



Curiosity and Powerful Learning -
The Role of the Head

Professor David Hopkins

Curiosity matters... academic success...

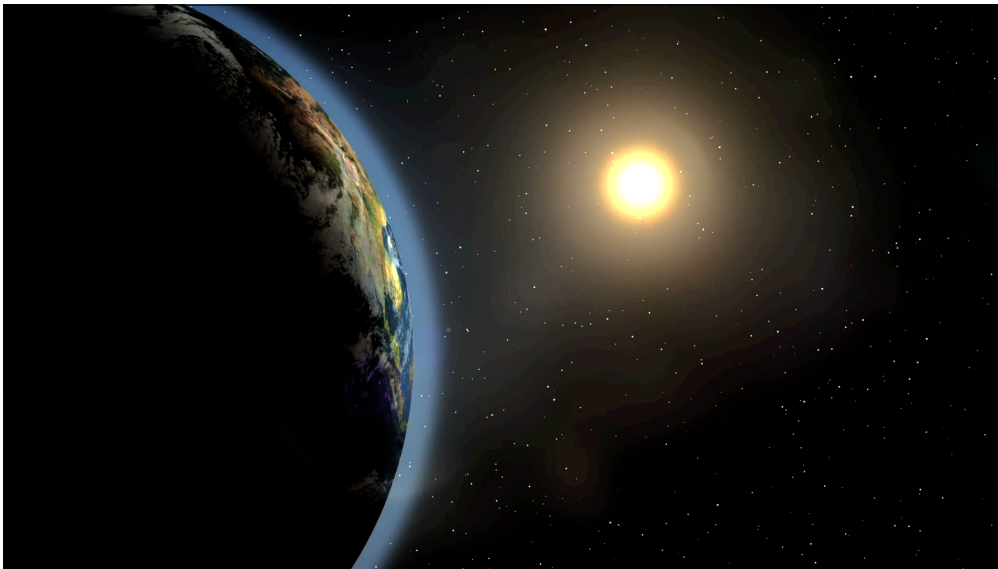
job performance...

relationships...

life satisfaction...

problem-solving...

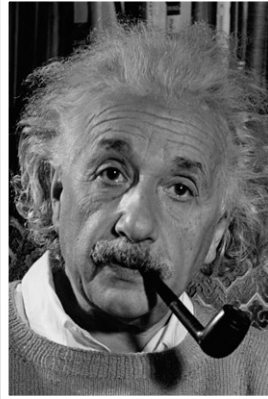
longevity...



If we want our students to be **CURIOUS**,

we have to teach them

“Curiosity is a delicate little plant,
which aside from stimulation,
stands mainly in need of freedom”



THE CHALLENGES OF THE FUTURE



1350 - Classroom at the University of Bologna , Laurentius de Voltolina



To meet the needs of our students, we need to do better



Privatised, atomised practice cannot be improved at scale



The workload associated with improved practice is too great for individual teachers



THE CHALLENGES OF THE FUTURE

THE CHALLENGES OF THE FUTURE

A new perspective is required...what does effective learning mean today

Learning in School, University and Work

Formal:

When, where, how and with whom is predetermined

Individual:

We demonstrate our understanding and skills alone

Linear:

Learners follow a “sequential” program according to the curriculum

Just in case:

Knowledge acquisition precedes actions

Tutor-to-student:

One expert, few learners

Transmissive:

Teacher transmits (usually through lectures), students receive

Learning Socially

Informal:

We learn when, where and with whom we please

Social:

We study and demonstrate our understanding in groups

Non-linear:

Learners follow non-sequential routes according to interests

Just in time:

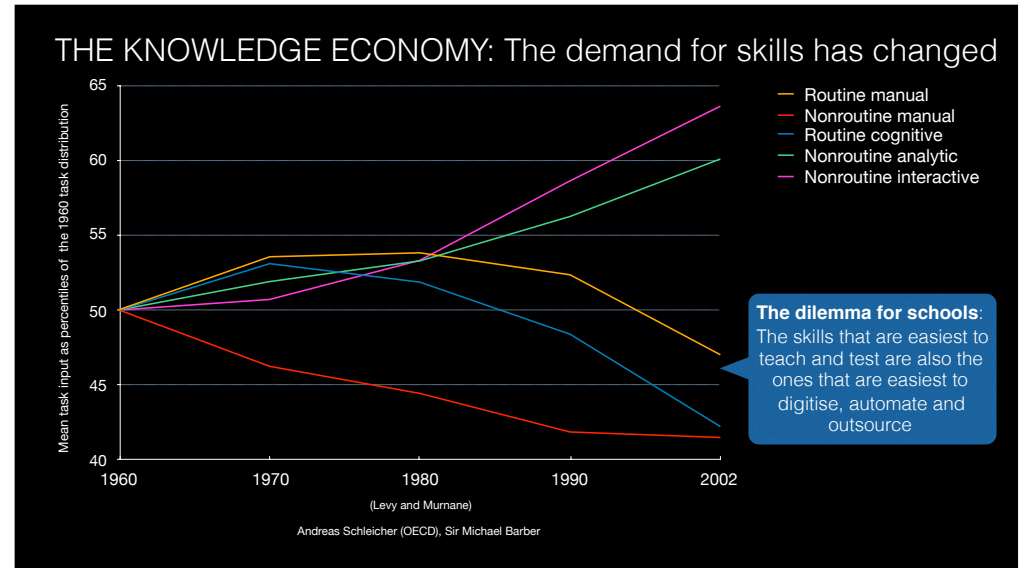
Knowledge is gained as the task demands

Networked:

