ICT Skills Guide

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How to use this guide

Designed for teachers, this guide aims to highlight opportunities where student ICT skills can be developed within current teaching and learning programs. Teachers who are planning, teaching and assessing using the Australian Curriculum are already embedding the ICT skills students will use in online assessment. The learning activities should be enacted through the delivery of the Australian Curriculum and documented within the three levels of the whole school curriculum, assessment and reporting plan.

ICT skills in the Australian Curriculum

‘ICT capability supports and enhances student learning across all areas of the curriculum. Students develop and apply ICT knowledge, skills and appropriate social and ethical protocols and practices to investigate, create and communicate, as well as developing their ability to manage and operate ICT to meet their learning needs.’
Australian Curriculum, Assessment and Reporting Authority

We have an obligation to prepare children for the world that is here and the world that is coming: a future with technology at its core and with more opportunities and information than we have ever thought possible. The move to online assessment is a natural outcome of the increasing use of ICT in classrooms to enhance student learning.

The general capability of ICT is embedded in all learning areas across the Australian Curriculum.

NAPLAN Online tests students’ abilities in the areas of literacy and numeracy. It is important that students are confident and skilled in using ICT so they can demonstrate their literacy and numeracy knowledge, skills and understandings.

Align how you teach with how you assess learning so that students are familiar with using ICT throughout the learning process. A whole-school approach to the effective use of ICT within the curriculum will help teachers align curriculum, pedagogy and assessment.

Suggestions for how these skills can be developed in learning areas of the Australian Curriculum have been illustrated as a guide. The ICT Skills: Quick reference guide provides links to the Australian Curriculum as a companion document.
English
ICT capability is an important component of the Australian Curriculum: English. Students use ICT when they interpret and create print, visual and multimodal texts. They use communication technologies when they conduct research online, and collaborate and communicate with others electronically.

The skills of reading and comprehending digital texts are essential for online assessments. Reading extended pieces of digital text, such as eBooks and online articles, provide worthwhile experiences. Reading digital text has unique challenges for students and they require multiple opportunities to read and comprehend in an online environment. Effective readers use a combination of strategies whether the text is in print format or online. Students should be exposed to a variety of digital text and online comprehension activities that support the acquisition of effective digital reading strategies. Provide opportunities for students to listen to audio recordings of digital texts, through headsets. Record the spelling list and ask students to spell words from the audio.

As students interpret and create digital texts, they develop their capability in ICT including word processing programs and other software, navigating and following research trails and selecting and evaluating information found online. Look for ways to provide students with such word processing skills as copy, cut-and-paste and select-and-move-text. Model the use of subheadings as placeholders for ideas or for composing and drafting initial paragraphs or story structures. Create multiple opportunities to write online, such as making diary entries and contributing to online discussions. Having students construct, share and publish information and imaginative texts online assists students’ ability to participate in online assessments.

Mathematics
In the Australian Curriculum: Mathematics, students develop ICT capability when they investigate, create and communicate mathematical ideas and concepts using fast, automated, interactive and multimodal technologies. ICT skills such as moving objects on a screen could be demonstrated when using applications and learning objects to investigate, problem solve and demonstrate understanding.

Students use their ICT capability to perform calculations; to construct, interpret and explore graphs; collect, manage, analyse and interpret data; share and exchange information and ideas; and investigate and model concepts and relationships. Digital technologies, such as spreadsheets, dynamic geometry software and computer algebra software, can engage students and promote understanding of key concepts. Teachers can incorporate opportunities to explicitly teach the of use digital tools, such as an online calculator and protractor.
Science
In the Australian Curriculum: Science, students use their ICT capability to access information; collect, analyse and represent data; model and interpret concepts and relationships; and communicate science ideas, processes and information. Through these activities, develop students' word processing skills, including the skill of composing information texts such as reports, explanations and findings. Provide opportunities for students to represent scientific data in digital forms. Take advantage of the teachable moments and incidental learning that is created in science lessons to reinforce other ICT skills such as website navigation, interacting with digital learning objects, and reading and comprehending digital multimodal texts occur. Opportunities can be provided for students to use digital technologies to communicate ideas, findings and evidence based solutions to scientific problems.

Other Learning Areas
Through the implementation of the Australian Curriculum, students are provided with numerous opportunities to engage with digital and virtual technologies. Providing multiple opportunities allows students to develop the seven skills required for online assessments. Through these opportunities students use interactive multimedia platforms, communication and editing software, and virtual tools and environments, to research, design, create, analyse information, evaluate ideas, communicate, and collaborate online. They explore the nature of ICT and the implications for establishing and managing relationships in the twenty-first century. Teachers who are embedding ICT throughout all learning areas are providing opportunities for students to experience digital environments that support the acquisition of the seven skills for online assessments.

