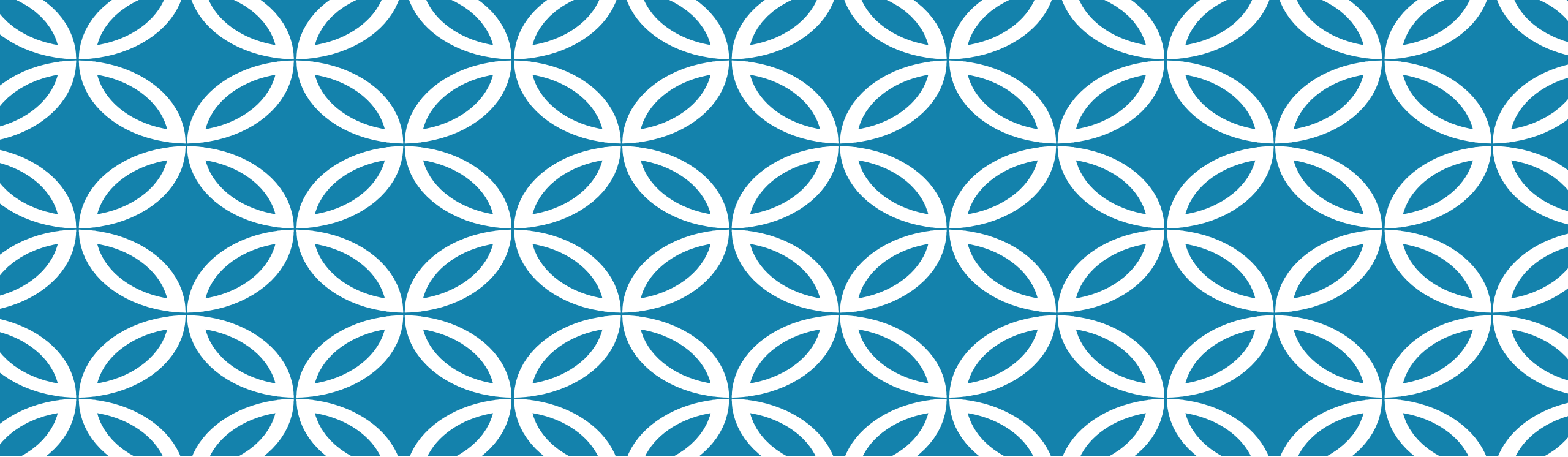


**CRITICAL REFLECTIONS ON EDUCATION &
INJUSTICE, 7TH – 8TH JUNE 2016**

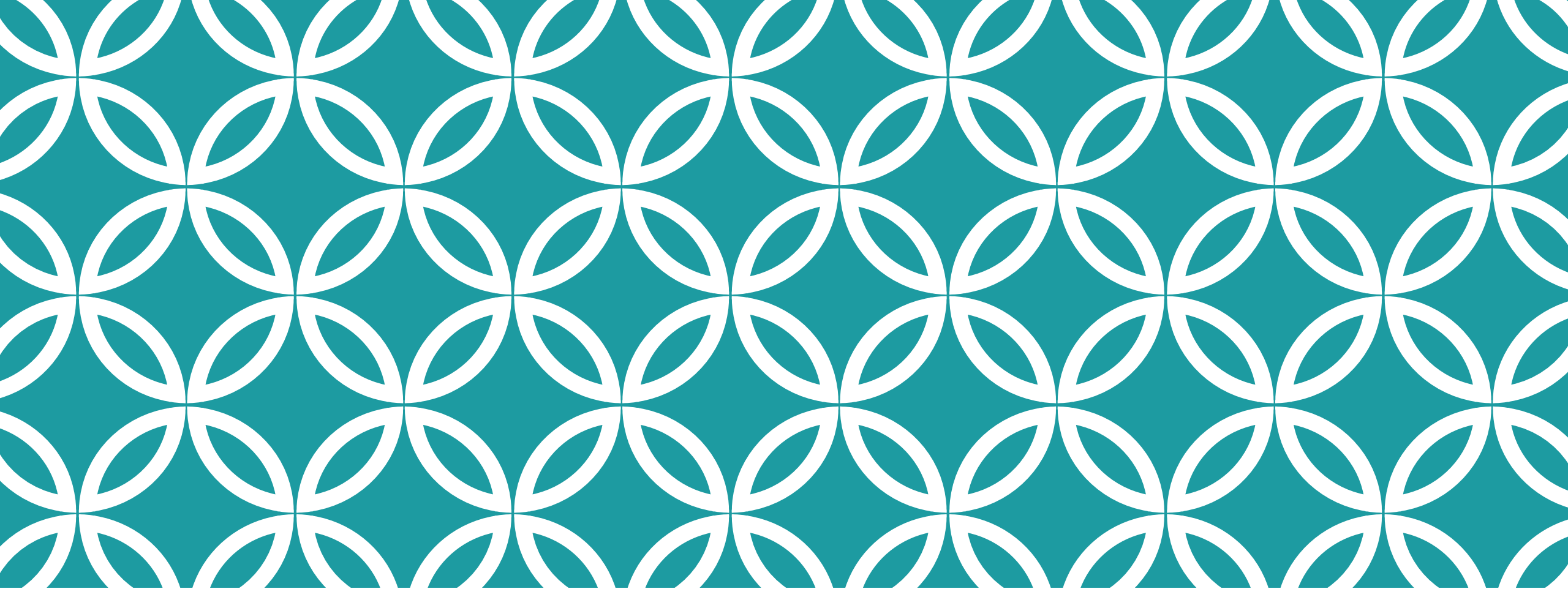
Canterbury Christ
Church University,
Canterbury
Kent, UK



**INCREASING INCLUSIVE TECHNICAL CAPITAL THROUGH
“SOFT SKILLS”, TO FURTHER SOCIAL JUSTICE:
A CASE STUDY OF THE DEVELOPMENT OF A
PHOTOGRAPHIC PORTFOLIO USING SMART
TECHNOLOGIES IN A WORKSHOP FOR BLIND, VISUALLY
IMPAIRED AND SIGHTED PARTICIPANTS**

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Christ Church University)*

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Christ Church University)*



INTRODUCTION

The reason for the study,
aims and objectives

THE MOTIVATION FOR THE STUDY

To develop collaborative learning along the same lines as a previous course, designed for school children – a mixture of sighted and blind students (Hayhoe, 2013)

To experiment with methods of inclusion

- All students were taught with the same technologies, as if they had a visual impairment or not

To research inclusive “soft-skills” that can be applied in a broader context

Hayhoe, S. (2013). A practice report of students from a school for the blind leading groups of younger mainstream students in visiting a museum and making multi-modal artworks. *Journal of Blindness Innovation & Research*, 3(2),-.