The expertise is in the crowd

Experiential:

Meaning is made and shared by experience



LIFESCRIPTS...
our story to make sense of the world

In childhood we start to create stories about our lives, what they have been and what they will be

Over time we develop a narrative about what we can and will do

Life scripts can be very detailed or very vague

They can be **very empowering**, yet they can also **severely limit our lives**



LIFESCRIPTS

our story to make sense of the world

Understanding life scripts gives us the ability to change them

The aptitudes and skills of powerful learners are the tools for change



POWERFUL LEARNERS...

- **acquire** useful and important bodies of knowledge
- **become** powerful learners by expanding and making articulate their repertoire of learning strategies
- **become** fine, caring and principled citizens

POWERFUL LEARNERS...

- **integrate** prior and new knowledge
- **acquire and apply** a range of learning skills
- **solve problems** individually and in groups
- **learn** from their successes AND failures
- **evaluate** conflicting evidence
- **think** critically
- **accept** uncertainty and difficulty

POWERFUL LEARNERS...

How would we rate the "typical" student at our school on:

OUR STUDENTS AS POWERFUL LEARNERS...

- **integrating** prior and new knowledge - what is the evidence?
- **acquiring and applying** a range of learning skills - what are the learning skills and how do students acquire them?
- **solving problems** individually and in groups - how much problem solving is done individually and in groups?
- **learning** from their successes AND failures - how do we celebrate success and failure?
- **evaluating** conflicting evidence - what structures do we have in place to support our students in this area?
- **thinking** critically - is our work on critical thinking effective?
- **accepting** uncertainty and difficulty - what structures do we have in place to support our students in this area?

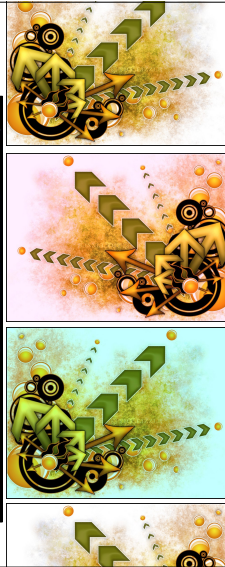


Curiosity THE UNFINISHED BUSINESS

We made great progress on two of our three goals

**LITERATE
NUMERATE
CURIOUS ?**

The Right Direction



Common Practice

Idiosyncratic	What and when (but not how) planned in teams	Colleagues a major influence particularly in the early years
Delivered by individuals	Significantly influenced by how the teacher was taught	On the job learning (from mistakes)
Limited use of evidence base	Minimally impacted by teacher training	Limited and haphazard use of technology

THE INSTRUCTIONAL ROUNDS PROCESS WORKS LIKE THIS

Rounds visit to focus on teaching and learning in the school

Small groups visit a rotation of classes and descriptive evidence is gathered

Analyse evidence taking into account school context

Develop Theories of Action

Visitors provide structured feedback to school and teachers

Host school uses the Theories of Action as a basis for planning ongoing professional development.

FIVE LESSONS FROM INSTRUCTIONAL ROUNDS

- 1 **Similar Theories of Action** are defined and implemented in **most schools**, despite differences in schooling phases and contexts
- 2 This is not a **'pick and mix'** approach. It's necessary to integrate all Theories of Action into a teacher's professional repertoire
- 3 All Theories of Action are characterised by teaching approaches with **inquiry at their centre**
- 4 Some Theories of Action are about the **whole school**, and some are about the **individual practice** of teachers
- 5 All Theories of Action have a high level of **empirical support** in the research literature.



THE STORY OF OUR INSTRUCTIONAL ROUNDS

As a result of our "inside-out" work on Instructional Rounds we have identified **ten Theories of Action** that when taken together **Six Theories of Action for the Teacher**

Promote Curiosity, Enquiry & Authentic Relationships

Emphasise Enquiry Focused Teaching

Adopt Consistent Teaching Protocols

Adopt Consistent Learning Protocols

Harness Learning Intentions, Narrative & Pace

Set Challenging Learning Tasks

Frame Higher Order Questions

Connect Feedback to Data

Commit to Assessment for Learning

Implement Cooperative Groups

CURIOSITY & POWERFUL LEARNING: EFFECT SIZE

The Effect Size barometer

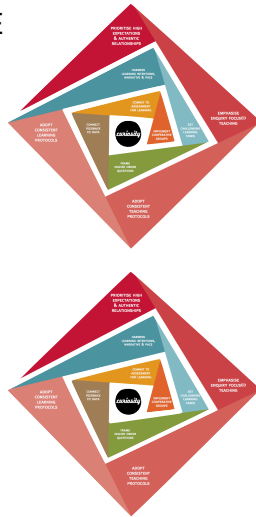
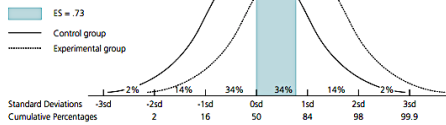
A barometer like this accompanies each theory of action on the following pages.