The key ideas for ICT Capability are organised into five interrelated elements in the learning continuum:
Supporting resources

These digital teaching resources are age-appropriate and can be differentiated to suit learning needs and contexts. High-quality interactive digital resources can be searched by Australian Curriculum codes, content descriptions, year levels or topics are available through the Learning Place.

The Queensland State School eBooks Digital Library is a collection of eBooks and audiobooks that can be downloaded to computers and compatible mobile devices or read online (state school staff and students).

Curriculum into the Classroom (C2C) digital resource libraries contain a wide range of interactive resources to support the Australian Curriculum.

- C2C English library
- C2C Mathematics library
- C2C Science library
- C2C Humanities and Social Sciences library

Literacy P-12
Information and resources, aligned to the Australian Curriculum to support moving literacy forward from Prep to Year 12. ICT is explicitly embedded in aspects of reading texts, writing and concepts about print. Curriculum.

Scootle
A national repository that provides schools with digital resources aligned to the Australian Curriculum.

The Contemporary Practice Resource offers a wealth of practical teaching ideas and whole-school approaches for using ICT. Resource banks provide high quality resources, strategies and tips to support contemporary teaching practices and ICT skills.

Online coaching modules provide knowledge and skills in targeted professional learning areas such as writing and reading.

Assessment platforms

Learning Place eLearn
State school teachers, students and affiliate members use eLearn to support teaching, learning and assessment. eLearn features Respondus, assessment tools, a gradebook and performance dashboard.

Improve
This assessment platform is available to all Australian schools. Use IMPROVE to assess and monitor student learning.

Useful links

- Assessment and Moderation Hub
- Autism Hub and Reading Centre
- NAPLAN Online Network: Student readiness
- NAPLAN Online Public
- Demonstration Site
- ICT skills tutorial videos

Teachers are able to use a number of online resources to support the development of skills for online assessment. Websites and applications should be checked using the Online Service Risk Review Catalogue. Students should never enter personal details on cloud based applications.
My ICT goals

Student name:

How would you rate your ICT skills? Copy the SAM stars that match your skill level. Type what you can do now and how you might improve.

- **Supported** … I need someone to help me do this. I’m learning.
- **Acquired** … I can do this by myself. I’ve got it!
- **Mastered** … I’m good at this and can do it quickly, easily and for different purposes. I could help others.

<table>
<thead>
<tr>
<th>ICT skill</th>
<th>What I can do</th>
<th>My next steps</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Locate and select an answer</td>
<td>![ ]</td>
<td></td>
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<tr>
<td>2. Type an answer</td>
<td>![ ]</td>
<td></td>
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<tr>
<td>3. Read the screen and navigate web pages</td>
<td>![ ]</td>
<td></td>
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<tr>
<td>4. Manipulate objects on screen</td>
<td>![ ]</td>
<td></td>
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<tr>
<td>5. Read and comprehend digital texts</td>
<td>![ ]</td>
<td></td>
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<tr>
<td>6. Plan and compose text using word processing</td>
<td>![ ]</td>
<td></td>
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<tr>
<td>7. Listen using a headset</td>
<td>![ ]</td>
<td></td>
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<tr>
<td>ICT skill</td>
<td>Years P – 3 activity examples</td>
<td>Years 4 – 6 activity examples</td>
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</tr>
<tr>
<td>Locate and select an answer</td>
<td><strong>ICT General Capability: Investigating with ICT—Select and evaluate data and information</strong>&lt;br&gt;Warm up with number fact applications&lt;br&gt;Students develop mathematical fluency by interacting with mobile applications (apps), focusing on number facts. Read more&lt;br&gt;Sequence images in a timeline movie&lt;br&gt;Year 3 History&lt;br&gt;Students sequence images of Queensland's built environments to create a visual timeline. Then, they convert the timeline into a movie. Read more</td>
<td>Develop fluency in mathematics concepts&lt;br&gt;Students develop mathematical fluency by interacting with mobile applications (apps), focusing on a specific concept (fractions) or process during rotational group activities. Read more</td>
</tr>
</tbody>
</table>

Examples of how NAPLAN Online might require this ICT skill in three strands: reading, conventions of language and numeracy

Someone having trouble?<br>These mouse games are free.<br>Crazy4Computers: tutorial<br>Bees and Honey: quite hard

Do students know they need to click or tap inside the radio button or checkbox that represents their answer?<br>To select an answer, students who use haptic devices such as iPads might incorrectly tap on the image or words, not the icon.