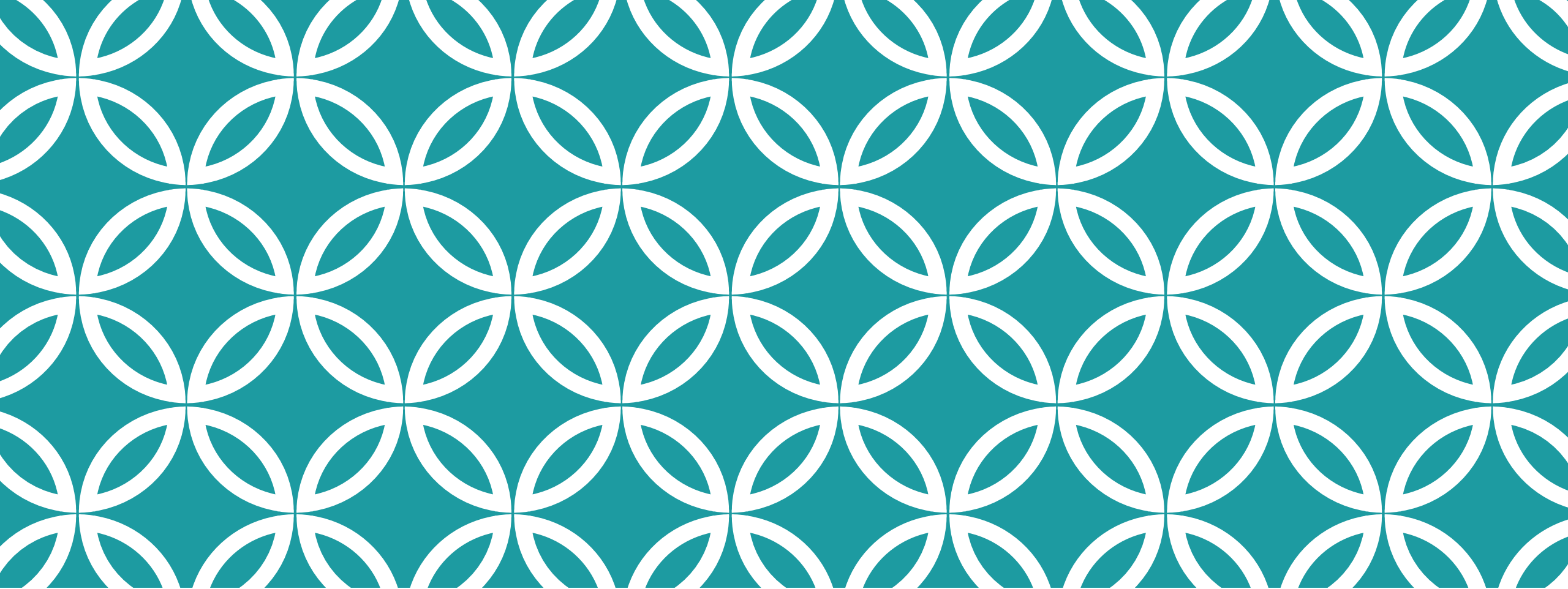
AIMS & OBJECTIVES OF THE STUDY

Investigate a cost effective alternative to traditional, expensive assistive technologies

Develop education and training on the use of mainstream technologies that students largely own anyway and use for alternative purposes

Evaluate the development of soft-skills, and their application beyond the workshop

Explore the most effective way of providing training in the use of these devices for photography



CONTEXT OF THE STUDY

Definitions that provide a context to the study

DEFINITION OF DISABILITY (2010 EQUALITIES ACT)

“You’re disabled under the Equality Act 2010... if you have a physical or mental impairment that has a ‘substantial’ and ‘long-term’ negative effect on your ability to do *normal* [sic] daily activities.

What substantial and long-term mean

‘substantial’ is more than minor or trivial – eg it takes much longer than it usually would to complete a daily task like getting dressed

‘long-term’ means 12 months or more- eg a breathing condition that develops as a result of a lung infection”

THE CONCEPT OF UNIVERSAL DESIGN

“[Universal Design is] the design of products and environments to be usable by all people, to the greatest extent possible, without the need for adaptation or specialized design“

National Centre on Universal Design for Learning. (2016). UDL guidelines Version 1.0: Research evidence. Available online at <http://www.udlcenter.org/aboutudl/udlguidelines> 1st May 2016.

SOFT SKILLS IN EDUCATION

Skills that are not regarded as being the principle aim of an educational task

Soft skills are generally practical tasks, that feed into further learning

These skills might include:

- Developing study skills, such as practising reading and writing
- Using a library, and the library catalogue
- How to navigate the Web, or use a Google search
- Uploading, saving and updating information

BOURDIEU & CAPITALS

Bourdieu argues distinction in life chances through capitals, e.g.

- social, cultural and financial capitals.

Habitus:

- principles which generate and organise practices.
- Field = knowledge and behaviour that teaches distinction

$$[(\text{habitus})(\text{capital})] + \text{field} = \text{practice}$$

MODEL OF TECHNICAL CAPITAL

“[Technical capital is] the availability of technical resources in a network, and the mobilization of these resources in ways that can positively impact access to information and upward mobility.”