Some strategies fall in the red zone. They impede learning. Some learning is attributed to developmental effects – as children and young people develop, they develop new learning capabilities. Hattie tells us that learning occurring in the orange zone is learning that would probably occur even if there was no schooling.

The yellow zone includes teaching strategies leading to learning outcomes that would occur in a typical year of schooling.

As teachers and school leaders, our task is to apply strategies that fall in the yellow and blue zones. They are high value strategies. Compared to other strategies, they have the largest effect size – that is, they make the biggest difference for our students' learning.

Effect Size for Higher Order Questions



Four Whole School Theories of Action

Prioritise High Expectations & Authentic Relationships

If schools and teachers prioritise high expectations and authentic relationships, *then* curiosity will flourish

Emphasise Enquiry Focused Teaching

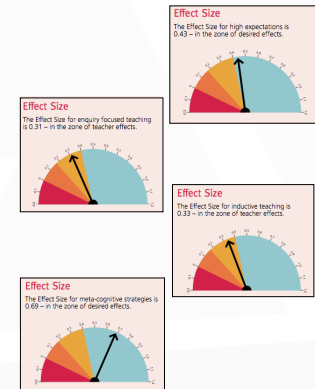
If enquiry is a defining characteristic of a school's culture, *then* the level of student achievement and curiosity will increase

Adopt Consistent Teaching Protocols

If we adopt consistent teaching protocols, *then* student behaviour, engagement, learning and curiosity will be enhanced

Adopt Consistent Learning Protocols

If we adopt consistent learning protocols in all classes, *then* all students will experience an enhanced capacity to learn, and to develop skills, confidence and curiosity



Six Theories of Action for the Teacher

Harness Learning Intentions, Narrative & Pace

If we harness learning intentions, narrative and pace so students are more secure about their learning, and more willing to take risks, then achievement and understanding will increase and curiosity will be enhanced

Set Challenging Learning Tasks

If learning tasks are purposeful, clearly defined, differentiated and challenging, then all students will experience powerful, progressive and precise learning

Frame Higher Order Questions

If we systematically employ higher order questioning, then levels of student understanding will deepen and levels of achievement will increase

Connect Feedback to Data

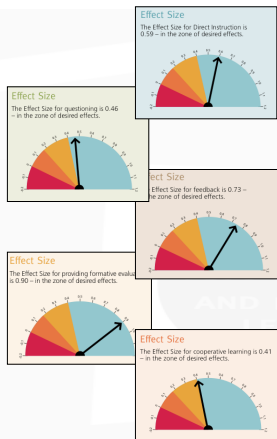
If we connect feedback to data about student actions and performance, then behaviour will be more positive, progress will accelerate, and curiosity will be enhanced

Commit to Assessment for Learning

If we commit to peer assessment, and assessment for learning, then student engagement, learning and achievement will accelerate

Implement Cooperative Groups

If we implement cooperative group structures and techniques to mediate between whole class instruction and students carrying out tasks, then the academic performance of the whole class will increase



CURIOSITY AND POWERFUL LEARNING

DAVID HOPKINS AND WAYNE CRAIG WITH CUI ENJOY

FOUR THEORIES OF ACTION FOR THE WHOLE SCHOOL

THEORIES OF ACTION	No systematic whole school adoption	Limited, unsystematic whole school adoption	Some systematic whole school adoption & review	Systematic whole school adoption & review	WHAT IS THE EVIDENCE?
PRIORITISE HIGH EXPECTATIONS & AUTHENTIC RELATIONSHIPS WHEN schools & teachers prioritise high expectations & authentic relationships THEN curiosity will flourish.					
EMPHASISE ENQUIRY FOCUSED TEACHING WHEN inquiry is a defining characteristic of a school's culture THEN the level of student achievement & curiosity will increase.					
ADOPT CONSISTENT TEACHING PROTOCOLS WHEN we adopt consistent teaching protocols THEN student behaviour, engagement, learning & curiosity will be enhanced.					
ADOPT CONSISTENT LEARNING PROTOCOLS WHEN we adopt consistent learning protocols in all classes THEN all students will experience an enhanced capacity to learn, & to develop skills, confidence, & curiosity					

Select strategies

02

Assessment against theories of action
Teaching and Learning Protocols

THEORIES OF ACTION	Few teachers know, use & review this practice	Some teachers know, use & review this practice	Most teachers know, use & review this practice	All teachers know, use & review this practice	WHAT IS THE EVIDENCE?
HARNESS LEARNING INTENTIONS, NARRATIVE, & PACE WHEN we harness learning intentions, narrative, & pace so students are more secure about their learning, & more willing to take risks THEN achievement & understanding will increase & curiosity will be enhanced.					
SET CHALLENGING LEARNING TASKS WHEN learning tasks are purposeful, clearly defined, differentiated & challenging THEN all students will experience powerful, progressive & precise learning.					
FRAME HIGHER ORDER QUESTIONS WHEN we systematically employ higher order questioning THEN levels of student understanding will deepen & levels of achievement will increase.					
					CONNECT FEEDBACK TO DATA WHEN we connect feedback to data about student actions & performances THEN behaviour will be more positive, progress will accelerate, & curiosity will be enhanced.
					COMMIT TO ASSESSMENT FOR LEARNING WHEN we commit to peer assessment, & assessment for learning THEN student engagement, learning, & achievement will accelerate.
					IMPLEMENT COOPERATIVE GROUPS WHEN we implement cooperative group structures & techniques to mediate between whole class instruction & students carrying out tasks THEN the academic performance of the whole class will increase.