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## ICT skill

<table>
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<tr>
<th>Type an answer</th>
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### Years P – 3 activity examples

#### Interative sizzling sentences
Students investigate and demonstrate the impact of language choices on sentences by experimenting with options in an interactive sentence-creation activity. This activity helps teachers monitor student learning about writing.

Read more

#### Evaluative language word wall
Students identify evaluative language and order words according to their level of forcefulness. Students justify their placement. This activity helps teachers monitor student learning about writing.

Read more

### Years 4 – 6 activity examples

#### Use word processing to provide peer feedback
Students provide feedback to their peers on a written text, using the comments feature of Microsoft Word.

Read more

#### Use online survey tools to collect data
Students use online survey tools to collect data. Then, they collate their data in a table using Microsoft Word.

Read more

### Years 7 – 9 activity examples

#### Create a digital marine food web
Students use a digital concept-mapping tool to create a marine food web and to depict trophic levels in an energy pyramid.

Read more

#### Peers edit and review texts
Students use Microsoft Word’s review and comment features to edit and review their peers’ written texts.

Read more

### Examples of how NAPLAN Online might use this ICT skill in four strands: reading, writing, conventions of language and numeracy

<table>
<thead>
<tr>
<th>Here’s a tip</th>
</tr>
</thead>
</table>

Select curriculum activities that require students to type in text fields. Activity examples include using tables in word, brainstorming tools or Curriculum into the Classroom (C2C) Independent Learning Materials (ILM).

Do you know students will need to accurately enter an 8 digit NAPLAN session code and student ID?

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### ICT skill

**3 Read the screen and navigate web pages**

Can students:
- use a mouse or their fingers (if on a touchscreen device) to move around, zoom in and out to minimise and maximise screen content?
- use a scroll bar, and open and close objects?
- use next and back arrows, buttons and icons?
- flag a question, read a progress summary and return to unanswered questions?
- read the screen and know what different icons mean (e.g. the timer, back and next buttons, flag and sound)?

### ICT General Capability: Managing and operating with ICT—Understand ICT systems

#### Engage in interactive learning objects

Students access learning objects in the Learning Place or Scootle to develop and apply their knowledge and understandings of curriculum content. Read more

Use interactive learning objects to foster effective digital-literacy skills as students read screens for meaning, navigate through activities and respond interactively to questions.

**Browse by Australian Curriculum** in the Learning Place or Scootle to find suitable learning objects and interactive digital resources.

#### Lesson starter: number facts

Students use a learning object that focuses on multiplication number facts to reinforce and establish a context for learning. Read more

The **Resource libraries** provide a suite of age-appropriate resources per curriculum area. These resources can be differentiated to suit learning needs and contexts.

- C2C English library
- C2C Mathematics library
- C2C Science library
- C2C Humanities and Social Sciences library

#### Targeted Learning Pathways

Each student accesses a Learning Pathway created and customised by their teacher to suit their specific learning needs in measurement and geometry. Read more

**edStudio: Interactive resources**

Use and adapt the interactive resources available on the edStudio, which help students develop knowledge and understandings across a range of learning areas.

### Examples of how NAPLAN Online might use this ICT skill in four strands: reading, writing, conventions of language and numeracy

**Here’s a tip**

Use a projector and discuss a range of navigation items with students.

Ensure students can confidently navigate screens, and interpret progress messages and visual cues.

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ICT skill | Years P – 3 activity examples | Years 4 – 6 activity examples | Years 7 – 9 activity examples
--- | --- | --- | ---
4. Manipulate objects on screen

Can students:
- drag an object or word and drop it where it needs to go or move a slider?
- rotate and manipulate objects such as 3D nets?
- draw a straight line between two objects or to an answer?
- use online tools such as a magnifier, calculator, ruler and protractor? (depending on year level)
- use a split screen to scroll or toggle back and forth?

