

Developing a better understanding of  
the affordances and challenges  
associated with  
the use of technology  
in teaching and learning

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# Developing a better understanding of the affordances and challenges associated with the use of technology in teaching and learning

## Abstract:

**Adapt current modules of work, for example,**  
Skills in spreadsheets to modeling plus use of keywords

Creating a web page to integrating external data

**Introduce new modules of work, for example,**

Programming in Scratch, Python, App Inventor, etc.\*

Unplugged approaches to teaching computing

Use extra-curricular activity to promote, stimulate and initiate curriculum interest

# Developing a better understanding of the *affordances* and challenges associated with the use of technology in teaching and learning

## Affordances:

*“the functionality of e-learning devices is defined by what they do... when buttons are pressed, options selected and data entered”*

*“the affordances of e-learning devices are the ways and means of learning that are supported by those devices”*

The affordances of a wiki are: collaborative working, socially constructed understanding, collective responsibility...

The affordances of a blog are: reflective practice, self-assessment, learner responsibility, learner independence...

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## Challenges:

Avoidance of difficulties, disadvantages, problems, etc.

*“Meeting challenges...”* is our message

Though measuring impact, soliciting achievements,

Where we meet challenges:

Skills, knowledge, understanding and attitudes (SKUA)

Digital literacy: competent and confident use of technology

Bloom’s affective domain

SEAL, mindfulness, self-awareness > social aspects

Vigilance, resilience > aspects of e-safety

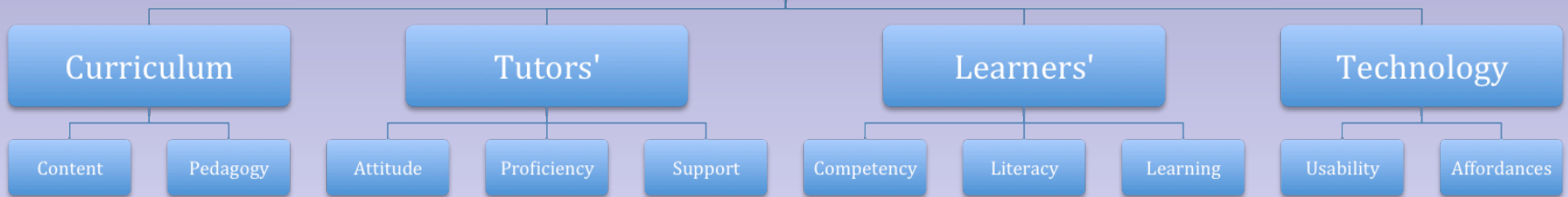
# Developing a better understanding of the affordances and challenges associated with the use of *technology* in teaching and learning

## Technology:

Aspects of hardware and software

Wiki, forum, e-portfolio, VLE,

### Critical Success Factors (CSFs)



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## Learning:

Learning theories:

behaviourism, (social) constructivism, constructionism but less so regarding cognitivist theories

E-learners:

Learning characteristics; learning styles, attitudes, motivation,

Key stage 3, post-16, undergraduate, post-graduate and lecturers.

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## Teaching:

Technology enhanced learning (TEL)

Working with teachers (CPD)

Teaching about computers/computing/computer science

The changing curriculum...



# Cheap wine

HOME > FOOD AND DRINK > FOOD AND DRINK NEWS

### Tesco shoppers get £60 worth of wine for just £9 after glitch

Shoppers at Tesco have been able to bulk buy six bottles of £9.99 wine for less than the cost of a single bottle after a promotional glitch in the supermarket's computer system.

	£
RED WINES * 12 @ £9.99	119.88
SUB-TOTAL	119.88
-----	
MULTIBUY SAVINGS	
WINES 3 FOR £12	-71.88
WINE DISCOUNT	-29.97
-----	
TOTAL SAVINGS	-101.85
-----	
TOTAL TO PAY	18.03



Tesco shoppers have been able to buy wine at hugely discounted prices Photo: ALAMY





# Computing programmes of study: key stages 3 and 4

## National curriculum in England

Pupils should be taught to:

- undertake creative projects that involve selecting, using, and combining multiple applications, preferably across a range of devices, to achieve challenging goals, including collecting and analysing data and meeting the needs of known users
- create, re-use, revise and re-purpose digital artefacts for a given audience, with attention to trustworthiness, design and usability
- understand a range of ways to use technology safely, respectfully, responsibly and securely, including protecting their online identity and privacy; recognise inappropriate content, contact and conduct and know how to report concerns.

# Key stage 4 and post-16

## Key stage 4

All pupils must have the opportunity to study aspects of information technology and computer science at sufficient depth to allow them to progress to higher levels of study or to a professional career.

All pupils should be taught to:

- develop their capability, creativity and knowledge in computer science, digital media and information technology
- develop and apply their analytic, problem-solving, design, and computational thinking skills
- understand how changes in technology affect safety, including new ways to protect their online privacy and identity, and how to identify and report a range of concerns.



computing gcse



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## Developing a better understanding:

Models

Constructs

Conceptual frameworks

Publication

Discussion

Debate

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***Thank you, John Woollard***  
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