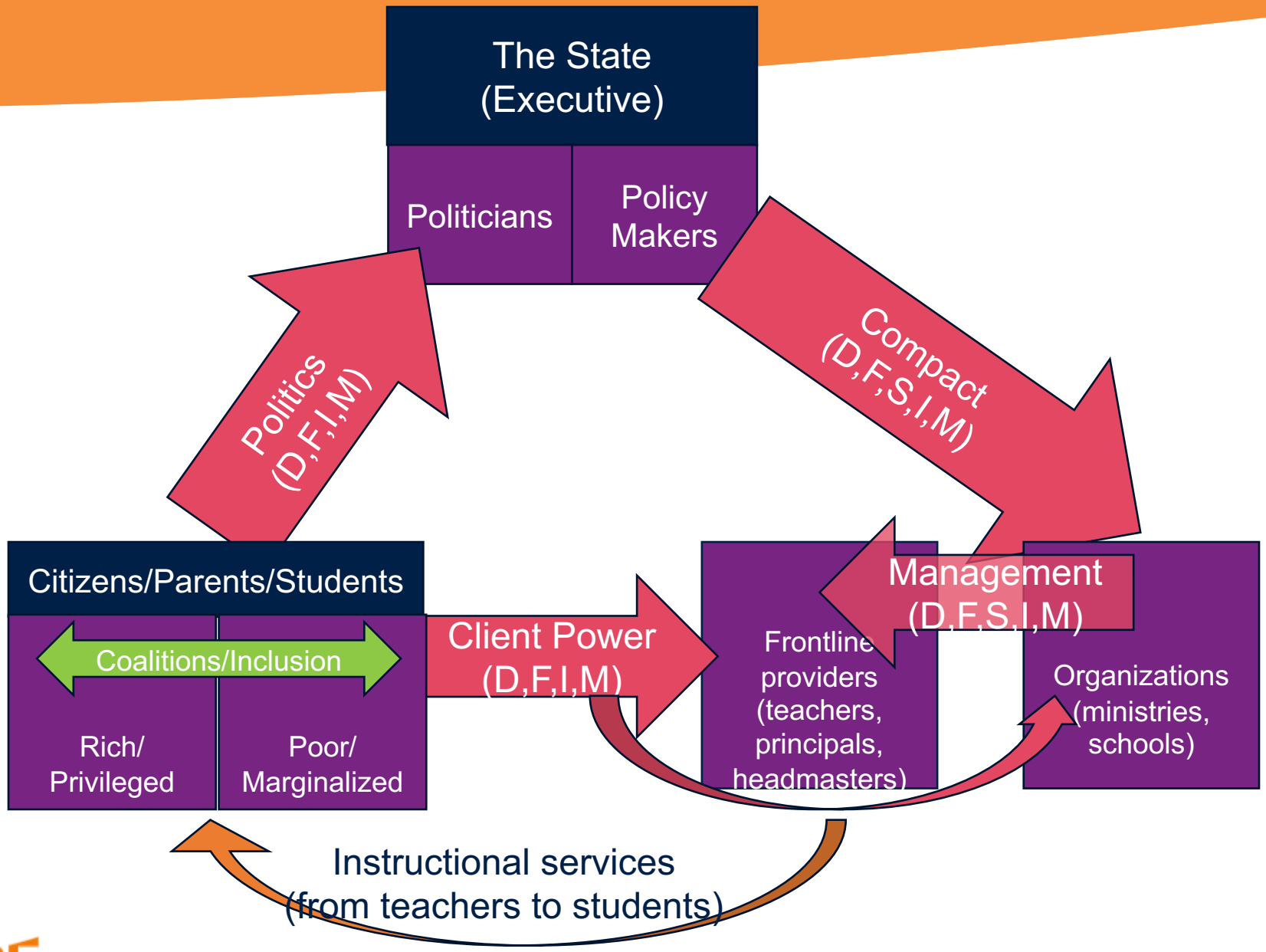

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Five by four diagnostic for systems of basic education

Four design elements of each relationship of accountability (Principal (P) to Agent (A))	Principal-agent relationships			
	Politics: Citizens to "the state"/politicians (many P to one A)	Compact: "The state" to organizations (one P to one A or one P to many A with non-state providers)	Management: Organizations to front-line providers (one P to many A)	Voice/ Client power: Service recipients (parents/children) direct to FLP/Organizations (many P to one A)
Delegation: Specification of what P wants from A				
Finance: Resources that P provides to A (either in advance or contingent)				
Support: P helps A to perform				
Information: P collects information on performance of A				
Motivation: How is A's well-being contingent on performance? Change to motivation? - **Intrinsic** - **Extrinsic** - **Exit (force out)**				
Performance of agent (endogenous)				