Select strategies 02

Assessment against the six teacher theories of action



Our Theories of Action

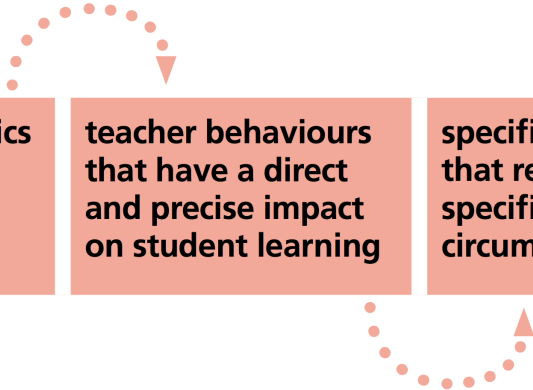

The key to precise practice

THEORIES OF ACTION ARE...

tactics

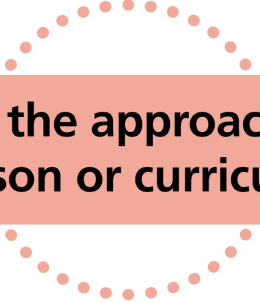

teacher behaviours that have a direct and precise impact on student learning

specific actions that respond to specific classroom circumstances

MODELS OF PRACTICE...

describe the approach for an entire lesson or curriculum unit

A bridge to PRECISION



- ✓ **Based on research**
- ✓ **Highly effective**
 - assures knowledge growth
 - effect sizes of 0.7+



- ✓ **Provide students with lifelong learning tools**
 - Whole Class Instruction
 - Cooperative Group Work
 - Inductive Teaching
 - Mnemonics
 - Concept Attainment
 - Synectics
- ✓ **Precise and new ways of using technology**



Models of Teaching



Models of teaching simultaneously define:

- the nature of the content
- the learning strategies
- the arrangements for social interaction that create the learning environments of students

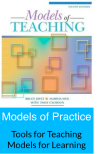
and

Models of Learning

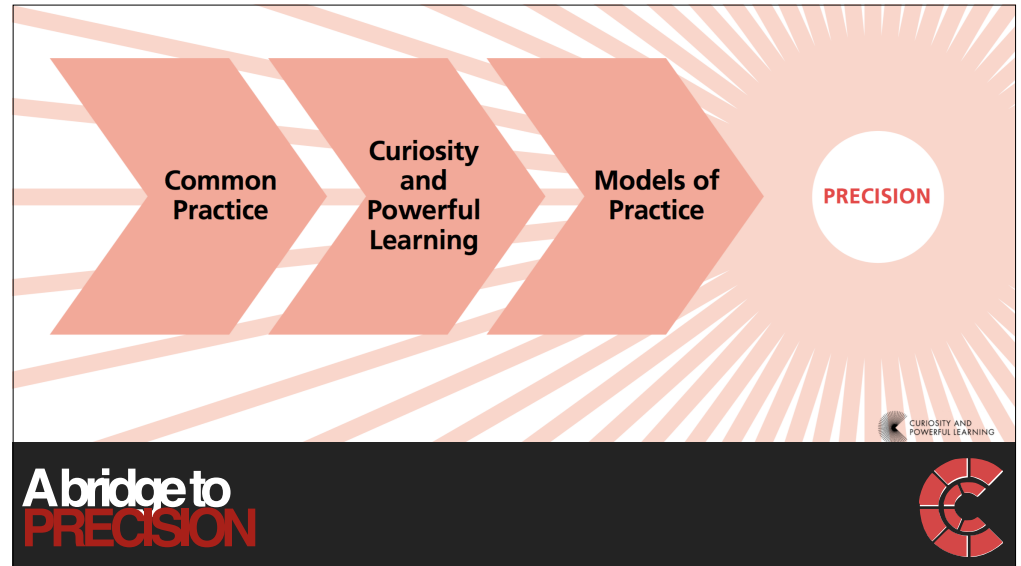


Models of teaching are **also** models of learning

How teaching is conducted has a large impact on students' abilities to educate themselves



Model of Practice	Learning Skills
Direct Instruction	<i>Extracting information and ideas from lectures and presentations</i>
Cooperative Group Work	<i>Working effectively with others to initiate and carry out cooperative tasks</i>
Inductive Teaching	<i>Building hypotheses and theories through classification</i>
Mnemonics	<i>Memorising information</i>
Concept Attainment	<i>Attaining concepts and how to invent them</i>
Synectics	<i>Using metaphors to think creatively</i>



