

Scottish Council of Deans of Education

The National Framework For Digital Literacies In Initial Teacher Education





The National Framework for Digital Literacies in Initial Teacher Education was produced under the auspices of the Scottish Council of Deans of Education (SDCE).



INTRODUCTION

The National Framework for Digital Literacies in Initial Teacher Education (ITE) in Scotland has been designed to ensure that all students who undertake undergraduate or postgraduate courses, across all ITE providers, are appropriately guided and supported about the place, purpose and pedagogy of digital tools and spaces in teaching and learning in 3-18 settings.

The Scottish Government through the Scottish Council of Deans of Education (SCDE), set up a Working Group to develop ‘The National Framework for Digital Literacies in Initial Teacher Education’.

Who is the Framework for?

- Senior leaders with responsibility for Initial Teacher Education
- Designers of teacher education programmes
- Teacher educators
- Student teachers
- Student teacher mentors and regents

What does the Framework include?

- Rationale behind the creation of the framework
- Our definition of digital literacies
- Suggestions for developing an effective digital learning culture
- Importance of creating a permeative experience
- Empowering learners
- The digital literacies framework for ITE
- The place of the Standards for Provisional Registration as maintained by the GTCS

RATIONALE

Initial Teacher Education (ITE) institutes across Scotland play a central and formative role in the early career development of prospective teachers. It is in Initial Teacher Education where student teachers begin to “form habits of the mind, habits of the heart, and habits of the hand” (Shulman 2005, p. 59). This formative experience requires that the initial teacher education experience be one that is informed and influenced by integral partnerships between ITE providers, Scottish Government, the General Teaching Council of Scotland, local authorities and schools across the country. To this end, the National Framework for Digital Literacies in Initial Teacher Education (ITE) aims to detail how staff and students in ITE can support the Scottish Government’s aims and aspirations to:

- develop the necessary skills, behaviours and dispositions of prospective teachers to become effective practitioners with digital tools and spaces;
- address the digital literacies expectations of the Standards for Provisional Registration as maintained by the GTCS;
- ensure that digital literacies are embedded in the foundation skillsets of early career teachers as they begin teaching.

Digital literacies and the digital tools and spaces that are available have become increasingly relevant to teaching and teacher education in contemporary times. The past two decades have seen the rise of digital tools and spaces to the extent that their ubiquitous presence permeates so much of modern life both within and outside of school. In education we have seen the advent of multimedia authoring (e.g. digital movie making, web design, and animation), web 2.0, cloud computing, shared document authoring, virtual and augmented reality, coding and social media tools being used in our schools. However, there is a commonly held assertion that “despite the pervasive nature of digital technology, its benefits are not always fully felt within our education establishments.” (Scottish Government, 2016, p.3).

The Scottish Council of Deans of Education (SCDE), along with the support of Scottish Government, set up a working group with representatives from all the providers involved with ITE to develop ‘The National Framework for Digital Literacies in Initial Teacher Education’. Although it was very likely that there may have been different, yet wholly valid, versions of the ITE digital experience across the institutions, an agreed Framework could offer a consistent perspective and sharper focus in addressing “expectations that ITE providers instil the benefits of using digital technology to enhance learning and teaching in their students, in line with GTCS Standards for Registration” (Scottish Government, 2016, p.4). This will eventually lead to better learning outcomes for ITE students and the pupils they will teach during their probationary year and beyond, when they will then engage with the other Professional Standards related to their stage of professional development.



The National Framework for Digital Literacies in ITE is designed to meet the Scottish Government's vision of a relevant, ambitious and forward-looking framing of digital learning across ITE programmes (Scottish Government, 2016). It also seeks to acknowledge and actively promote the critical exploration of research informed pedagogy, the promise of the transformational effect of digital learning and how the everyday use of commercial and freely available digital products can implicitly impact on understanding and practice. It also aims to play its part in establishing the professional expectation of engagement with career-long professional learning in the digital learning and teaching domain for Scottish teachers.

WHAT DO WE MEAN BY DIGITAL LITERACIES?