**ICT General Capability: Investigating with ICT—Select and use hardware and software**

Explore three-dimensional objects
Students use SketchUp drawing software to create and view three-dimensional objects from different perspectives and build their own digital cities. [Read more](#)

Engage in interactive learning through learning objects
Select learning objects that require students to manipulate and interact with objects to, for example, match numbers and words. [Read more](#)

Explore digital maps and plans
Students use Google Maps to explore maps of familiar areas. [Read more](#)

My Mathematics Tool Kit
Students identify and use online resources to learn mathematical concepts. [Read more](#)

Warm up with number fact apps
Students develop mathematical fluency by interacting with mobile applications (apps), focusing on number facts. [Read more](#)

Construct and investigate models of prisms and pyramids
Students use three-dimensional modelling software to create models of prisms and pyramids. [Read more](#)

Astronomer digital timeline
Students research the contributions to science made by astronomers throughout history and communicate their findings in a voki, which they add to a digital timeline. [Read more](#)

Draw and explain congruent triangles with a digital tool
Students use a digital drawing tool to construct a congruent triangle. Then, they record an accurate congruence statement to accompany their diagram. [Read more](#)

Create a digital timeline
Students use an online timeline tool to create a timeline that represents and explains a sequence of important historical events. [Read more](#)

Examples of how NAPLAN Online might use this ICT skill in four strands: reading, writing, conventions of language and numeracy

**Looking for tools?**
These tools are great for curriculum activities.

- **360º Protractor**
- **Hundred board and calculator**
- **Estimating addition (1)**
- **Function machine**

Can your students in Years 7 and 9 confidently use an online calculator?

Can they select an onscreen object and drag and drop?

Do students know how to select a point on an image?

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## ICT skill

### 5 Read and comprehend digital texts

#### ICT General Capability: Communicating with ICT—Collaborate, share and exchange

**Digital running records**
Students use an audio recorder to record and reflect on their reading of a digital or multimodal text.  
[Read more](#)

**Buddy class storytelling through web conferencing**
Students connect with a buddy class through web conferencing to collaboratively share stories and retells.  
[Read more](#)

**Analyse poetry through blog discussions**
Students use a blog to discuss a range of poems, focusing on elements such as language features, text structures, purpose and audience.  
[Read more](#)

**View and comprehend digital texts**
Students explore a digital text to analyse how setting, dialogue, words and images establish time and place.  
[Read more](#)

**Analyse a literary text through blog discussions**
Students use a blog to record their impressions, attitudes and opinions about events and characters in a text and reflect on how the author influences the reader.  
[Read more](#)

**Use comprehension strategies to annotate digital texts**
Students use the highlighting and comment tools in Microsoft Word to evidence literal, inferential and evaluative ideas about characters, settings and ethical issues represented in the text.  
[Read more](#)

**Examples of how NAPLAN Online might use this ICT skill in three strands: conventions of language, numeracy and reading**

- **Digital running records**
- **Buddy class storytelling through web conferencing**
- **View and comprehend digital texts**

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**Here’s a tip**
NAPLAN Online requires students to independently read digital texts.

- **How to teach reading**
- **NAPLAN minimum standards for reading**

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## ICT skill

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<th>Years P – 3 activity examples</th>
<th>Years 4 – 6 activity examples</th>
<th>Years 7 – 9 activity examples</th>
</tr>
</thead>
<tbody>
<tr>
<td>6</td>
<td>Plan and compose text using word processing</td>
<td>Develop a character study with a digital concept map</td>
<td>Multimodal soil erosion observations</td>
</tr>
<tr>
<td></td>
<td>Can students:</td>
<td>Students use an online concept-mapping tool to develop a character study, identifying how particular words and word groups portray characters.</td>
<td>Students conduct a mini field study observing and recording erosion in their local area.</td>
</tr>
<tr>
<td></td>
<td>• plan digitally using concept maps and lists, or brainstorming tools?</td>
<td>Digital journal entries</td>
<td>Game design and feedback Wiki in a Virtual Classroom</td>
</tr>
<tr>
<td></td>
<td>• type letters, numbers, characters and punctuation marks on a keyboard?</td>
<td>Students develop these ICT skills: drafting, editing and writing.</td>
<td>Students use a Wiki to share their game design and provide feedback to their peers.</td>
</tr>
<tr>
<td></td>
<td>• locate the keys on the a keyboard?</td>
<td>Imaginative multimodal narrative</td>
<td>Digital Word Wall</td>
</tr>
<tr>
<td></td>
<td>• select text and delete, copy or move words and phrases?</td>
<td>Students use images and language features to create an imaginative digital multimodal narrative. This activity supports the C2C English Year 3 Unit 5 (V8) assessment task of creating a multimodal text.</td>
<td>Students create a word wall in an edStudio to represent a bank of words.</td>
</tr>
<tr>
<td></td>
<td>• type quickly enough so they don’t forget what they are thinking?</td>
<td>Draft ideas for staying safe from heat</td>
<td>Develop viewpoints about characters</td>
</tr>
<tr>
<td></td>
<td>• draft stories digitally and improve them by proof reading and editing?</td>
<td>Students develop these ICT skills: drafting, editing and writing.</td>
<td>Students use an online concept-mapping tool to develop a character study of a character represented in a fantasy novel.</td>
</tr>
<tr>
<td></td>
<td>• edit spelling and grammar and use a range of language choices?</td>
<td>Blog ideas for staying safe from heat</td>
<td>Explain the science of electrical hazards</td>
</tr>
<tr>
<td></td>
<td>• use Delete, Backspace and Enter?</td>
<td>Students develop these ICT skills: drafting, editing and writing.</td>
<td>Students collaborate in discussion forums to explain the science behind hazardous situations involving electricity and ideas for reducing the risk of harm in each.</td>
</tr>
<tr>
<td></td>
<td>• use Enter to begin a new paragraph or move to a new line?</td>
<td>Use formatting tools (e.g. bold, underline, justify, font selection) appropriately?</td>
<td>Argue for and against federation in a discussion forum</td>
</tr>
<tr>
<td></td>
<td>• use formatting tools (e.g. bold, underline, justify, font selection) appropriately?</td>
<td>Here's a tip: Encourage students to write for authentic online audiences using, for example, online collaborative projects, blogging and eBooks.</td>
<td></td>
</tr>
</tbody>
</table>