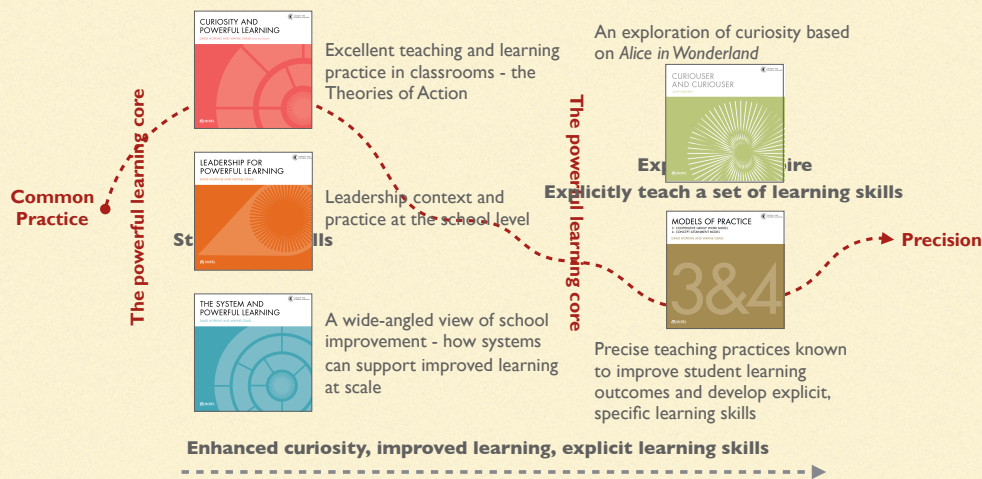
A bridge to PRECISION





GOOD LEARNING AND TEACHING AT SCALE...
technically simple, socially complex

TECHNICALLY SIMPLE...
we know what works



SOCIALLY COMPLEX...
most teachers, most of the the time, most
classrooms, most schools?

“What these high performing systems (and schools) do is focus relentlessly on:
ensuring high instructional quality
 while
reducing variability in the quality of
 instruction for every student”

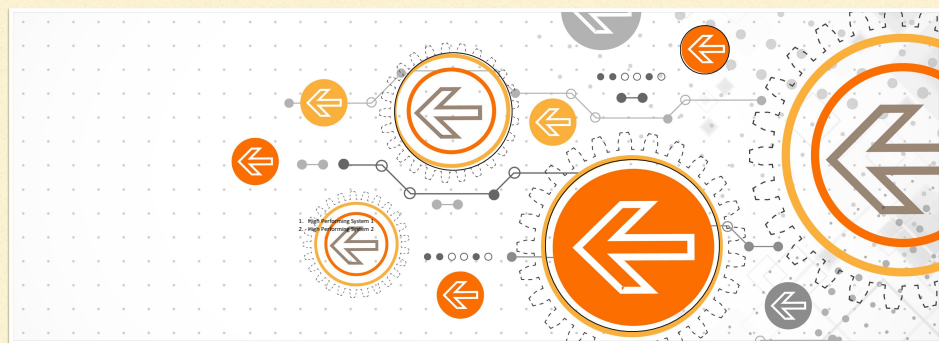


The same high-quality learning experiences...

EVERY classroom...

EVERY day...

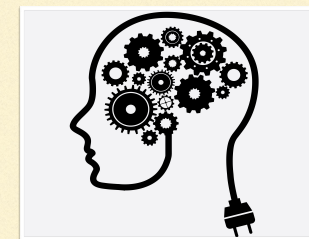
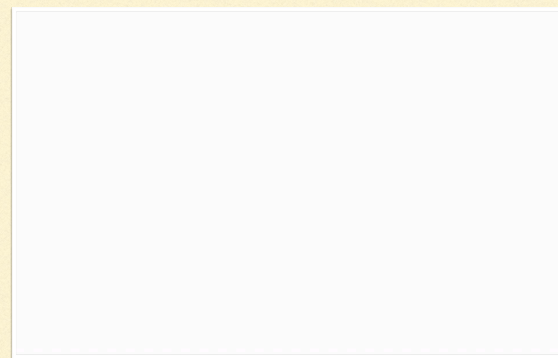
EVERY school

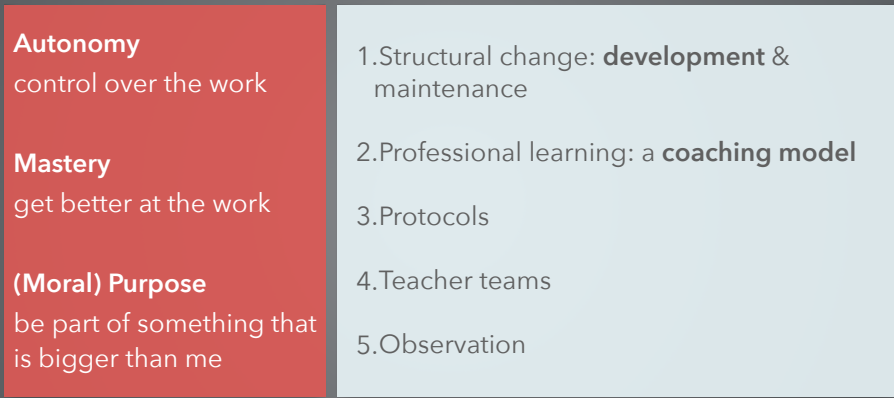
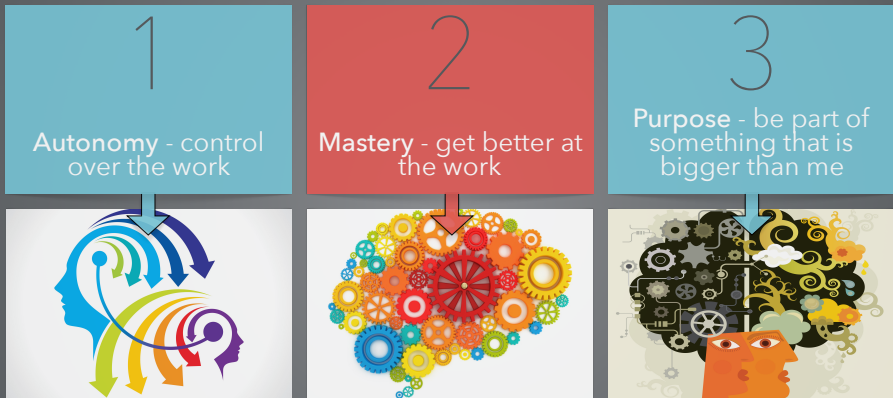