- Yardi’s technical capital is a subset of cultural capital

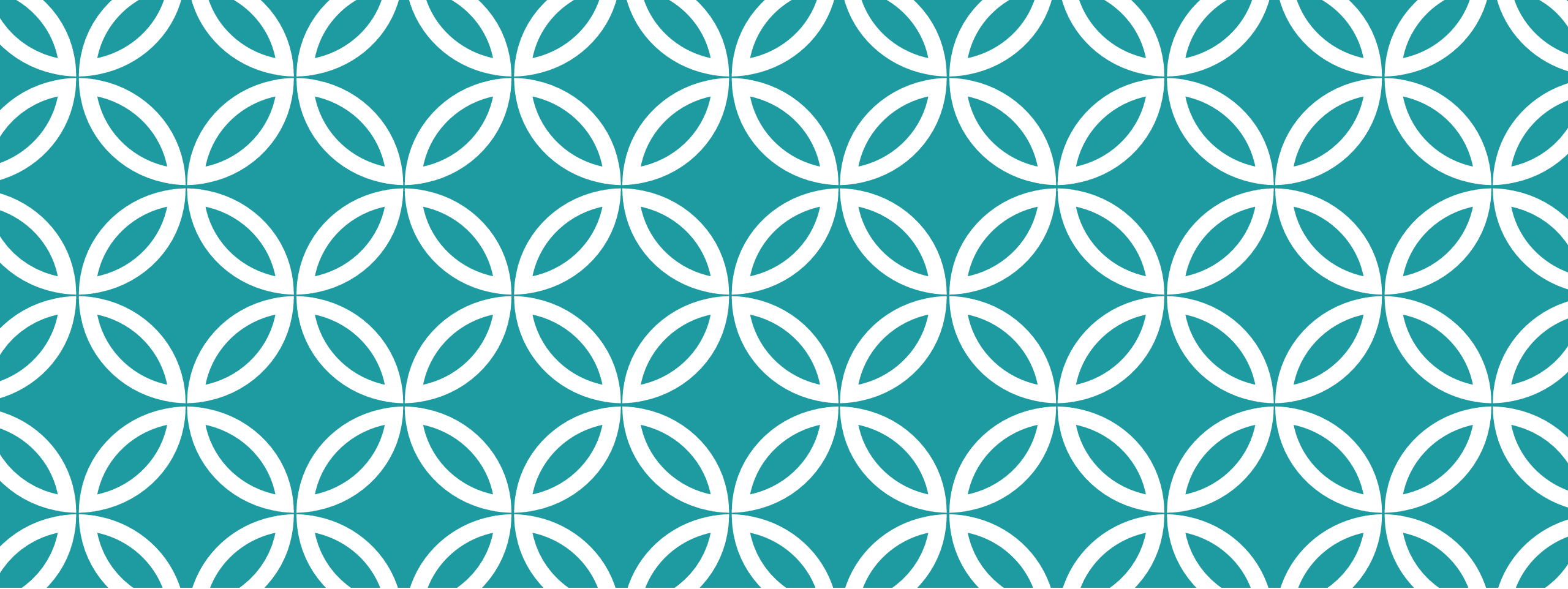
Yardi, S. (2010). A Theory of technical capital. Paper delivered to the TMSP Workshop, Georgia Institute of Technology, Georgia, US, February 11-12, 2010.

INCLUSIVE TECHNICAL CAPITAL (ITC) MODEL

“Inclusive technical capital can be defined as practice which uses inclusive mainstream technologies to promote inclusion in further forms of social, cultural and financial capitals, through enabled habitus in education and training...

It can thus be argued that inclusive technical capital appears to be more applicable to students’ use of new forms of mainstream settings and apps that have been embedded in modern tablet devices and therefore, either purposely or accidentally, lend themselves to redefinition as inclusive technologies.”

Hayhoe, S. (2015). Utilising mobile technologies for students with disabilities, In A. Robertson with R. Jones-Parry (Eds.). Commonwealth Education Partnerships: 2015/16. Cambridge: Commonwealth Secretariat & Nexus Strategic Partnerships.



