



Prifysgol Cymru
Y Drindod Dewi Sant
University of Wales
Trinity Saint David



Addysgeg Effeithiol

Effective Pedagogy

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Ein strategaeth pedagogaid gyntaf...

Our first pedagogical strategy...

Meddylwch > Trafodwch > Rhannwch

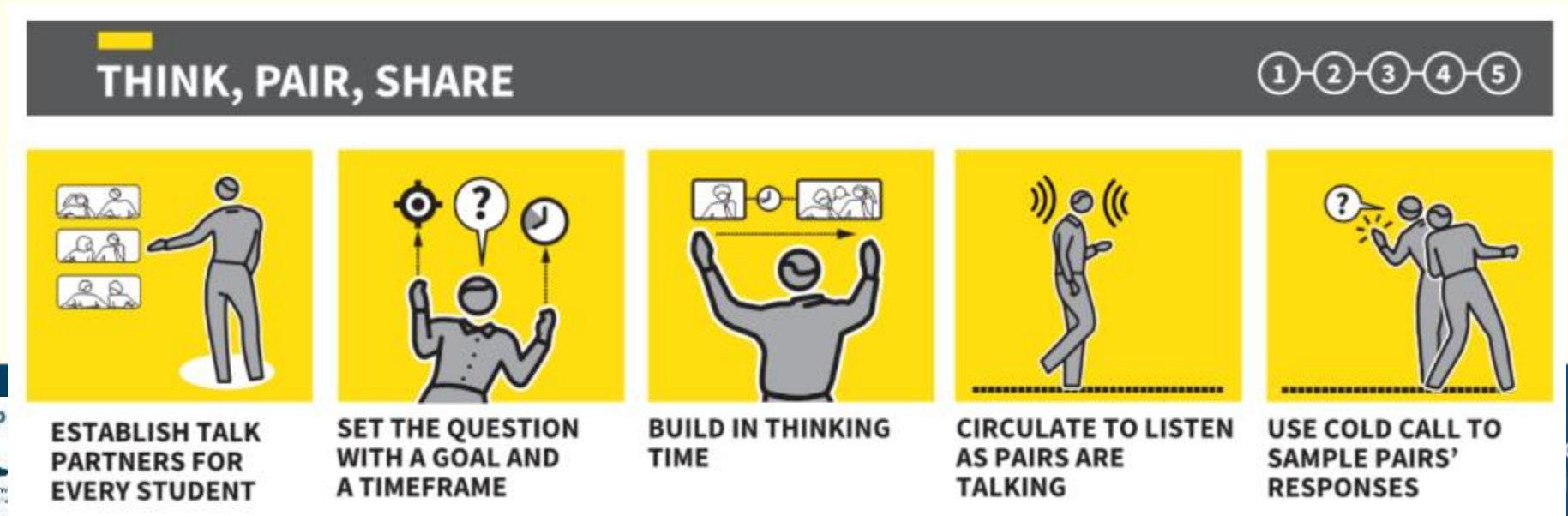
Think > Pair > Share

Beth sy'n gwneud
addysgu da?

What makes good
teaching?



Sherrington & Caviglioli (2020)



Amcanion dysgu

Learning intentions

Deall beth yw addysgeg a pham
mae'n bwysig i chi fel athro

Dechreuwch nodi rhai o'r meini
prawf ar gyfer addysgeg 'effeithiol',
gan dynnu ar lenyddiaeth
berthnasol

Ystyriwch sut rydych chi'n dechrau
adeiladu ar y syniadau hyn trwy
gydol y modwl hwn a'ch arfer
addysgu

Understand what pedagogy is and
why it is important to you as a
teacher

Start to identify some of the criteria
for 'effective' pedagogy, drawing on
relevant literature

Consider how you start to build on
these ideas throughout this module
and your teaching practice

Beth yw 'addysgeg'?

What is 'pedagogy'?

The study of teaching methods, including the aims of education and the ways in which such goals may be achieved. It relies heavily on scientific theories of learning, and to some extent on the philosophy of education, which considers the aims and value of education from a philosophical perspective.

The pedagogy adopted by teachers shapes their actions, judgments, and other teaching strategies by taking into consideration theories of learning, understandings of students and their needs, and the backgrounds and interests of individual students.

Beth yw 'addysgeg'?

What is 'pedagogy'?

Astudiaeth o dulliau dysgu, gan gynnwys nodau addysg a'r dulliau y gellir cyflawni'r nodau hyn. Mae'n dibynnu'n fawr ar ddamcaniaethau gwyddonol dysgu, ac i ryw raddau ar athroniaeth addysg, sy'n ystyried nodau a gwerth addysg o safbwynt athronyddol.

Mae'r ffordd mae athro'n addysgu yn dylanwadu ar eu gweithredoedd, eu penderfyniadau a'u strategaethau addysgu. Maen nhw'n meddwl am sut mae pobl yn dysgu, beth mae disgyblion ei angen, a'u cefndir a'u diddordebau.

Syniad dadleuol

A contested idea



“In education, ‘what works?’ is not the right question because everything works somewhere and nothing works everywhere ...”

Prof Dylan Wiliam

Pam ei fod yn bwysig?

Why does it matter?

- When you control for everything else, the 'quality' of the teacher can have a significant impact on learner outcomes.
- More effective teachers are disproportionately more effective for 'at risk' students.

(Wiliam, 2018)

Effective teachers can make informed pedagogical choices, evaluate their impact, and then adjust.

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Cyfrifoldeb pob athro: Adfyfyriaeth

Every teacher's responsibility - Reflection

- Asesu effaith y dull dysgu trwy gynnydd disgyblion.
- Nodi anghenion mwyaf y disgyblion.
- Cyd-fynd yr anghenion hyn â'r dulliau addysgiadol mwyaf priodol.
- Assess the impact of the teaching approach through pupil progress.
- Identify pupils' greatest needs.
- Match these needs with the most appropriate pedagogical approach.

Eich dulliau o ran dysgu ac addysgu:

Your approaches to teaching and learning:

Pwrpasol –

canolbwyntio ar y Cwricwlwm

Addas –

canolbwyntio ar y disgybl

Effeithiol –

canolbwyntio ar ddatblygu

Purposeful –

focus on the Curriculum

Appropriate –

focus on the pupil

Effective –

focus on development

Sut ydyn ni'n gwybod beth yw 'da'? 'How do we know what 'good' is?

Ymchwilio i effaith

- Dysgu Gweledol (John Hattie)
 - [VISIBLE LEARNING - Information About What Works Best For Learning](#)
- Cronfa Gwaddol Addysg>
- Pecyn Cymorth Addysgu a Dysgu
- [Teaching and Learning Toolkit | EEF](#)

Research into impact

- Visible Learning (John Hattie)
 - [VISIBLE LEARNING - Information About What Works Best For Learning](#)
- Education Endowment Fund > Teaching and Learning Toolkit
 - [Teaching and Learning Toolkit | EEF](#)

Gair i gall

A word of warning

‘Visible Learning was never about telling teachers what to do. It’s about helping them ask the right questions.’ Professional judgment should still rule the day.

“Teaching is not about applying a recipe. It’s about understanding your impact.” The clear implication is that his work allows teachers to better understand their impact. But the way Visible Learning is used - often uncritically - suggests that nuance gets lost somewhere between theory and practice.’

Hattie (2020) cited in Didau (2025)

Sut ydyn ni'n gwybod beth yw 'da'?

How do we know what “good” is?

Weithiau gall ymchwil helpu i nodi strategaethau **nad** ydynt yn ymddangos eu bod yn cael effaith.

Nid oes unrhyw dystiolaeth bod gan bobl arddull ddysgu benodol y maent yn dysgu'n well drwyddo.

Mae rhywfaint o dystiolaeth y gall y gred gael effaith negyddol ar ddysgwyr.

Willingham, Hughes a Dobolyi (2015)

Sometimes research can help identify strategies that **don't** seem to have an impact.