BUILDING EFFECTIVE PRACTICE...
 intrinsic motivation as the catalyst

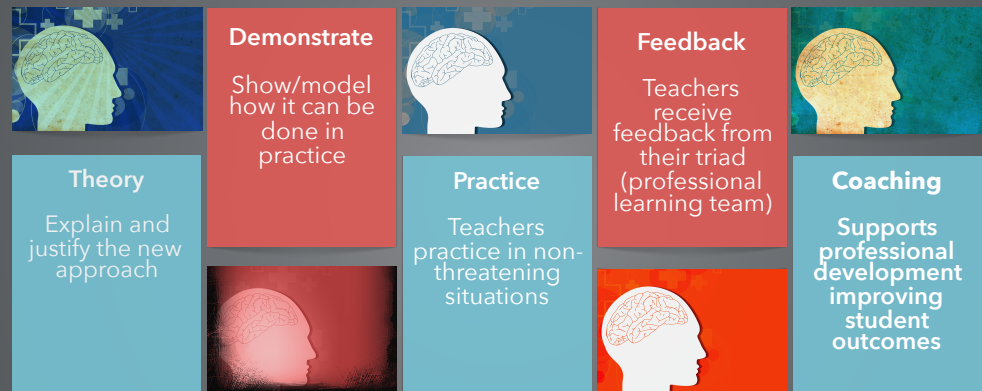
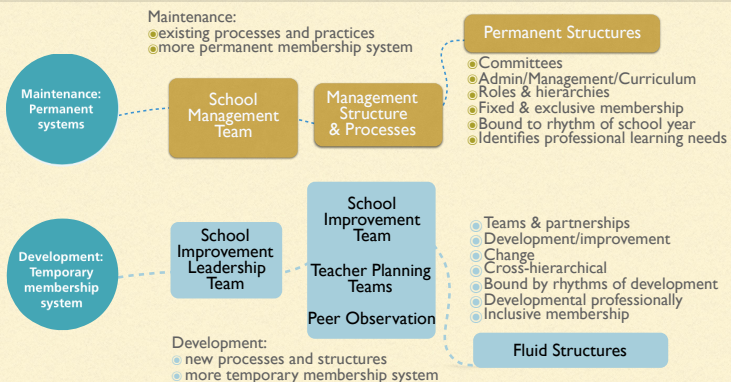
INTRINSIC MOTIVATION

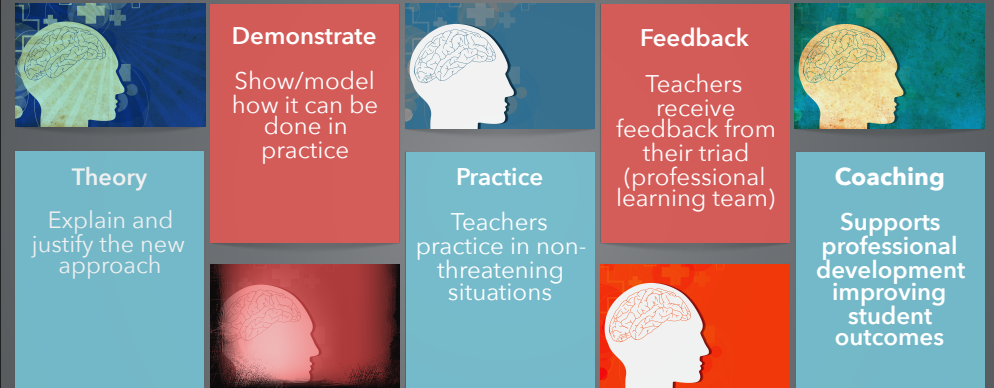
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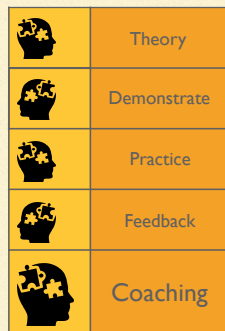