The term *digital literacies* is central to the National Framework for Digital Literacies in ITE and requires a shared understanding of what is meant. In general, Scottish Education’s understanding of digital literacies is framed by a definition offered in HGIOS4 (Education Scotland, 2015, p.58). Digital literacy is defined here as something that,

“encompasses the capabilities required for living, learning and working in a digital society. It includes the skills, knowledge, capabilities and attributes around the use of digital technology which enable individuals to develop to their full potential in relation to learning, life and work. It encompasses the skills to use technology to engage in learning through managing information, communicating and collaborating, problem-solving and being creative, and the appropriate and responsible use of technology.”

Importantly, throughout the Framework, the term chosen is the plural-form ‘**literacies**’, in order to recognise an expanded concept of literacies, one that acknowledges the diversity of social and cultural practices involved (Lankshear & Knobel, 2008).

In general, definitions of digital literacies tend to be either conceptual definitions, which provide descriptions about the relationship of the user and the technology, or definitions that function as sets of standardised operations or demonstrations of skills (Lankshear & Knobel, 2015). Despite these differences in definitions, a general consensus involves those attributes noted in the HGIOS4 (Education Scotland, 2015), that is; where attributes such as the adaptation of technical skills are balanced with the mastering of meaning-making and the sharing of ideas (Gilster, 1997). Lankshear and Knobel (2015) argue that limiting definitions to lists of technical skill ignores that these skills can “take on very different forms when embedded in different social practices involving different purposes and where different kinds of meaning are at stake”. Indeed, they contend that “we should think of digital literacies not as something unitary, and certainly not as some finite competency or skill – or even as a set of competencies or skills”. When seen as being a way of meaning-making, where students produce, view, and share their creations, our definition of digital literacies goes beyond a focus on skills and information, and instead highlights a broader, contextualised use of digital technologies.

DEVELOPING AN EFFECTIVE DIGITAL LEARNING CULTURE

The National Framework for Digital Literacies in ITE aims to develop the digital skills, behaviours and dispositions of our student teachers and central to the success of this is the learning culture within which the student experience is situated. The student experience across all ITE programmes is one that will see the development of digital literacies explored within an open culture that is committed to ongoing teacher improvement (Vanatta and Fordham, 2004). This open culture of exploration, discussion and sharing is one that will also allow students and staff to gain hands on experience with a range of digital tools and spaces so that they can personally experience digital technology's power as a learning tool (Guskey, 1986).

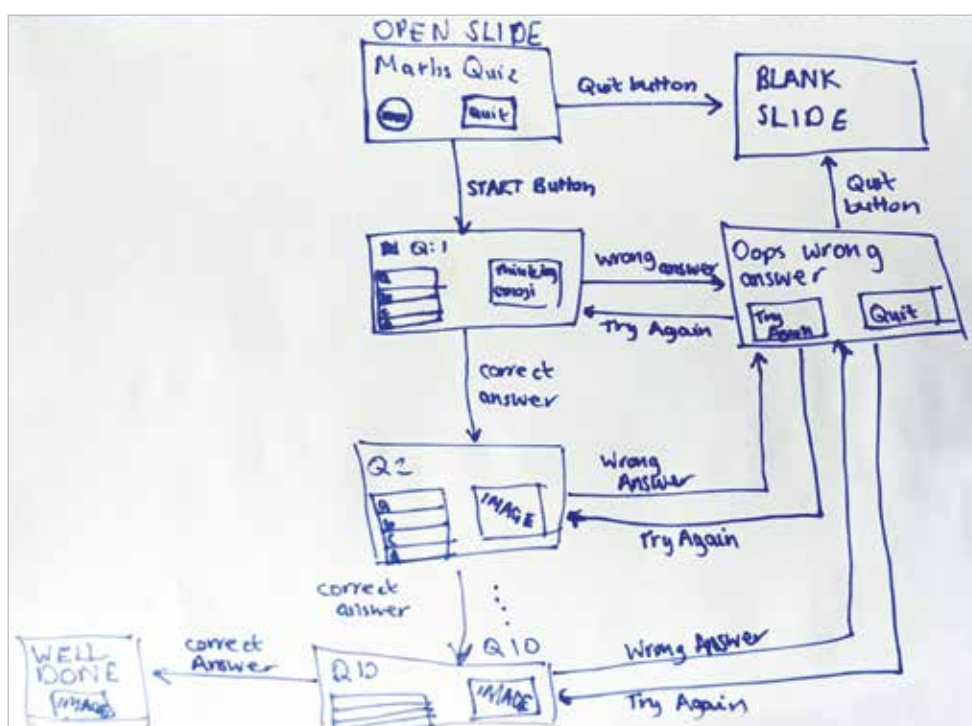
It is also important that ITE providers give consideration to the learning culture they establish across their programmes in order to create conditions in which both students and staff can collaborate and critically reflect on their use of a range of tools and spaces and discuss appropriate pedagogical, instructional and research based practices (Burns 2002; Cobb, Wood & Yackel, 1990; Johnson & Owen, 1986). In particular, teacher educators should be viewed as crucial role models for the development of pre-service teachers' digital literacies' competencies (Ping, Schellings & Beijarrd, 2018; Tondeur, et al., 2019). Aiming to provide authentic experiences that develop knowledge and skills in various aspects of digital literacies (Adnan & Tondeur, 2018; Tezci, 2011) and modelling effective practice in integrating content, pedagogical and technological knowledge to enhance learning (Becuwe, et al., 2017; Koehler & Mishra, 2009).