There is **NO** evidence that people have a specific learning style that they learn better through.

There is some evidence that the belief may have a negative impact on learners.

Willingham, Hughes and Dobolyi (2015)

Yr Egwyddorion Addysgegol

The Pedagogical Principles

Dyfodol Llwyddiannus

Adolygiad Annibynnol o'r Cwricwlwm
a'r Trefniadau Asesu yng Nghymru

Yr Athro Graham Donaldson CB
Chwefror 2015

Successful Futures

Independent Review of Curriculum
and Assessment Arrangements in Wales

Professor Graham Donaldson CB
February 2015

Cwricwlwm i Gymru

Curriculum for Wales



[Cwricwlwm i Gymru - Hwb](#)

[Curriculum for Wales - Hwb](#)

Donaldson, (2015)

Welsh Government, (2015)

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>>> Argymhellion

- 32. Dylai pob addysgu a dysgu anelu at gyflawni'r pedwar diben cwricwlwm.
- 33. Dylai athrawon ddilyn yr egwyddorion addysgegol sydd wedi'u nodi yn yr adroddiad hwn wrth gynllunio eu dysgu ac addysgu, er mwyn sicrhau bod y gweithgareddau'n ymwneud yn uniongyrchol â'r dibenion cwricwlwm.
- 34. Dylai plant a phobl ifanc gael cyfleoedd i ddysgu o arbenigedd a phrofiad o'r tu allan i'r ysgol.



>>> Recommendations

- 32. All teaching and learning should be directed to achieving the four curriculum purposes.
- 33. Teachers should apply the pedagogical principles identified in this report when planning their teaching and learning, to ensure that the activities relate directly to the curriculum purposes.
- 34. Children and young people should have opportunities to learn from expertise and experience from outside the school.

Addysgeg

Wrth gynllunio eu cwricwlwm, dylai ysgolion ystyried y dulliau addysgegol y bydd angen iddyn nhw eu defnyddio i gefnogi dysgwyr i wireddu'r pedwar diben.

Rhan o [Cynllunio eich cwricwlwm](#)

Mae addysgeg wrth wraidd cwricwlwm. Wrth gynllunio eu cwricwlwm, dylai ysgolion ystyried y dulliau addysgegol y bydd angen iddyn nhw eu defnyddio i gefnogi dysgwyr i wireddu'r pedwar diben. Dylai ysgolion geisio datblygu gweledigaeth gref o ddysgu ac addysgu sy'n ystyried 'pam' a 'sut' yn ogystal â 'beth'. Bydd y weledigaeth hon yn cydnabod rôl hanfodol yr amgylchedd dysgu wrth gefnogi dysgu effeithiol.

Dylai ysgolion sicrhau bod gan ymarferwyr ddealltwriaeth ddofn a manwl o'r egwyddorion addysgegol a'r ymchwil sy'n sail iddyn nhw. Mae addysgeg effeithiol yn dibynnu ar ddealltwriaeth fanwl o ddatblygiad plant a phobl ifanc. Mae'n cynnwys archwilio a myfyrio ar y strategaethau addysgu a fydd yn cefnogi'r dysgu orau mewn cyd-destun penodol, ac ymchwilio i effaith hyn ar ddysgwyr.

Dylai'r broses o gynllunio cwricwlwm ar gyfer dysgwyr o bob oed a gallu fod yn seiliedig ar egwyddorion addysgegol. Mae'r rhain yn adlewyrchu tystiolaeth hysbys am addysgeg effeithiol.

<https://hwb.gov.wales/cwricwlwm-i-gymru/cynllunio-eich-cwricwlwm/addysgeg>

Pedagogy

In designing their curriculum, schools should consider the pedagogical approaches they will need to employ to support learners in realising the four purposes.

Part of [Designing your curriculum](#)

Pedagogy is at the heart of curriculum. In designing their curriculum, schools should consider the pedagogical approaches they will need to employ to support learners in realising the **four purposes**. Schools should seek to develop a strong vision of learning and teaching which considers the 'why' and 'how' as well as the 'what'. This vision will recognise the integral role of the learning environment in supporting effective learning.

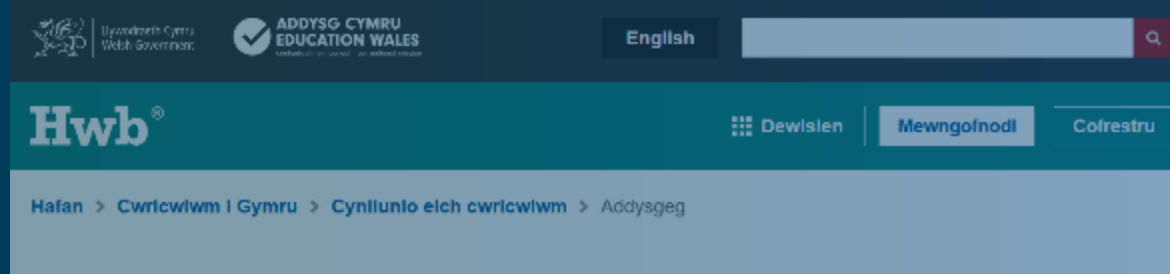
Schools should ensure that practitioners have a deep and thorough understanding of the pedagogical principles and the research on which they are based. Effective pedagogy relies on an in-depth understanding of child and adolescent development. It involves exploring and reflecting on which teaching strategies will best support learning in a given context, and inquiring about the impact of this on learners.

Curriculum design for learners of all ages and abilities should be underpinned by pedagogical principles. These reflect well-documented evidence about effective pedagogy.

The pedagogical principles

<https://hwb.gov.wales/curriculum-for-wales/designing-your-curriculum/pedagogy>





Addysgeg

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Dylai ysgolion sicrhau bod ymarferwyr yn meddu ar ddealltwriaeth ddofn a manwl o'r egwyddorion addysgeg a'r ymchwil y maent yn seiliedig arnynt. Mae addysgeg effeithiol yn dibynnu ar ddealltwriaeth fanwl o ddatblygiad plant a phobl ifanc. Mae'n cynnwys archwilio a myfyrio ar ba strategaethau addysgu fydd yn cefnogi dysgu orau mewn cyd-destun penodol, ac ymholi i effaith hyn ar ddysgwyr.

<https://hwb.gov.wales/cwricwlwm-i-gymru/cynllunio-eich-cwricwlwm/addysgeg>

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Yr egwyddorion addysgegol

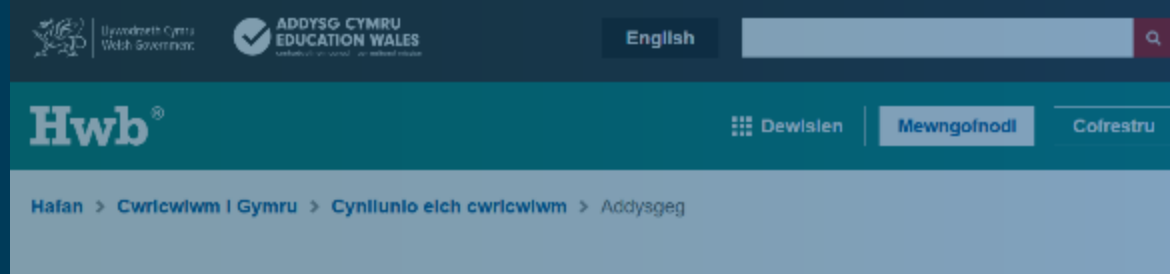
Caiff y broses o gynllunio cwricwlwm ar gyfer pob dysgwr ei hategu gan deuddeg egwyddor addysgegol, sy'n datgan bod dysgu ac addysgu da yn:

1. canolbwyntio'n gyson ar ddibenion cyffredinol y cwricwlwm
2. rhoi her i'r holl ddysgwyr drwy eu hannog i gydnabod pwysigrwydd ymdrechu'n barhaus i gwrdd â disgwyliadau sy'n uchel, ond o fewn eu cyrraedd
3. defnyddio cymysgedd o ddulliau sy'n cynnwys addysgu uniongyrchol
4. defnyddio cymysgedd o ddulliau gan gynnwys y rheini sy'n hybu sgiliau datrys problemau, sgiliau creadigol a'r gallu i feddwl mewn modd beirniadol
5. golygu gosod tasgau a dewis adnoddau sy'n adeiladu ar wybodaeth a phrofiad blaenorol ac yn ennyn diddordeb
6. creu cyd-destunau dilys ar gyfer dysgu
7. dilyn egwyddorion asesu ar gyfer dysgu
8. ymestyn oddi mewn ac ar draws y Meysydd
9. atgyfnerthu yn rheolaidd y sgiliau trawsgwricwlaidd, sef llythrennedd, rhifedd a chymhwysedd digidol, ac yn darparu cyfleoedd i'w hymarfer
10. annog dysgwyr i gymryd cyfrifoldeb cynyddol am eu dysgu eu hunain
11. hybu datblygiad cymdeithasol ac emosiynol a chydberthnasau cadarnhaol
12. hybu cydweithio

The pedagogical principles

Curriculum design for all learners is underpinned by twelve pedagogical principles, which state that good learning and teaching:

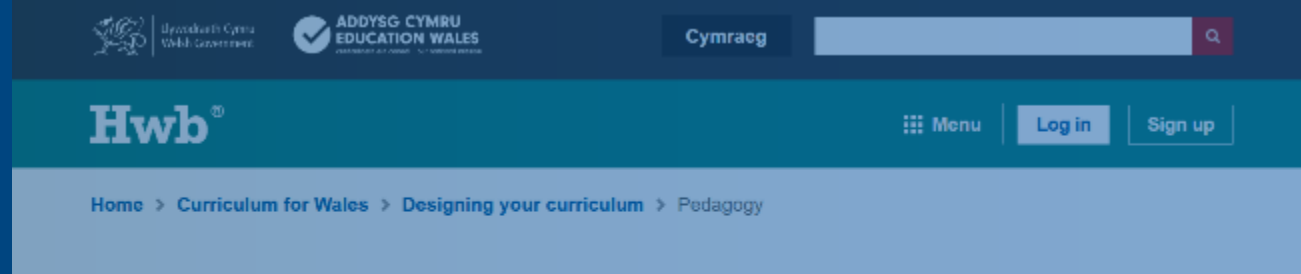
1. maintains a consistent focus on the overall purposes of the curriculum
2. challenges all learners by encouraging them to recognise the importance of sustained effort in meeting expectations that are high but achievable for them
3. means employing a blend of approaches including direct teaching
4. means employing a blend of approaches including those that promote problem-solving, creative and critical thinking
5. sets tasks and selects resources that build on previous knowledge and experience and engage interest
6. creates authentic contexts for learning
7. means employing assessment for learning principles
8. ranges within and across Areas
9. regularly reinforces the cross-curricular skills of literacy, numeracy and digital competence, and provides opportunities to practise them
10. encourages learners to take increasing responsibility for their own learning
11. supports social and emotional development and positive relationships
12. encourages collaboration



Addysgeg

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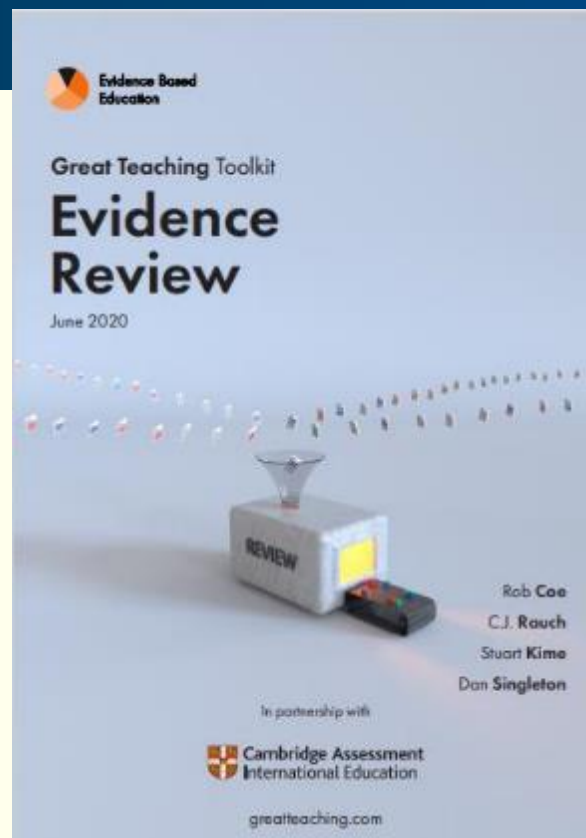
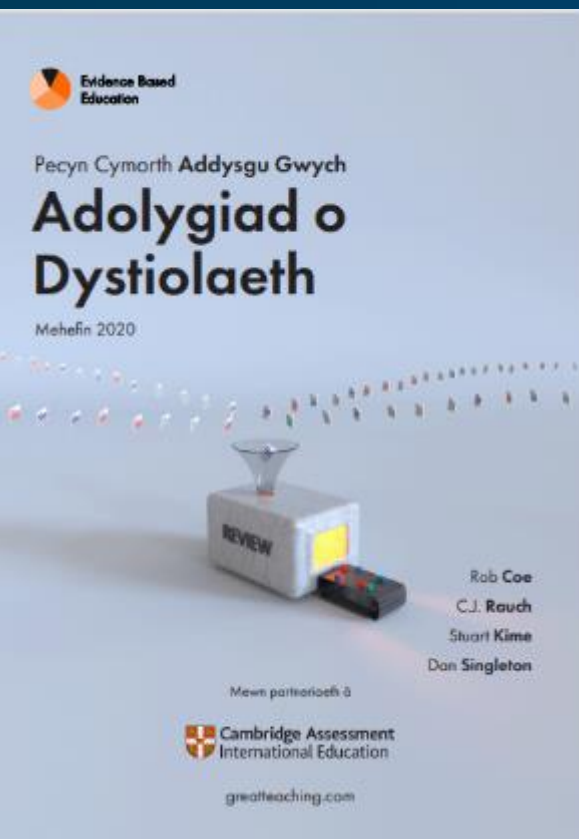
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Schools should ensure that practitioners have a deep and thorough understanding of the **pedagogical principles and the research on which they are based**. Effective pedagogy relies on an in-depth understanding of child and adolescent development. It involves exploring and reflecting on which teaching strategies will best support learning in a given context, and inquiring about the impact of this on learners.

<https://hwb.gov.wales/curriculum-for-wales/designing-your-curriculum/pedagogy>



Cambridge Assessment International Education

@ProfCoe

An Introduction to the Great Teaching Toolkit

- Webinar for Cambridge International
- Rob Coe
- 28 October 2020

The Great Teaching Toolkit webinar with Professor Rob Coe

4,322 views • 29 Oct 2020

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[The Great Teaching Toolkit webinar with Professor Rob Coe - YouTube](#)

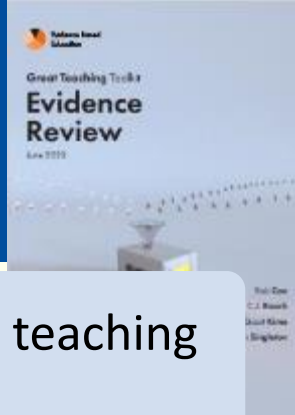
[Cymraeg](#)

[Great Teaching Toolkit: Evidence Review - Evidence Based Education](#)

Coe *et al.*, (2020)

17 syniad, pedwar pennawd

17 ideas, four headings



Deall y cynnwys maen nhw'n ei dysgu a sut y caiff ei ddysgu.



Understand the content they are teaching and how it is learnt



Creu amgylchedd cefnogol ar gyfer dysgu.



Create a supportive environment for learning



Rheoli'r ystafell ddosbarth i wneud y mwyaf o'r cyfle i ddysgu.