MAINTENANCE AND DEVELOPMENT





PROFESSIONAL LEARNING: A COACHING MODEL



Workshop - "Expert" coaching

Workplace - Peer coaching

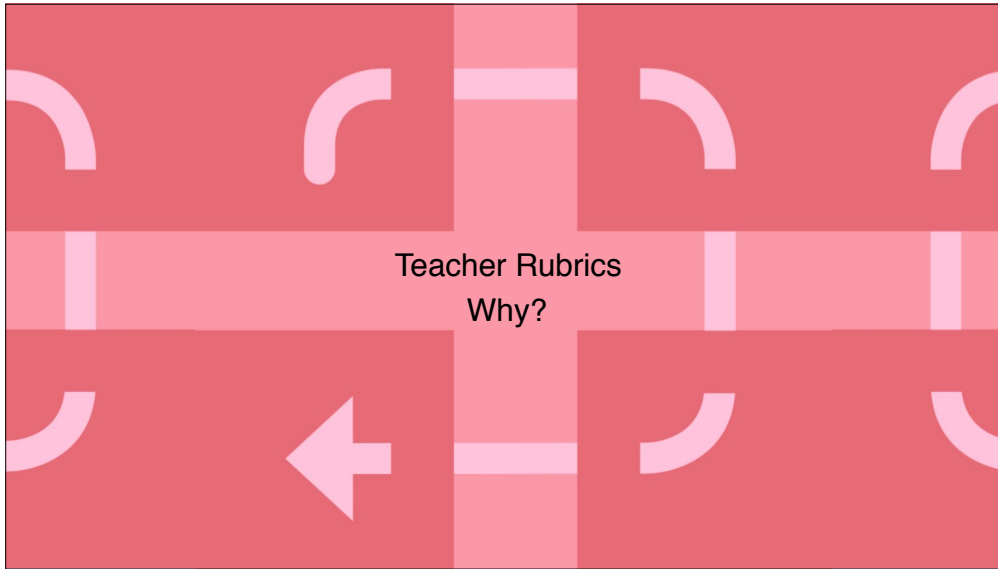
- School Improvement Team
- Teacher Planning Teams
- Peer Observation
- School Networks

PROFESSIONAL LEARNING: A COACHING MODEL

PROFESSIONAL LEARNING: EFFECT SIZES FOR TRAINING OUTCOMES BY TRAINING COMPONENT

Training components and combinations	Knowledge	Skills	Transfer of training
Information	0.63	0.35	0.00
Theory	0.15	0.50	0.00
Demonstration	1.65	0.26	0.00
Theory + Demonstration	0.66	0.86	0.00
Theory + Practice	1.15		0.00
Theory + Demonstration + Practice		0.72	0.00
Theory + Demonstration + Practice + Feedback	1.31	1.18	0.39
Theory + Demonstration + Practice + Feedback + Coaching	2.71	1.25	1.68

Adapted from Joyce and Showers, 1995



Teacher Rubrics

Four purposes for teachers

- Clearly set out the habits, behaviours, and performance expectations of high quality teaching
- Support personal reflection by teachers about where their practice falls on the continuum
- Provide a common reference point and language for teachers and school leaders when discussing teaching practice and performance
- Inform planning for professional learning and development

Three outcomes for students

ENSURING MASTERY	Teachers plan with an unrelenting focus on high standards to ensure all students achieve mastery
CONTINUAL DEVELOPMENT	Every action and every communication is focussed on the individual student's ability to constantly grow and improve
LONGEVITY	All students set and achieve their goals, and all students are ready for post-school education and employment

THE RUBRICS ARE FLEXIBLE

We encourage teachers and school leaders to adapt the rubrics to suit changing circumstances

THE RUBRICS ARE TOOLS FOR ACHIEVING PROFESSIONAL MASTERY

Using a common language and structure, the rubrics support professional conversations and collective inquiry

THE RUBRICS ARE ABOUT PROFESSIONAL DEVELOPMENT

The rubrics provide tools for situating and evaluating current practice and mapping a pathway for productive improvement

THE RUBRICS ARE ABOUT PROFESSIONAL PRACTICE

They are about what we do as teachers
And they are realistic

Teacher Rubrics

Teacher Rubrics Challenging Tasks

Teacher is aware of strategies that create challenge in the classroom.

- Tasks allow many students to avoid challenge while still meeting success criteria
- Teacher uses subject-specific language to explain concepts
- Some students use subject-specific language to explain concepts
- Some students are often passive and display off-task behaviour
- A minority of students engage in higher level cognitive tasks.

Teacher uses teaching strategies that are usually matched to most students' needs.

- Most tasks set by the teacher challenge students and require them to use subject-specific language to explain concepts
- Some students are challenged to demonstrate subject expertise
- Occasionally the teacher mismatches challenges and students' levels of understanding. This is apparent from flagging pace, engagement, motivation.
- Students demonstrate some autonomy. They often require teacher input before deciding what they need to do to improve their performance.

Teacher uses well-judged and often inspirational teaching strategies. Students learn optimistically and independently.

- All tasks are precisely targeted. Each student makes greater than expected progress
- All students understand the desired learning outcome and regulate their performance against it.
- Students are engaged by, and able to complete, tasks that require them to find contradictions or tensions in knowledge, and to expose assumptions in knowledge.

Teacher matches teaching strategies to most students' needs.

- Most tasks are differentiated and set within the ZPD for all students.
- All students demonstrate progress.
- Students are encouraged and supported to use subject-specific language to explain their thinking
- Students are asked to perform high level cognitive tasks, such as arguing, justifying, analysing, and evaluating.
- Students demonstrate autonomy through task choice.
- Students can talk about the gap between their current performance and the desired performance.