Teacher educators can be supported in the development of their own practice through a focus on the development of cooperative learning communities, encouragement to reflect on their own activities and time and support to experiment with innovations in curriculum design (Rienties, et al., 2013; Uerz, et al., 2018). Professional learning situated in their daily practices such as teacher educator design teams (Tondeur, et al., 2019) could provide the focus needed to further enhance their skills and are likely to be more effective than focusing on the development of specific ICT skills in isolation (Wentworth, Graham & Monroe, 2009).

ITE providers can support an effective culture by articulating a clear vision for digital literacies development, improving cooperation amongst staff and across other institutions, providing appropriate training and making sure that teacher educators have access to appropriate resources. In order to support the aspiration for cross ITE cooperation a shared bank of resources and materials to support ITE programmes in Scotland will be established. Efforts to create an online community where ITE staff and pre-service students can share, learn from and connect with each other will be facilitated via the use of a shared [#scotITEdigi](#) hashtag.

CREATING A PERMEATIVE EXPERIENCE

Initial Teacher Education programmes are designed in such a way that time is allocated to the range of curricular areas in order to develop the theoretical, pedagogical and cultural appreciation and understanding necessary to enable students to address the discrete requirements of specific areas. Of course, it is acknowledged that learning is not only seen through a discrete perspective in ITE and that the whole concept of learning beyond subject boundaries is also explored through a critical consideration of approaches such as interdisciplinary and transdisciplinary learning. Although discrete time is allocated to the Technologies subject area in Curriculum for Excellence there is a clear expectation across all ITE programmes that digital technologies will also permeate the student learning experience across all curricular areas. This is as important in ITE programmes as it is in our schools in view of recent research that shows “students who were only exposed to digital education in designated ICT classes suffered a distinct disadvantage when compared to those whose schools chose to mainstream technology and digital skills across the curriculum.” Digital Skills Crisis (Science and Technology Committee, 2016, p.24). Within ITE programmes, lecturers and tutors who work in specific subject areas are given the professional freedom and agency to address the development of digital literacies across their subject areas. However, it is expected that each ITE provider has a strategy in place to ensure that the development of all aspects of digital literacies identified within this Framework are addressed in a coherent manner across their ITE programmes.



EMPOWERING LEARNERS: DEVELOPING AN AWARENESS OF THE PLACE OF THE LEARNER IN THE DIGITAL WORLD

Over the past number of years many commentators have used a range of terms and concepts to try to explain the relationship that our children and young people have with the digital world. The critical examination of contested terms and concepts such as *Digital Natives* and *Generation Z*, is central to our ITE programmes and it can be expected that any emerging or future terms and concepts of this nature would be examined across all ITE providers in a similarly critical manner. However, this is just a start in the necessary acknowledgement and critical exploration of the impact that the digital world has had, and is having, on our children and young people. It is vitally important that our programmes ensure that learning with digital tools and spaces is not only seen through the frame of the school. In doing this they must acknowledge that Scotland's children and young people do not come into our schools from a digital vacuum. On the contrary, the digital world has increasingly become a permeative and immersive cultural phenomenon to the extent that many children and young people are occupying digital spaces and harnessing digital tools in such a way that their levels of digital skills, networking and creativity are flourishing in a world of little adult intervention.