Manage the classroom to maximise the opportunity to learn



Cyflwyno cynnwys, gweithgareddau a rhyngweithio sy'n actifadu meddyliau eu myfyrwyr.



Present content, activities and interactions that activate their students' thinking



Gall athrawon
gwyh deall y
cynnwys maent yn
ei addysgu a sut y
caiff ei ddysgu

Great teachers
understand the
content they are
teaching and how it
is learnt

1. Deall y cynnwys

1

Bod â gwybodaeth ddofn a rhugl a dealltwriaeth hyblyg o'r cynnwys rydych chi'n ei addysgu

2

Gwybodaeth am ofynion dilyniannu a dibyniaethau'r cwricwlwm mewn perthynas â'r cynnwys a'r syniadau rydych chi'n eu haddysgu

3

Gwybodaeth am dasgau, asesiadau a gweithgareddau perthnasol y cwricwlwm, eu potensial diagnostig a didactig; gallu cynhyrchu esboniadau amrywiol ac amryw o sylwadau/cyfatebiaethau/enghreiffiau ar gyfer y syniadau rydych chi'n eu haddysgu

4

Gwybodaeth am strategaethau, camsyniadau a rhwystrau cyffredin ymhlith myfyrwyr mewn perthynas â'r cynnwys rydych chi'n ei addysgu

1. Understanding the content

1

Having deep and fluent knowledge and flexible understanding of the content you are teaching

2

Knowledge of the requirements of curriculum sequencing and dependencies in relation to the content and ideas you are teaching

3

Knowledge of relevant curriculum tasks, assessments and activities, their diagnostic and didactic potential; being able to generate varied explanations and multiple representations/analogies/examples for the ideas you are teaching

4

Knowledge of common student strategies, misconceptions and sticking points in relation to the content you are teaching





Gall athrawon
gwyh creu
amgylchedd
cefnogol ar
gyfer dysgu

Great teachers
create a supportive
environment for
learning

2. Creu amgylchedd cefnogol

1

Hyrwyddo rhyngweithiadau a pherthnasoedd â'r holl fyfyrwyr sy'n seiliedig ar barch, gofal, empathi a chynhesrwydd; osgoi emosiynau negyddol wrth rhyngweithio â myfyrwyr; bod yn ystyriol o anghenion, emosiynau, diwylliant a chredoau unigol myfyrwyr

2

Hyrwyddo hinsawdd gadarnhaol o berthnasoedd rhwng myfyrwyr, a nodweddir gan barch, ymddiriedaeth, cydweithrediad a gofal

3

Hyrwyddo cymhelliant dysgwyr drwy deimladau o gymhwysedd, ymreolaeth a pherthynasrwydd

4

Creu hinsawdd o ddisgwyliadau uchel, gyda her ar lefel uchel ac ymddiriedaeth ar lefel uchel, fel bod dysgwyr yn teimlo ei bod hi'n iawn rhoi cynnig ar rywbeth; annog dysgwyr i briodoli eu llwyddiant neu eu methiant i bethau y gallant eu newid

2. Creating a supportive environment

1

Promoting interactions and relationships with all students that are based on mutual respect, care, empathy and warmth; avoiding negative emotions in interactions with students; being sensitive to the individual needs, emotions, culture and beliefs of students

2

Promoting a positive climate of student-student relationships, characterised by respect, trust, cooperation and care

3

Promoting learner motivation through feelings of competence, autonomy and relatedness

4

Creating a climate of high expectations, with high challenge and high trust, so learners feel it is okay to have a go; encouraging learners to attribute their success or failure to things they can change





Gall athrawon
gwyb rheoli'r
ystafell
ddosbarth er
mwyn cynyddu'r
cyfle i ddysgu
gymaint â
phosibl

Great teachers
manage the
classroom
to maximise
opportunity to learn

3. Manteisio i'r eithaf ar y cyfle i ddysgu

1

Rheoli amser ac adnoddau yn effeithlon yn yr ystafell ddosbarth er mwyn sicrhau'r cynhyrchiant mwyaf posibl a lleihau'r amser sy'n cael ei wastraffu (e.e. cychwyn gwers, pontio o fewn y wers); rhoi cyfarwyddiadau clir fel bod myfyrwyr yn deall yr hyn y dylent fod yn ei wneud; defnyddio arferion (a'u haddysgu'n benodol) i sicrhau bod unrhyw bontio yn digwydd yn llyfn

2

Sicrhau bod rheolau, disgwyliadau a goblygiadau ymddygiad yn glir, yn ddealladwy ac yn cael eu cymhwyso'n gyson

3

Atal, rhagweld ac ymateb i ddigwyddiadau a allai darfu ar eraill; atgyfnerthu ymddygiadau cadarnhaol myfyrwyr; dangos ymwybyddiaeth o'r hyn sy'n digwydd yn yr ystafell ddosbarth ac ymateb yn briodol

3. Maximising opportunity to learn

1

Managing time and resources efficiently in the classroom to maximise productivity and minimise wasted time (e.g., starts, transitions); giving clear instructions so students understand what they should be doing; using (and explicitly teaching) routines to make transitions smooth

2

Ensuring that rules, expectations and consequences for behaviour are explicit, clear and consistently applied

3

Preventing, anticipating & responding to potentially disruptive incidents; reinforcing positive student behaviours; signalling awareness of what is happening in the classroom and responding appropriately





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Atal, rhagweld ac ymateb i ddigwyddiadau a allai darfu ar eraill; atgyfnerthu ymddygiadau a allai ddarfu ar ymwybyddiaeth o'r hyn sy'n digwydd yn yr ystafell ddosbarth

'Behaviour is a curriculum. Being well-behaved is a combination of skills, aptitudes, habits, inclinations, values and knowledge. These can be taught.'

3. Maximising opportunity to learn

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Managing time and resources efficiently in the classroom to maximise productivity and minimise wasted time (e.g., starts, transitions); giving clear instructions so students understand what they should be doing; using (and explicitly teaching) routines to make transitions smooth

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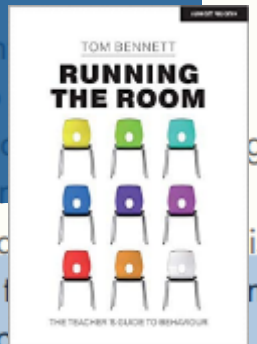
Ensuring that rules, expectations and consequences for behaviour are explicit, clear and consistently applied

3

Preventing, and responding to, disruptive incidents; positive student behaviour; signalling away from the incident; responding appropriately



Prifysgol Cymru
Y Drindod Dewi Sant
University of Wales
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Trawsnewid Addysg, Trawsnewid Bywydau
Transforming Education, Transforming Lives



Gall athrawon gwych cyflwyno cynnwys, gweithgareddau a rhyngweithiadau sy'n ysgogi meddwl eu myfyrwyr

Great teachers present content, activities and interactions that activate their students' thinking

4. Ysgogi meddwl yn galed

1

Strwythuro: rhoi dilyniant priodol o dasgau dysgu i fyfyrwyr; nodi amcanion dysgu, sail resymegol, trosolwg, syniadau allweddol a chamau cynnydd; paru tasgau ag anghenion a pharodrwydd dysgwyr; darparu sgaffaldwaith a chymorth i wneud tasgau'n hygyrch i bawb, ond eu tynnu'n ôl yn raddol fel bod pob myfyriwr yn llwyddo ar y lefel ofynnol

2

Esbonio: cyflwyno a chyfleu syniadau newydd yn glir, gydag esboniadau cryno, priodol, diddorol; cysylltu syniadau newydd â'r hyn sydd eisoes wedi ei ddysgu (ac ail-ysgogi/gwirio'r wybodaeth flaenorol honno); defnyddio enghreifftiau (a rhai nad ydynt yn enghreifftiau) yn briodol i helpu dysgwyr i ddeall ac adeiladu cysylltiadau; modelu/dangos sgiliau neu weithdrefnau newydd gyda sgaffaldwaith a her briodol; defnyddio enghreifftiau sydd wedi gweithio/eu rhannol weithio