METHODOLOGY OF STUDY & DESIGN

A Grounded Methodology
approach

METHODOLOGY

Adaptation of Grounded Theory (Glaser & Strauss, 1967)

The adaptation was a grounded methodology (Hayhoe, 2012)

The technical elements of the methodology is refined and employed for an ongoing process - analysis, design or activity (Hayhoe, 2012)

Glaser, B.G. & Strauss, A.L. (1967). The discovery of grounded theory: Strategies for qualitative research. Chicago, IL: Aldine Publishing Company.

Hayhoe, S. (2012). Grounded theory and disability studies: An investigation into legacies of blindness. Amherst, NY: Cambria Press.

TREATING DATA LIKE WRITING AN EVERLASTING PLAY

Open coding is like choosing the characters and main events in your play.

Axial coding is like choosing your plot, and examining how the story evolves.

Selective coding is like choosing the story lines that put the plots and sub-plots together.

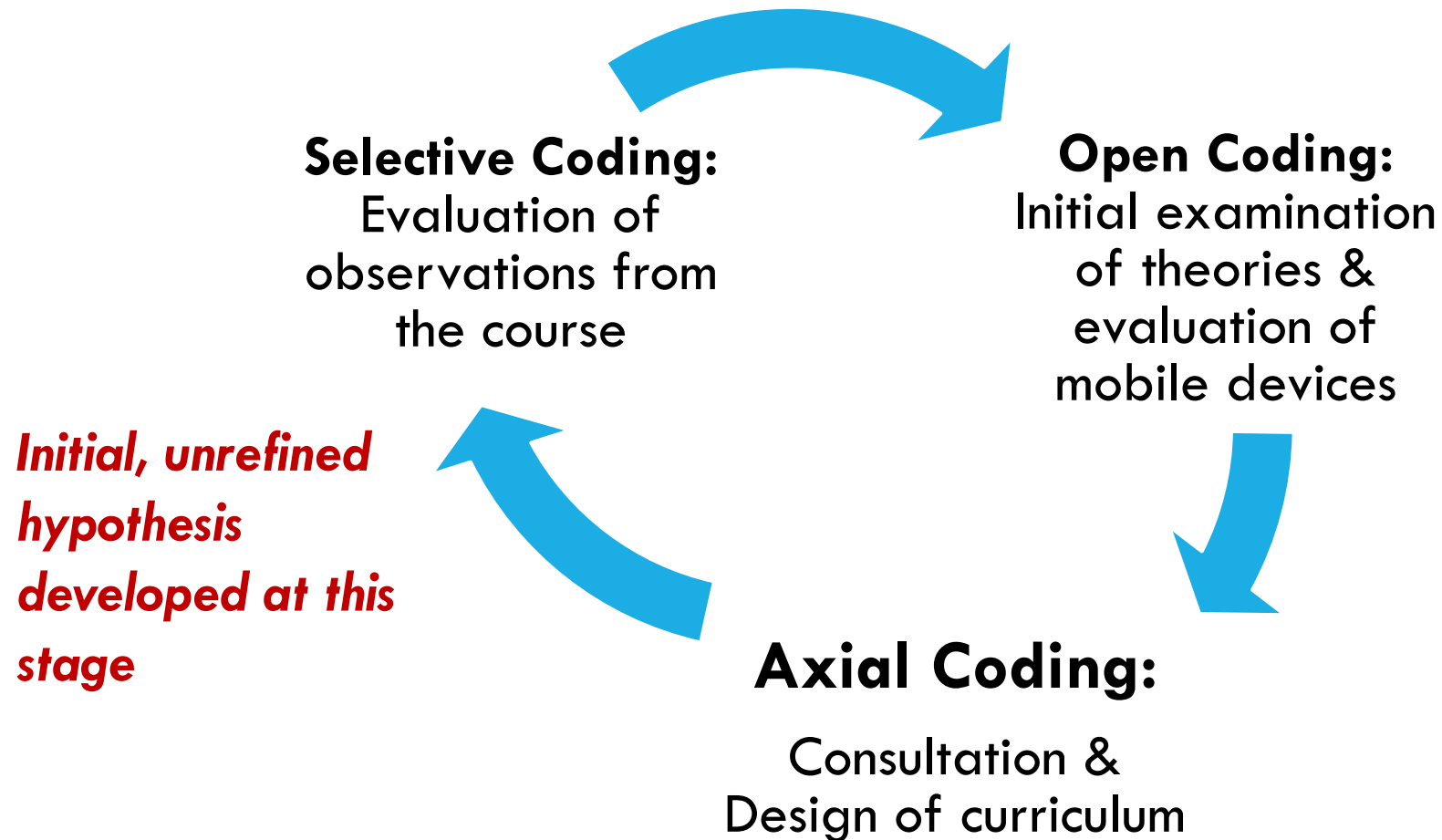
THE APPLICATION OF THE THREE CODING PHASES

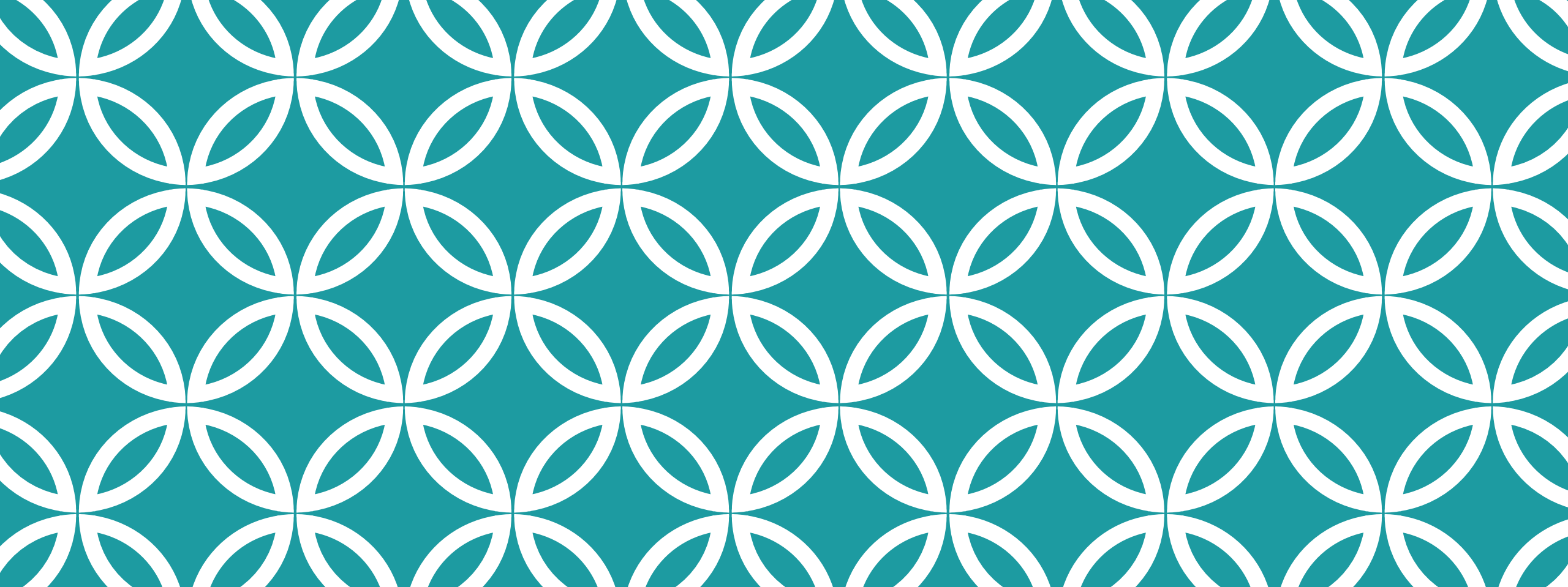
Open Coding: examining approaches to inclusion & technology, and possible technologies