Of course, ITE programmes must also explore the dangers that children and young people can be exposed to if they are left unsupervised, and even when they are supervised by adults in the digital world. Developing an understanding of strategies and resources to address this very important issue must be central to all ITE teacher education programmes.

ITE programmes must acknowledge the variability of access to digital resources in the homes of many of our children and young people. A critical exploration of this variability of access will be explored through a social justice frame and through the practicalities of planning for home learning, particularly in a post COVID-19 world. However, our ITE programmes must also be aware that the digital world, and in particular the world of the computer game, social media and other technologies, has become part of our children and young people's everyday reiterated experiences. It is not an uncommon occurrence for school aged children to use an Elgato™ capture card to prepare video tutorial materials for their YouTube™ sites, to live stream their game-playing to a global audience via Twitch™ or to use Redstone to wire up a lighting circuit to illuminate a world in Minecraft™.

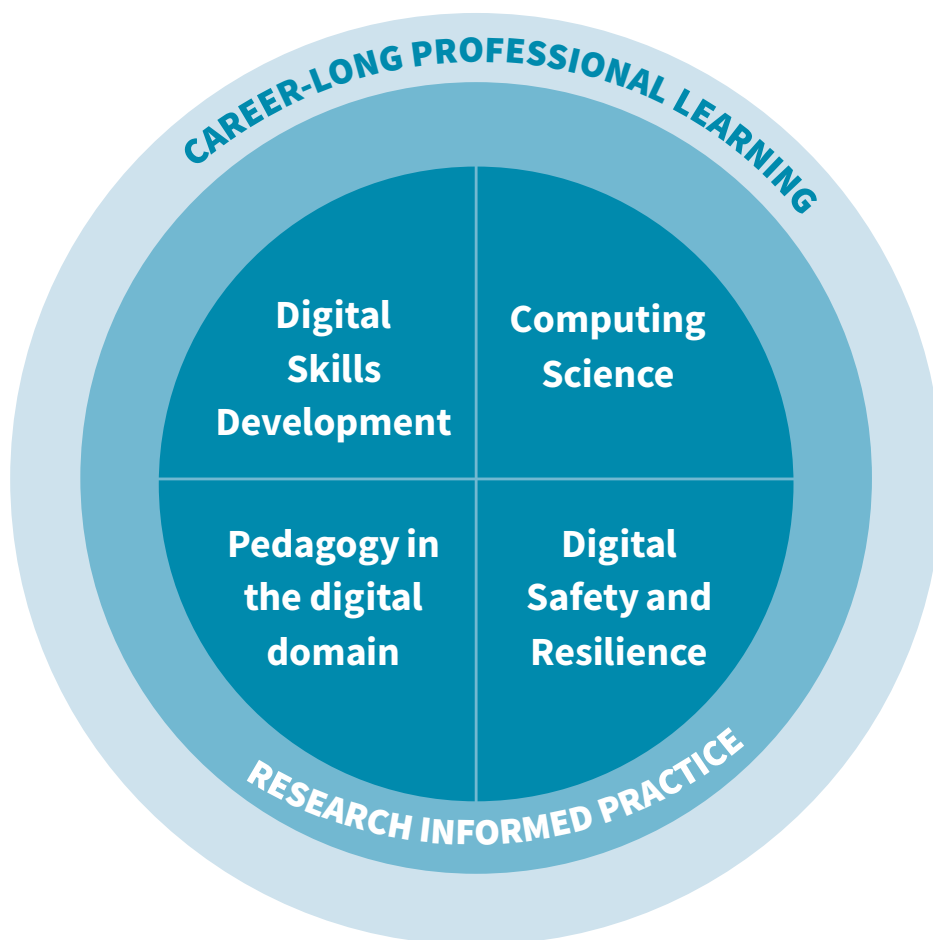
The challenge for Scotland's ITE programmes is to ensure that they acknowledge the spectrum of digital skills and experiences that many children and young people bring to the table before they are taught in school.

Such an acknowledgement can help ITE providers blend the formal with the informal to help develop a growing appreciation and understanding of how we can harness the emancipatory and motivational power that digital tools and spaces can have on teaching and learning.