3

Cwestiynu: defnyddio cwestiynau a deialog i hyrwyddo ymhelaethu a meddwl cysylltiedig, hyblyg ymhlith dysgwyr (e.e. 'Pam?', 'Cymharwch' ac ati); defnyddio cwestiynau i ennyn prosesau meddwl myfyrwyr; cael ymatebion gan bob myfyriwr; defnyddio asesiadau o ansawdd uchel i ddangos tystiolaeth o ddysgu; dehongli, cyfathrebu ac ymateb i dystiolaeth asesu yn briodol

1

Structuring: giving students an appropriate sequence of learning tasks; signalling learning objectives, rationale, overview, key ideas and stages of progress; matching tasks to learners' needs and readiness; scaffolding and supporting to make tasks accessible to all, but gradually removed so that all students succeed at the required level

2

Explaining: presenting and communicating new ideas clearly, with concise, appropriate, engaging explanations; connecting new ideas to what has previously been learnt (and re-activating/checking that prior knowledge); using examples (and non-examples) appropriately to help learners understand and build connections; modelling/demonstrating new skills or procedures with appropriate scaffolding and challenge; using worked/part-worked examples

3

Questioning: using questions and dialogue to promote elaboration and connected, flexible thinking among learners (e.g., 'Why?', 'Compare', etc.); using questions to elicit student thinking; getting responses from all students; using high-quality assessment to evidence learning; interpreting, communicating and responding to assessment evidence appropriately





Gall athrawon gwych cyflwyno cynnwys, gweithgareddau a rhyngweithiadau sy'n ysgogi meddwl eu myfyrwyr

Great teachers present content, activities and interactions that activate their students' thinking

4

Rhyngweithio: ymateb yn briodol i adborth gan fyfyrwyr am eu meddyliau/gwybodaeth/dealltwriaeth; rhoi adborth ymarferol i fyfyrwyr i lywio eu dysgu

5

Ymwreiddio: rhoi tasgau i fyfyrwyr sy'n ymwreiddio ac yn atgyfnerthu dysgu; ei gwneud hi'n ofynnol iddynt ymarfer hyd nes bod y dysgu'n rhugl ac yn ddiogel; sicrhau bod deunydd a ddysgwyd unwaith yn cael ei adolygu/ailystyried rhag iddynt ei anghofio

6

Ysgogi: helpu myfyrwyr i gynllunio, rheoleiddio a monitro eu dysgu eu hunain; symud ymlaen yn briodol o ddysgu strwythuredig i ddysgu mwy annibynnol wrth i fyfyrwyr ddatblygu gwybodaeth ac arbenigedd

4

Interacting: responding appropriately to feedback from students about their thinking/knowledge/understanding; giving students actionable feedback to guide their learning

5

Embedding: giving students tasks that embed and reinforce learning; requiring them to practise until learning is fluent and secure; ensuring that once-learnt material is reviewed/revisited to prevent forgetting

6

Activating: helping students to plan, regulate and monitor their own learning; progressing appropriately from structured to more independent learning as students develop knowledge and expertise



Syniadau i'w trafod...

Discussion ideas...

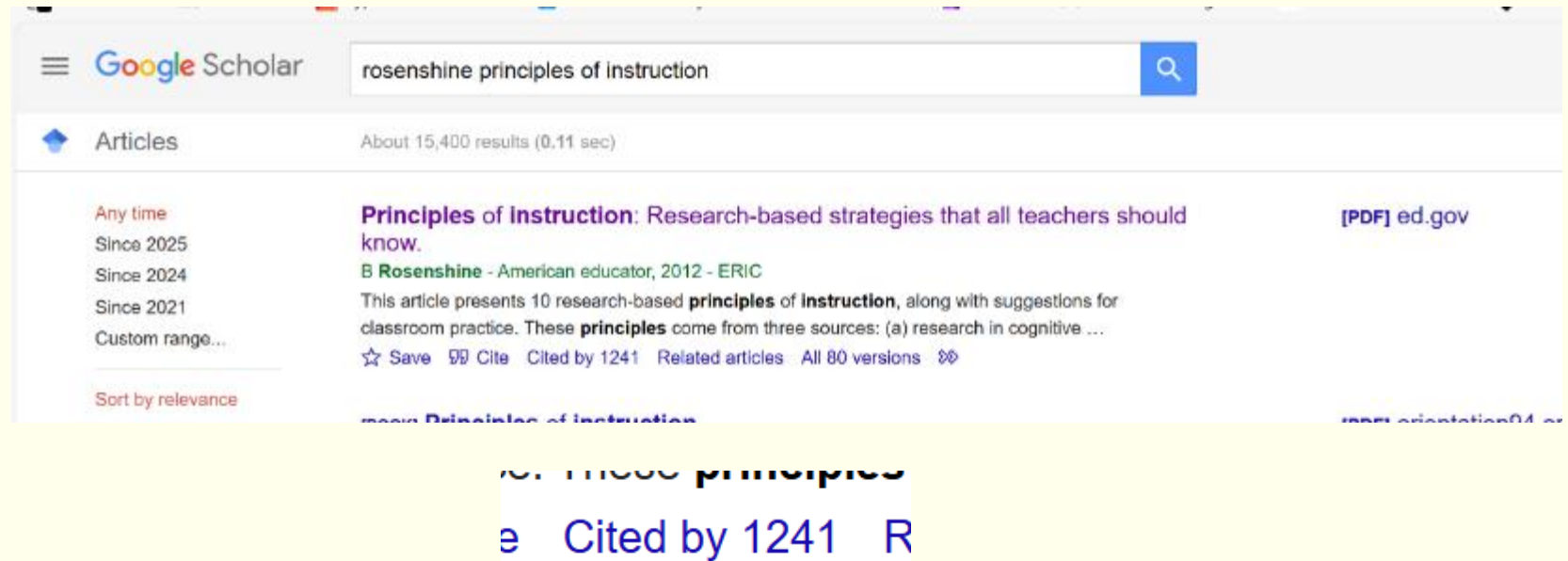
- Pa rai sy'n cyd-fynd â'ch syniadau cyfredol?
- Pa rai sy'n herio eich syniadau?
- Pa rai nad yw'n gwneud synnwyr eto?
- Pa un fyddai'n anoddaf i'w roi ar waith?
- Pa orgyffwrdd allwch chi ei weld â'r egwyddorion addysgegol?
- Which align with your current thinking?
- Which challenge your thinking?
- Which don't really make sense yet?
- Which might be hardest to put into practice?
- What overlaps can you see with the pedagogical principles?

Egwyddorion Addysgu

Principles of instruction



Ronsenshine (2012)



[Principles of Instruction: Research-Based Strategies That All Teachers Should Know, by Barak Rosenshine; American Educator Vol. 36, No. 1, Spring 2012, AFT](#)



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Principles of instruction

INTERNATIONAL ACADEMY
OF EDUCATION

INTERNATIONAL BUREAU
OF EDUCATION

Principles of instruction

by Barak Rosenshine



EDUCATIONAL PRACTICES SERIES-21

- Begin a lesson with a short review of previous learning.
- Present new material in small steps with student practice after each step.
- Limit the amount of material students receive at one time.
- Give clear and detailed instructions and explanations.
- Ask a large number of questions and check for understanding.
- Provide a high level of active practice for all students.
- Guide students as they begin to practice.
- Think aloud and model steps.
- Provide models of worked-out problems.
- Ask students to explain what they had learned.
- Check the responses of all students.
- Provide systematic feedback and corrections.
- Use more time to provide explanations.
- Provide many examples.
- Re-teach material when necessary.
- Prepare students for independent practice.
- Monitor students when they begin independent practice.