TEACHER TEAMS

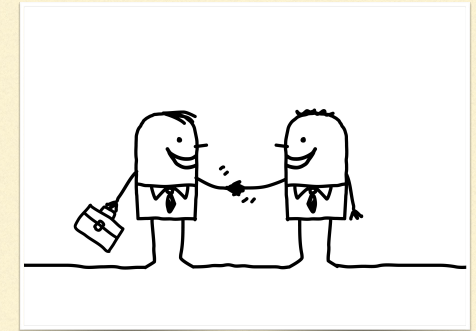


Teams of teachers responsible for cohorts of students rather than individual teachers responsible for one class

Planning the “how” of teaching rather than just the “what” and “when”

TEACHER TEAMS

- Teacher - student relationships are much stronger and *teacher effectiveness is enhanced*
- Professional development occurs as part of the planning and *teaching process and is visible to all*
- There is built-in *accountability*
- There is greater *flexibility* to accommodate individual student needs
- Planning is *more effective*

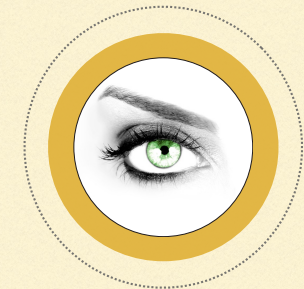
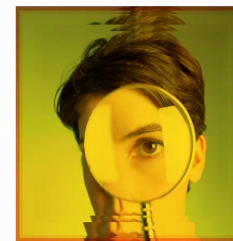


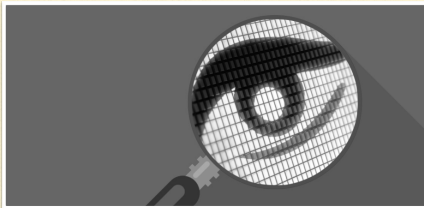
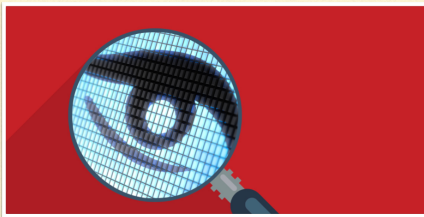
TEACHER TEAMS



Teacher Observation...

peers



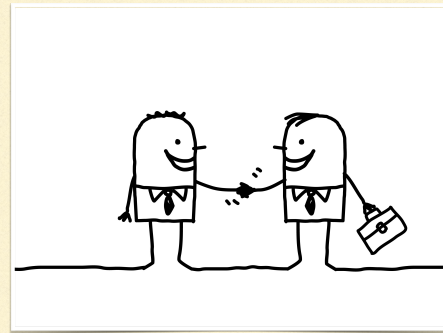


Teacher Observation...

The problems with observation

- It usually becomes personal
- We absolutely **know what we like**
- Strong **emotional response** to particular behaviours/styles is hard to over-rule
- We focus on observable **proxies** for learning
- Learning is **invisible**
- **Preferences** for particular pedagogies are widely shared, but evidence and understanding of their effectiveness is limited
- We think learning depends on **what the teacher does**
- We **assume** that if you can do it, you can spot it
- We **don't believe** observation can miss so much

PEER OBSERVATION



Teams of teachers developing professional practices that:

- emphasise non-judgmental peer observation
- support through triads

AND

- are disciplined by clear definitions and protocols

will develop professional practices that have a *predictable impact on student learning and achievement*

FIVE CONDITIONS FOR BUILDING INTRINSIC MOTIVATION AMONG TEACHERS

Our School

ADAPTIVE Leadership & US

1	Maintain structures for scaffolding teacher development	Not in place	0	1	2	3	4	In place
2	Make peer coaching ubiquitous	Not in place	0	1	2	3	4	In place
3	Create protocols for both teaching and learning	Not in place	0	1	2	3	4	In place
4	Incentivise teacher teams	Not in place	0	1	2	3	4	In place
5	Ensure classroom observation focuses on learning	Not in place	0	1	2	3	4	In place



“It is teachers, who in the end, will change the world of the school by understanding it”

David Hopkins

David Hopkins is Professor Emeritus at the Institute of Education University College London and Chair of Educational Leadership at the University of Bolton.

He is a Trustee of Outward Bound and the charity 'Adventure Learning Schools'. David holds visiting professorships at the Catholic University of Santiago, the Chinese University of Hong Kong and the Universities of Cumbria, Edinburgh, Melbourne and Wales and consults internationally on school reform. Between 2002 and 2005 he served three Secretary of States as the Chief Adviser on School Standards at the Department for Education and Skills.

Previously, he was Chair of the Leicester City Partnership Board and Dean of the Faculty of Education at the University of Nottingham. Before that again he was a Tutor at the University of Cambridge Institute of Education, a Secondary School teacher and an Outward Bound Instructor.

David is also an International Mountain Guide (retired) who despite two new knees still climbs and skis in the Alps and Himalayas. His recent book *Exploding the Myths of School Reform*, completes his school improvement trilogy; the previous two books being, *Every School a Great School* and *School Improvement for Real*. David was recently ranked the 16th most influential educator in the world by the American based Global Gurus organisation.