DIGITAL LITERACIES DEVELOPMENT

It is the responsibility of all ITEs in Scotland to ensure that student teachers develop a solid foundation from which they can continue to develop their purposeful and critical use of digital tools and spaces in their teaching and professional development. In order to do this, we propose that the concept of Digital Literacies in ITE should be defined by six themes. These themes allow us to frame the development of digital literacies in a holistic manner that enables ITE providers to focus on the development of digital skills as well as critical consideration of what effective teaching with digital tools and in digital spaces may look like. This is further complemented by the development of a critical awareness of how professional guidelines, research and a continually shifting backdrop of emerging technologies can inform, influence and impact upon teachers' practice.

The six themes that form the basis from which a solid foundation for career-long professional learning can be established are:



1. Digital Skills Development

ITE staff, student teachers and their learners in classrooms become skilled in using digital tools for:

- Capturing, creating, editing and combining images, text, sound, animation, video, data and code (direct link with Computing Science strand)
- Collaborating in pairs and larger groups, both synchronously and asynchronously
- Searching, researching, synthesising and presenting information
- Collecting, visualising, analysing and interpreting data

They should be familiar with:

- Exploring and choosing a range of digital tools and resources which can support learning including commercial and open source solutions (e.g. Open educational resources)

2. Pedagogy in the digital domain

ITE staff and student should become skilled in using digital tools when:

- Planning for learning, both individually and collaboratively
- Curating, remixing and/or creating learning resources
- Devising and enacting effective teaching & assessment strategies
- Nurturing effective learning cultures
- Ensuring accessibility and inclusion

3. Computing Science

ITE staff, student teachers, and their learners in classrooms should develop competence and confidence with these three interrelated aspects of computing science, as detailed in the Curriculum for Excellence Technologies Curriculum:

- Understanding the world through computational thinking (e.g. being able to spot where information processing is used in everyday life)
- Understanding tools and languages (e.g. being able to read and debug simple programs in block-based language and understanding how digital systems work)
- Designing, building and testing digital solutions. (e.g. coding in a block-based programming language)

4. Digital Safety and Resilience

ITE staff and students should be knowledgeable about how to use digital tools for:

- Educating for positive behaviour, cyber resilience and safety online including an understanding of rights with respect to data usage
- The development of effective strategies and awareness of support organisations
- Engaging with young people, parents and guardians about how to promote positive online behaviour

5. Research Informed Practice

ITE staff and students should demonstrate that they are:

- Engaging with main theoretical perspectives and research in the digital learning domain
- Critically aware of the impact that digital tools, spaces and cultures impact can have on childhood and society
- Critically aware of how digital learning and teaching can adapt to meet the needs of learners

6. Career-Long Professional Learning

ITE staff and students should participate with digital technologies in:

- Connecting with other professionals
- Seeking informal and formal professional learning opportunities
- Collaborating with other ITE students and staff



THE PLACE OF THE PROFESSIONAL STANDARDS FOR PROVISIONAL REGISTRATION

All teacher education programmes in Scotland are framed against the Professional Standard for Provisional Registration (SPR). The SPR specifies what is required from a student teacher as they progress through their initial teacher education experience.

The National Framework for Digital Literacies in teacher education acknowledges the importance of the SPR and requires that all teacher education programmes ensure that references made to digital teaching, learning and culture are continually integrated into the ongoing learning discourse.

What does the SPR say about the development of digital literacies?

Professional Knowledge and Understanding

2.1 Curriculum

2.1.4 Have knowledge and understanding of contexts for learning to fulfil their responsibilities in literacy, numeracy, health and wellbeing and interdisciplinary learning

- Have knowledge and understanding of current guidance on the use of digital technologies in schools and know how to use digital technologies to enhance teaching and learning.

Professional Skills and Abilities

3.1 Teaching and Learning

3.1.3 Employ a range of teaching strategies and resources to meet the needs and abilities of learners

- Demonstrate that they can select and use a wide variety of resources and teaching approaches, including digital technologies and outdoor learning opportunities.

3.2 Classroom Organisation and Management

3.2.1 Create a safe, caring and purposeful learning environment

- organise and manage classroom resources and digital technologies to support teaching and learning.

It is also important that student teachers appreciate that section 1 of the SPR is of relevance to their professional thinking and actions in relation to the place of digital tools and spaces in their professional practice. The development of their Professional Values and Personal Commitment in this context of the development of digital literacies will allow student teachers to reflect on how concepts such as social justice is central to their professional thinking and actions as students and teachers.