- Dechreuwch ddosbarth gyda thraethod byr o'r dysgu blaenorol.
- Rhannwch y deunydd newydd mewn camau bychain gyda phrosesau ymarfer yr myfyrwyr ar ôl pob cam.
- Cyfyngwch faint o ddeunydd y mae'r myfyrwyr yn ei dderbyn ar unwaith.
- Rhowch gyfarwyddiadau a chaniatâd clir ac yn fanwl.
- Gofynnwch nifer fawr o gwestiynau a gwirio dealltwriaeth.
- Cynnig lefel uchel o ymarfer gweithredol i bob myfyriwr.
- Arweiniwch y myfyrwyr wrth iddynt ddechrau ymarfer.
- Meddylwch yn uchel a modelwch gamau.
- Darperir modelau o broblemau sydd wedi'u datrys.
- Gofynnwch i'r myfyrwyr esbonio beth maen nhw wedi dysgu.
- Gwiriwch ymatebion yr holl fyfyrwyr.
- Darparwch adborth systematig a chywiriadau.
- Defnyddiwch fwy o amser i gynnig esboniadau.
- Darparwch lawer o enghreifftiau.
- Dysgwch y deunydd eto pan fydd angen.
- Paratowch y myfyrwyr ar gyfer ymarfer annibynnol.
- Monitrowch y myfyrwyr pan fyddant yn dechrau ymarfer annibynnol.

[Principles of instruction; Educational practices series; Vol.:21; 2010](#)

Egwyddorion Addysgu

Principles of instruction

Principles of Instruction

Research-Based Strategies That All Teachers Should Know



By Barak Rosenshine

This article presents 10 research-based principles of instruction, along with suggestions for classroom practice. These principles come from three sources: (a) research in cognitive science, (b) research on teacher practice, and (c) research on effective teaching practices.

Research in cognitive science shows that students learn best when they are actively engaged in learning. This suggests that teachers should use strategies that encourage students to actively engage in learning. For example, the use of "wait time" is a strategy that encourages students to think and learn from their own thinking.

Research in teacher practice shows that teachers who use effective teaching practices are more successful in helping their students learn. This suggests that teachers should use strategies that are based on research and that have been shown to be effective in the classroom.

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Research in teacher practice shows that teachers who use effective teaching practices are more successful in helping their students learn. This suggests that teachers should use strategies that are based on research and that have been shown to be effective in the classroom.

Even though there are many different kinds of research, there is no doubt that all teachers should know these principles. These principles are based on research from three sources: (a) research in cognitive science, (b) research on teacher practice, and (c) research on effective teaching practices.

Research in cognitive science shows that students learn best when they are actively engaged in learning. This suggests that teachers should use strategies that encourage students to actively engage in learning. For example, the use of "wait time" is a strategy that encourages students to think and learn from their own thinking.

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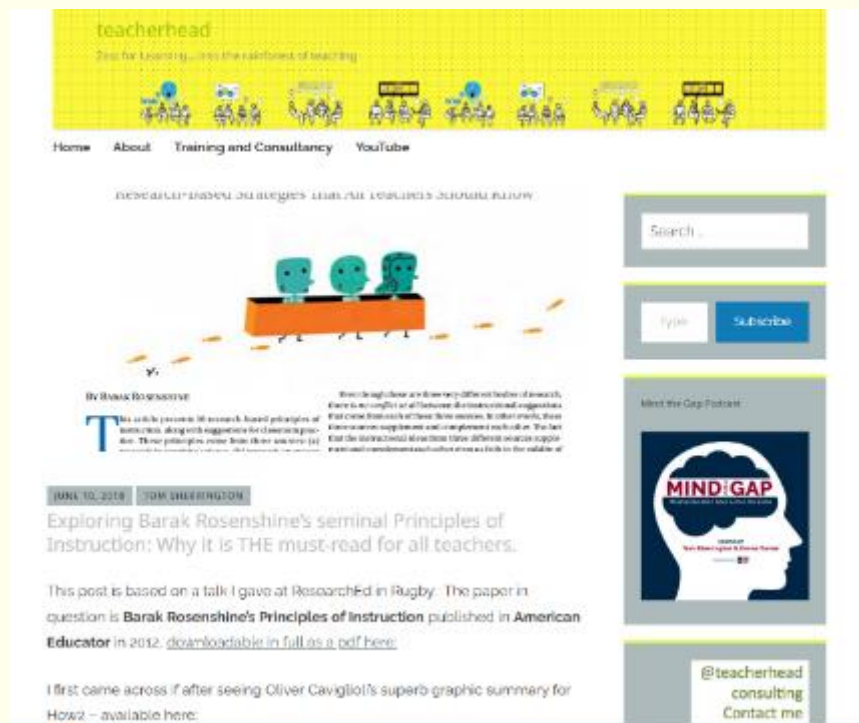
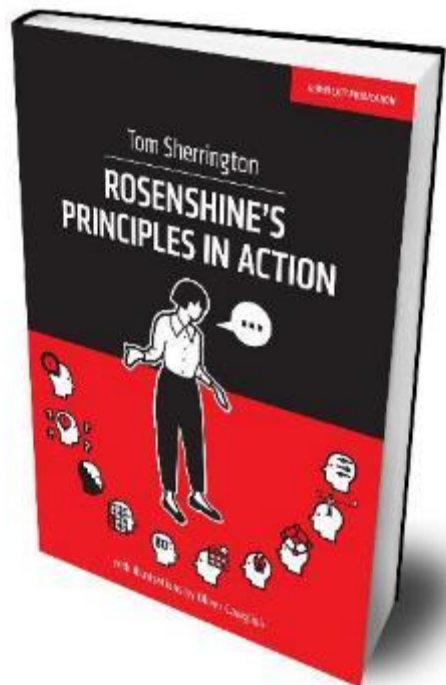
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12 AMERICAN EDUCATOR | SPRING 2012

1. Dechreuwch ddosbarth gydag adolygiad byr o'r dysgu blaenorol.
2. Rhannwch y deunydd newydd mewn camau bychain gyda phrosesau ymarfer yr myfyrwyr ar ôl pob cam.
3. Gofynnwch nifer fawr o gwestiynau a gwirio dealltwriaeth.
4. Darparu modelau.
5. Arwain ymarfer disgyblion.
6. Gwirio dealltwriaeth disgyblion.
7. Sicrhau cyfradd uchel o lwyddiant.
8. Darparu strwythurau cymorth ar gyfer tasgau anodd.
9. Gofyn am ac arsylwi ar ymarfer annibynnol.
10. Ymgysylltu disgyblion mewn adolygiad wythnosol a misol.

1. Begin a lesson with a short review of previous learning.
2. Present new material in small steps with student practice after each step.
3. Ask a large number of questions and check the responses of all students
4. Provide models.
5. Guide student practice.
6. Check for student understanding.
7. Obtain a high success rate.
8. Provide scaffolds for difficult tasks.
9. Require and monitor independent practice.
10. Engage students in weekly and monthly review.



Exploring Barak Rosenshine's seminal Principles of Instruction: Why it is THE must-read for all teachers. – teacherhead



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Barak Rosenshine's

PRINCIPLES OF INSTRUCTION



A thematic interpretation for teachers by Tom Sherrington

@teacherhead



VISUALISED BY
OLI CAV

Oliver Caviglioli
@olicav

REVIEWING MATERIAL

1 Daily review



Daily review is important in helping to resurface prior learning from the last lesson. Let's not be surprised that students don't immediately remember everything. They won't! It's a powerful technique for building fluency and confidence and it's especially important if we're about to introduce new learning — to activate relevant prior learning in working memory.

10 Weekly and monthly review



QUESTIONING

3 Ask questions



The main message I always stress is summarised in the mantra: ask more questions to more students in more depth. Rosenshine gives lots of great examples of the types of questions teachers can ask. He also reinforces the importance of process questions. We need ask how students worked things out, not just get answers. He is also really good on stressing that asking questions is about getting feedback to us as teachers about how well we've taught the material and about the need to check understanding to ensure misconceptions are flushed out and tackled.