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Three types of incoherence

- “cell by cell” versus “coherence of column”
- Conflict across columns in a given row (e.g. “the state” and “ministry” disagree on the “delegation” or objectives of schooling
- Conflict between relationships—teachers are both “accountable” to their direct employer (“management”) and to the students/parents/community (“client power (voice)”)

Within a relationship of accountability

Within a single relationship of accountability incoherence between the elements

- Examples in the *Management* relationship between say a *Ministry* and *Headmasters* and *Teachers*
  - *Incoherence of delegation and magnitude and structure of finance:* goals are given without adequate and adequate autonomy over the use of resources to accomplish the task
  - *Incoherence of delegation and information:* Goals are set but no regular, reliable, repeated measurement of progress on goals
  - *Incoherence of delegation and motivation:* Goals are set but there is no connection between teacher performance assessment and structure of compensation and the goals.
- Examples in the *Compact* relationship between the "Executive Authority of the State" and "Organizational Providers" in next slide.

Table 5: Illustration of potential incoherence *within* a single relationship of accountability, illustrated with *compact* (between executive apparatus of the state and organizational providers, e.g. between a Ministry of Finance and Ministry of Education)

Four design elements of each relationship of accountability (Principal (P) to Agent (A))	*Compact:* "The state" to "organizational providers (e,g. one Principal (e.g. Ministry of Finance) to one Agent (e.g. Ministry of Education) or one Principal to many Agents with non-state providers (e.g. state resources follows the student to schools)		
	Delegation to Finance incoherence	Delegation to information incoherence	Delegation to motivation incoherence
Delegation: Specification of what P wants from A	Delegation lists many ambitious objectives	Delegation lists ambitious learning goals for provider	Delegation lists ambitious learning goals for provider
Finance: Resources that P provides to A (either in advance or contingent)	Provides insufficient or inflexible finance		
Information: P collects information on performance of A		Only enrollment information collected, no systematic information on learning collected on a regular and reliable basis	
Motivation: How is A's well-being contingent on performance? Change to motivation? - Intrinsic - Extrinsic - Exit (force out)			Outcomes for the Ministry (and/or Minister) the same whether learning goals are achieved or not. Outcomes depend on budget utilization and process compliance.
Performance of agent (endogenous)	Cannot perform as delegation specifies. Weak *compact* accountability.	Performance of agent cannot be reliably assessed. Weak *compact* accountability.	No motivation for agent to perform well. Weak *compact* accountability.

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Second type is *incoherence* between same element across relationships

- Example: The *information* collected and used is different in each of the relationships.
- The information used in *management* (often “thin” information about *logistics*) is different from parent/child information about their own experience (*client power)* is different from how the state manages the ministry (*compact)* and all of these are different from the information that is (or is made) salient politically (*politics).*

Table 6: Illustration of incoherence in the same element of accountability across different relationships: Example of *information*

Four design elements of each relationship of accountability (Principal (P) to Agent (A))	Principal-agent relationships			
	Politics: Citizens to "the state"/politicians (many P to one A)	*Compact:* "The state" to organizations (one P to one A or one P to many A with non-state providers)	*Management:* Organizations to front-line providers (one P to many A)	*Voice/ Client power:* Service recipients (parents/children) direct to NLP/Organizations (many P to one A)
Information: P collects information on performance of A	Citizens know their own child's experience, but there is typically only aggregate (national/state/locality) information about enrollments, budgets, and inputs, not learning or learning progress. This often channels citizen pressure for "better" schools into these measured characteristics as politically salient.	Between the executive apparatus of the state and the organizational providers (typically Ministries of Education) the main apparatus and hence information is the budget allocation (both aggregate and across categories of expenditure (e.g. wages versus other) and program. To the extent "performance" elements are measured they tend to be measures of inputs or outputs, rarely outcomes and more rarely still learning outcomes.	Particularly in public sector organizational providers the information collected on teachers is mostly bureaucratic process compliance based on official internal systems. Teacher attendance is perhaps measured (though often not well), teacher participation in trainings, teacher reports on compliance with programmatic activities, and reports on measures of enrollment and (perhaps) student attendance. Very little information on teacher performance of any kind.	Parents/students know their daily experience with schooling and hence have "thick" information on aspects of teaching (e.g. is the teacher present, is class time boring, is the teacher kind or mean) and at least intuitive information on progress (e.g. does the child understand the lessons, is she/he able to do homework). But parents/students often lack any concrete, comparable, objective metric of their own child's position or progress or of the child's school versus others (particularly on a "value added" basis that adjusts learning outcomes).