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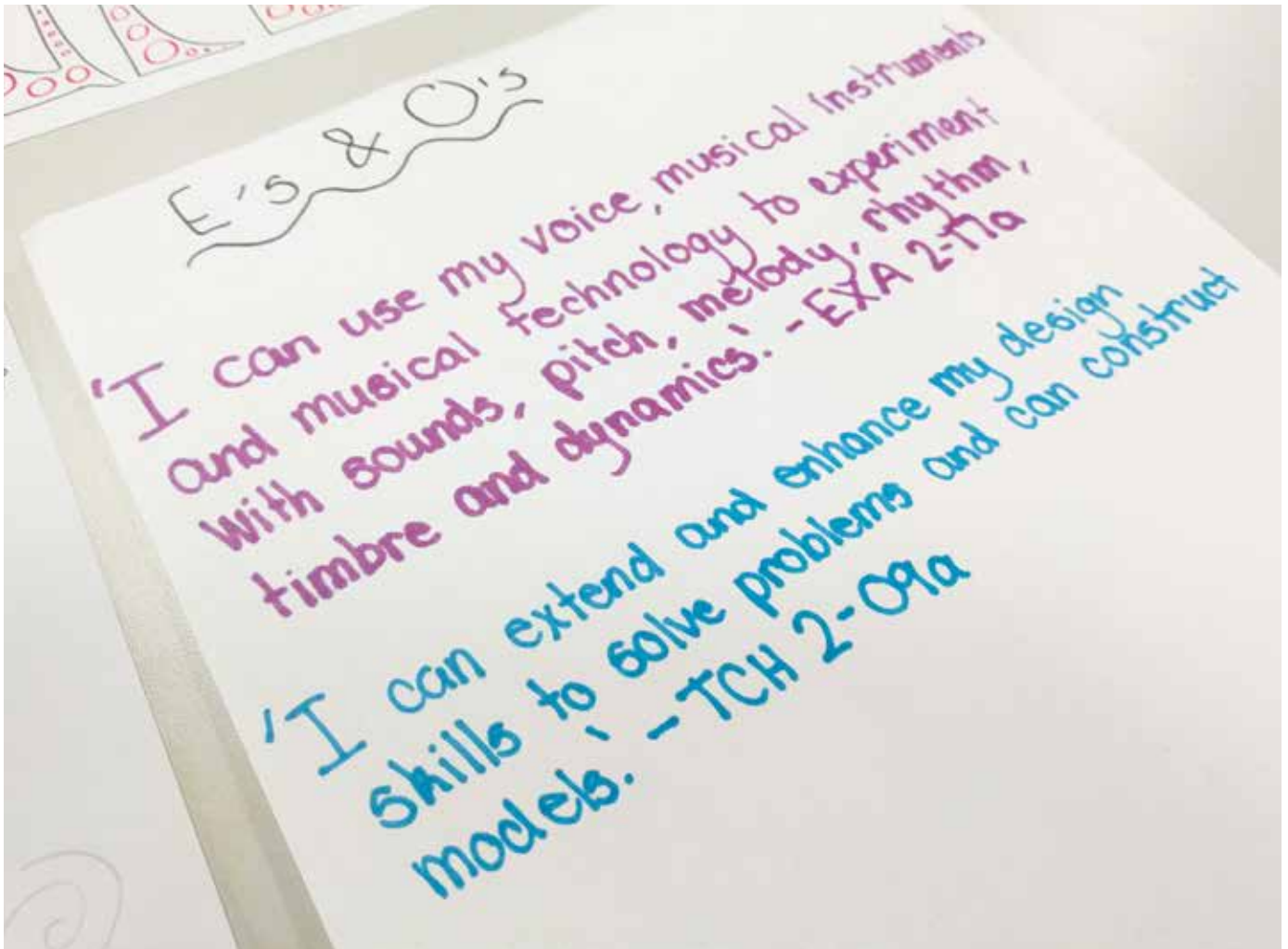
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 Surf Safe


 Not Safe

 Saying where you live on the internet

 Opening an email from someone you don't know

ha ha
ha ha
ha  Telling your best joke online

 Asking a grown up before playing a game online

username:
cheeky_monkey
 Using a nickname

 Making a new friend on the internet