6 Check for student understanding



SEQUENCING CONCEPTS & MODELLING

2 Present new material using small steps



Small steps — with practice at each stage. We need to break down our concepts and procedures (like multi-stage maths problems or writing) into small steps so that each can be practised.

Models — including the importance of the worked-example effect to reduce cognitive load. We need to give many worked examples; too often teachers give too few.

4 Provide models



8 Provide scaffolds for difficult tasks



Scaffolding is needed to develop expertise — a form of mastery coaching, where cognitive supports are given — such as how to structure extended writing — but they are gradually withdrawn. The sequencing is key. Stabilisers on a bike are really powerful aids to the learning and confidence building — but eventually they need to come off.

STAGES OF PRACTICE

5 Guide student practice



Teachers need to be up close to students' initial attempts, making sure that they are building confidence and not making too many errors. This is a common weakness with 'less effective teachers'. Guided practice requires close supervision and feedback.

High success rate — in questioning and practice — is important. Rosenshine suggests the optimum is 80%. I.e. high! Not 95-100% (too easy). He even suggests 70% is too low.

7 Obtain a high success rate



9 Independent practice



Independent, monitored practice. Successful teachers make time for students to do the things they've been taught, by themselves... when they're ready. "Students need extensive, successful, independent practice in order for skills and knowledge to become automatic"



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APLP
PDPA
Partnership for Digital Professional Learning
Waleswide Professional Learning Partnership
The national network of schools and colleges working together

Trawsnewid Addysg, Trawsnewid Bywydau
Transforming Education, Transforming Lives

Syniadau i'w trafod...

Discussion ideas...

- Beth sy'n 'debyg' ac yn 'wahanol' rhwng 'addysgu' a 'chymarwyddo'?
- Faint o'r syniadau hyn ydych chi'n eu hadnabod o'ch profiad yn yr ysgol?
- Pa orgyffwrdd allwch chi ei weld â'r syniadau a archwiliwyd eisoes yn y sesiwn hwn?
- What are the similarities and differences between 'teaching' and 'instruction'?
- How many of these ideas do you recognise from your school experience?
- What overlaps do you see with the ideas explored already in this session?

Making every lesson count



Six principles to support great teaching and learning

Shaun Allison and Andy Tharby
Foreword by Doug Lemov



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Trinity Saint David



APLP
PDPA
All Wales Professional Development Partnership
The National Education Research Centre for Wales

Expert teaching requires ...

Challenge

So that ...

Students have high expectations of what they can achieve

Explanation

So that ...

Students acquire new knowledge and skills

Modelling

So that ...

Students know how to apply the knowledge and skills

Students engage in deliberate practice

Questioning

So that ...

Students are made to think hard with breadth, depth and accuracy

Feedback

So that ...

Students think about and further develop their knowledge and skills

Scaffolding

Trawsnewid Addysg, Trawsnewid Bywydau
Transforming Education, Transforming Lives

Addysgeg pwnc

Subject pedagogy

Making every science lesson count



*Six principles to support great
teaching and learning*

Shaun Allison

Making every geography lesson count



*Six principles to support
great geography teaching*

Mark Enser

Edited by Shaun Allison and Andy Tharby

Making every MFL lesson count



*Six principles to support
modern foreign language teaching*

James A. Maxwell

Edited by Shaun Allison and Andy Tharby

Making every maths lesson count



*Six principles to support
great maths teaching*

Emma McCrea

Edited by Shaun Allison and Andy Tharby

Making every English lesson count



*Six principles for supporting
reading and writing*

Andy Tharby

Making every RE lesson count



*Six principles to support
religious education teaching*

Louise Hutton and Dawn Cox

Edited by Shaun Allison and Andy Tharby

Gwyliwch rhag deuoliaeth ffug

Beware a false dichotomy

Teacher-directed	Learner-centred
Direct instruction	Interactive exchange
Knowledge	Skills
Content	Process
Facts and principles	Questions and problems
Competitive	Collaborative
Summative tests	Formative evaluations
Learning for school	Learning for life



Gwylwch rhag deuoliaeth ffug

Beware a false dichotomy

Wedi'i gyfarwyddo gan athrawon	Canolbwyntio ar y dysgwr
Cyfarwyddyd uniongyrchol	Cyfnewid rhyngweithiol
Gwybodaeth	Medrau
Bodlon	Proses
Ffeithiau ac egwyddorion	Cwestiynau a phroblemau
Cystadleuol	Cydweithredol
Profion cyfunol	Gwerthusiadau ffurfiannol
Dysgu ar gyfer yr ysgol	Dysgu am oes



Yr egwyddorion addysgegol

Caiff y broses o gynllunio cwricwlwm ar gyfer pob dysgwr ei hategu gan deuddeg egwyddor addysgegol, sy'n datgan bod dysgu ac addysgu da yn:

1. canolbwyntio'n gyson ar ddibenion cyffredinol y cwricwlwm
2. rhoi her i'r holl ddysgwyr drwy eu hannog i gydnabod pwysigrwydd ymdrech a barnaus i gwrdd a disgwyliadau sy'n uchel, ond o fewn eu cyrraedd
3. defnyddio cymysgedd o ddulliau sy'n cynnwys addysgu uniongyrchol
4. defnyddio cymysgedd o ddulliau gan gynnwys y rheini sy'n hybu sgiliau datrys problemau, sgiliau creadigol a'r gallu i feddwl mewn modd beirniadol
5. golygu gosod tasgau a dewis adnoddau sy'n adeiladu ar wybodaeth a phrofiad blaenorol ac yn ennyn diddordeb
6. creu cyd-destunau dilys ar gyfer dysgu
7. dilyn egwyddorion asesu ar gyfer dysgu
8. ymestyn oddi mewn ac ar draws y Meysydd
9. atgyfnerthu yn rheolaidd y sgiliau trawsgwricwlaidd, sef llythrennedd, rhifedd a chymhwysedd digidol, ac yn darparu cyfleoedd i'w hyrffwrdd
10. annog dysgwyr i gymryd cyfrifoldeb cynyddol am eu dysgu eu hunain
11. hybu datblygiad cymdeithasol ac emosiynol a chydberthnasau cadarnhaol
12. hybu cydweithio