Third type of *incoherence* is between entire relationships

- Teachers are caught between the accountability relationship to their employer (e.g. Ministry) and the accountability relationship to the students/parents they work with every day. All parts of this can be incoherent—*delegation* is different, *financing* is different (e.g. exclusively from Ministry), *information* is different (locally "thick" versus bureaucratic "thin"), *motivation* is different
- Many systems have eliminated "client power" through voice entirely and hence teachers are entirely dependent on formal accountability through top down civil service structures—and if those are weak then the system can break down entirely.

Table 7: Illustrating incoherence between two different relationships of accountability affecting the same "agents" (teachers and headmasters)

Four design elements of each relationship of accountability (Principal (P) to Agent (A))	Principal-agent relationships	
	Management: Organizational providers (e.g. Ministry of Education) to public sector teachers/headmasters	*Voice/ Client power:* Parents/students to teachers/headmasters
Delegation: Specification of what P wants from A	Desired objectives for teachers designated as process compliance, e.g. teach in this school in this classroom these materials, not outputs or outcome performance	Parents want teachers to advance the interests of their children and to treat their children well.
Finance: Resources that P provides to A (either in advance or contingent)	Wages of teachers are fixed by teacher characteristics (whether related to learning or not)	Parents often provide little or no direct finance to teachers or school.
Information: P collects information on performance of A	Information on teacher performance based on official reports (e.g. attendance), process compliance and (perhaps) some supervision and (weak) performance assessments	Students (hence parents via students) have access to daily experiential observation on teacher behaviors and some knowledge about their own progress.
Motivation: How is A's well-being contingent on performance? Change to motivation? - Intrinsic - Extrinsic - Exit (force out)	Outcomes for teachers/headmasters based almost exclusively on seniority, cannot be fired, disciplined only with great difficulty, little extra reward for superior performance possible.	Parents/students would like to have to have only teachers who do well by their assessment of teacher performance.
Performance of agent (endogenous)		

Cannot have two strong relationships of accountability that are themselves incoherent

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System coherence as organizing principle

- There are many ways to achieve “coherence” and this does not dictate any particular structure (as we have seen many structures succeed—from top-down authoritarian to “money follows the student”)
- Incoherence creates the possibility of lots and lots of action and effort and programs and spending and still no progress as systems are either coherent only around enrollment or worse, have exploited incoherence to introduce other drivers (e.g. political patronage)
- “Piecemeal” almost certainly will not work to improve incoherent systems (e.g. more “in service training” of teachers without clarification of “delegation” (what is to be achieved), “information” (can the teacher know if she is achieving success?) or “motivation” (why, from intrinsic or extrinsic motivation would teachers adopt new practices?)

There are many paths to success and ways to assemble a coherent system for learning….

	Starfish					Spiders
	Locality-level decentralization	Charter schools (only public-sector entrants)	Community-controlled schools	Private (for and not for profit entrants)	Pure markets for instruction (e.g., tutoring)	
Open?	Entry only by localities	Entry by designated organizations	Entry only by locally organized groups	Open entry	Completely open entry	Closed
Locally operated?	Mixed	Yes	Yes	Yes	Yes	No
Performance pressured?	Mixed	Mixed	Mixed	Yes	Depends on metric	Mixed
Professionally networked?	Regionally	Mixed	Mixed	Mixed	Weak	Hierarchy
Technically supported?			Yes		No	Yes
Flexibly Financed?	Mixed		Mixed	Yes	No financing	No flexibility

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Storyline

- Schooling succeeded with organizations coherent around the compliance logistics of expanding schools.
- Basic learning is dismally bad.
- Organizations are trying to have success in learning with the same organizational techniques that lead to logistical success.
- It won't work (but won't stop people from doing it)
- To fix it one needs to create a system coherent for learning in which the pieces fit together.