**Examples of how NAPLAN Online might use this ICT skill in two strands: conventions of language and writing**

**Refer to:**
- How to teach writing
- NAPLAN minimum standards for writing
- Getting kids writing: one sentence at a time

**Here’s a tip:**
Encourage students to write for authentic online audiences using, for example, online collaborative projects, blogging and eBooks.

**Students should plan using digital processing and become familiar at using brainstorming tools, digital notes and concept diagrams.**

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## ICT skill

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<th>Years 7 – 9 activity examples</th>
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<tbody>
<tr>
<td><strong>Listen using a headset</strong></td>
<td>ICT General Capability: Communicating with ICT—Understand computer mediated communications</td>
<td>Create a voki to represent a historical perspective</td>
<td>Develop reading comprehension with audio books</td>
</tr>
<tr>
<td>Can students:</td>
<td>Adapt these learning activities and resources to suit your curriculum purpose and students’ needs.</td>
<td>Students create a voki character to represent a person from goldfield times.</td>
<td>Students listen to and read a short story using an audio book and eBook.</td>
</tr>
<tr>
<td>- listen to a word via a</td>
<td>Create Interactive Multimodal Content</td>
<td>Rehearse and record a speech with digital tools</td>
<td>Read more</td>
</tr>
<tr>
<td>- sound it out?</td>
<td>Practise high frequency sight words with an app</td>
<td>Rehearse and deliver a presentation through podcasting</td>
<td>Conduct a panel discussion using web conferencing</td>
</tr>
<tr>
<td>- picture it in their mind?</td>
<td>Listening activities Learning Pathway</td>
<td>Students plan, rehearse and deliver a podcast presentation. Then, they listen to their peers’ podcasts and provide feedback.</td>
<td>Students use web conferencing to participate and interact in a panel discussion about language and visual features suitable for inclusion in a promotional brochure.</td>
</tr>
<tr>
<td>- type it correctly?</td>
<td>What starts with…?</td>
<td>Read more</td>
<td>Read more</td>
</tr>
<tr>
<td>- check and edit if needed?</td>
<td>Use audio stories to support comprehension</td>
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<tr>
<td>- open and close an audio</td>
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<td>item or stimulus from the</td>
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<td>toolbar?</td>
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<td>- listen to audio without</td>
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<td>being distracted?</td>
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<td>- understand slightly</td>
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<td>different accents and</td>
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<td>intonations, and male and</td>
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<td>female voices?</td>
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<tr>
<td>- adjust volume on device?</td>
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</tbody>
</table>

**Examples of how NAPLAN Online might use this ICT skill in one strand: conventions of language (spelling)**

- **iConnect: web conferencing teaching ideas**
- **State Schools eBooks Digital Library**
- **C2C Spelling library**
- **Mobile apps using sound**

- **Here’s a tip**
  Use web conferencing as a regular teaching environment.

- **Spelling machine**
  (sound on)

- **Try opening audio files, listening and repeating or typing what is said.**

- **Students can use a Voki to create audio files related to curriculum activities.**
  www.voki.com

- **Ensure every student has a working headset.**

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*Note: The ICT General Capability is not explicitly mentioned in the image, but it is implied that understanding computer mediated communications is a focus of the ICT skill.*