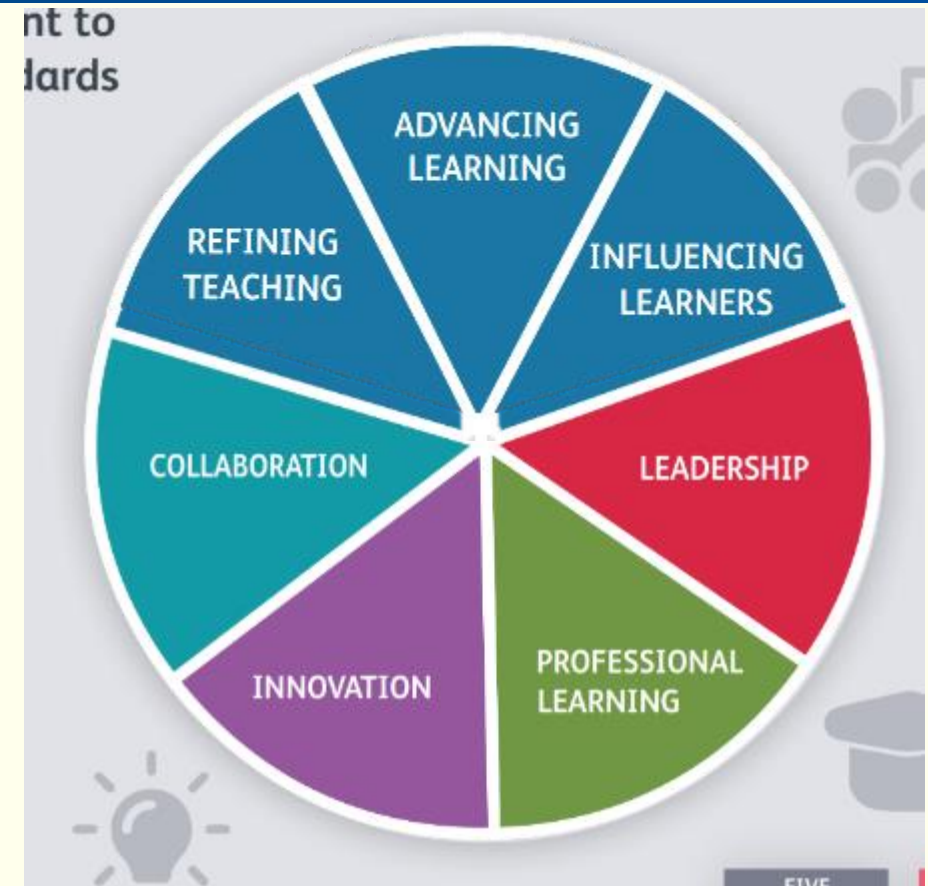
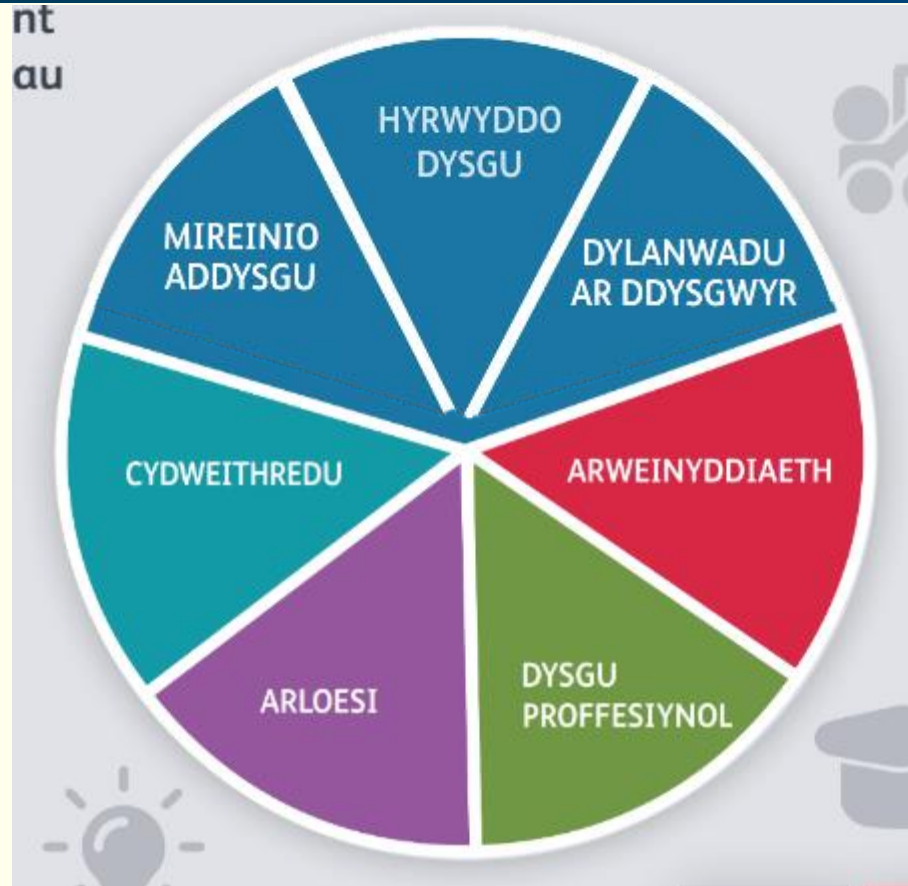
The pedagogical principles

Curriculum design for all learners is underpinned by twelve pedagogical principles, which state that good learning and teaching:

1. maintains a consistent focus on the overall purposes of the curriculum
2. challenges all learners by encouraging them to recognise the importance of sustained effort in meeting expectations that are high but achievable for them
3. means employing a blend of approaches including direct teaching
4. means employing a blend of approaches including those that promote problem-solving, creative and critical thinking
5. sets tasks and selects resources that build on previous knowledge and experience and engage interest
6. creates authentic contexts for learning
7. means employing assessment for learning principles
8. ranges within and across Areas
9. regularly reinforces the cross-curricular skills of literacy, numeracy and digital competence, and provides opportunities to practise them
10. encourages learners to take increasing responsibility for their own learning
11. supports social and emotional development and positive relationships
12. encourages collaboration

Safonau proffesiynol ar gyfer addysgu ac arweinyddiaeth

Professional Standards for Teaching and Leadership



Mireinio addysgu

Refining Teaching

Rheoli'r amgylchedd
dysgu

Asesu

Gwahaniaethu

Cofnodi ac adrodd

Cynnwys partneriaid
mewn dysgu

MIREINIO
ADDYSGU

Managing the learning
environment

Assessment

Differentiation

Recording and
reporting

Involving partners
in learning

REFINING
TEACHING

Hyrwyddo Dysgu

Advancing Learning

Pedwar diben i ddysgwyr

Ymelwa ar ddisgyblaethau
pynciol mewn meysydd
dysgu

Profiadau dysgu
cyfunol

Cyd-destunau bywyd
go iawn, dilys

Dilyniant mewn dysgu

Themâu trawsgwricwlaidd



Four purposes for learners

Exploiting subject
disciplines in areas
of learning

Blended learning
experiences

Real life, authentic
contexts

Progression in learning

Cross-curricular themes



Dylanwadu ar Ddysgwyr

Influencing Learners

Herio a disgwyliadau
Gwrando ar ddysgwyr
Dysgwyr yn arwain dysgu
Ymdrech barhaus a gwydnwch dysgwyr
Myfyrio ar ddysgu
Deilliannau dysgu a lles



Challenge and expectations
Listening to learners
Learners leading learning
Sustained effort and resilience in learners
Reflection on learning
Learning outcomes and well-being



Yn ôl at Dylan Wiliam...

Back to Dylan Wiliam...



In education, “what works?” is not the right question because everything works somewhere and nothing works everywhere, so what’s interesting, what’s important in education is: “Under what conditions does this work?” ...



...That is why teaching is mainly a matter of *phronesis* not of *episteme*.

Teaching is all about knowing the conditions under which a particular technique is likely to work. That is why I say that you can't tell teachers what to do. Not because I want to be nice to teachers but because the nature of expertise in teaching is not the kind of expertise you can communicate by telling people.

(Wiliam, 2006)

Athrawon cychwynnol – cymryd eich camau cyntaf

Beginning teachers – taking your first steps

Cofiwch fod datblygu '**phronesis**' (doethineb ymarferol) yn cymryd amser.

Fodd bynnag, bydd y syniadau canlynol yn helpu:

- Meddwl am y 'pam' o strategaeth.
- Pa gamau penodol allai ei gwneud yn effeithlon?
- Arsylwi gyda ffocws.
- Gweld y dysgu trwy lygaid y dysgwr (Hattie).
- Gweithio gyda'ch mentor i wneud eu meddyliau'n weladwy i chi.

Remember that developing *phronesis* (practical wisdom) takes time.

However, the following ideas will help:

- Think about the 'why' of a strategy
- What are the specific steps that might make it efficient?
- Observe with a focus
- See the learning through the eyes of the learner (Hattie)
- Work with your mentor to make their thinking visible to you.

Cwestiynau i'w hystyried

Questions to consider

- Beth yw'r gorgyffyrddiadau rhwng y dulliau?
- A oes unrhyw rhai sy'n ymddangos mewn un lle yn unig?
- Pa safbwyntiau am ddysgu ac addysgu ydych chi'n meddwl y gallai fod gan yr awduron?
- Beth mae hyn yn ei olygu yn y cyfnod uwchradd?
- Beth mae hyn yn ei olygu yn eich maes pwnc / MDaPh?
- What are the overlaps between the approaches?
- Are there any that only appear in one place?
- What views about learning and education do you think the authors might have?
- What does this mean in the secondary phase?
- What does this mean in your subject area / AoLE?

Cyfeirnodau

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