Axial Coding: developing the curriculum based on these models, with specific tasks – hypothesis formed

Selective Coding: involves examining the work produced by the students, with any feedback

GROUNDING THEORY CYCLE OF ANALYSIS





OPEN PHASE

Initial pilot phase of study

OPEN CODING

Theories of inclusion and technology were examined into relation to blindness

Studies of tablets and blind students were analysed

Native apps in Apple iOS were evaluated

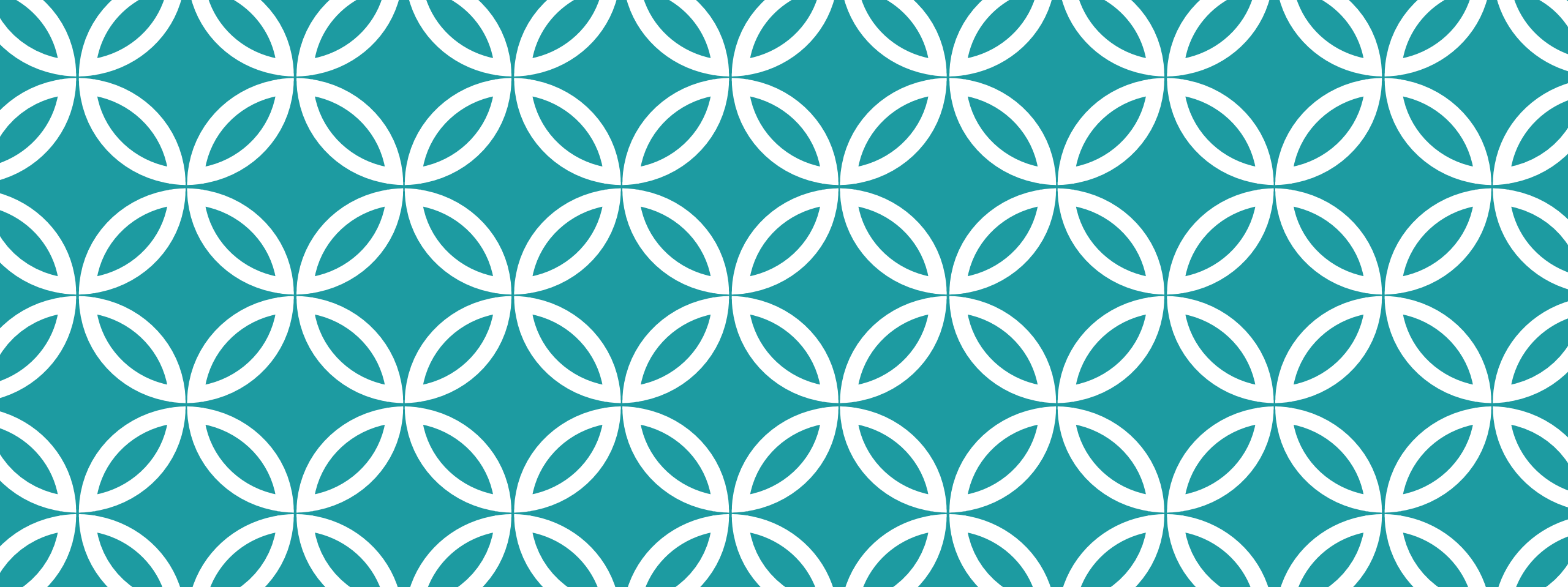
SUMMARY OF FINDINGS OF THE EVALUATION OF APPLE IOS

Inclusive accessible settings are native, and can be adapted to visual impairment

- Zooming
- Text to speech
- Reverse colours

Some settings and functions make operating system less useable as tools of technological inclusion

Some other apps are useful to adapt to universal design, such as PhotoBooth



AXIAL PHASE

Staff and student consultations

DEVELOPMENT OF CURRICULUM

Developed with Neomi Pena Sacherz, then of Valladolid University, Spain

It was felt that the curriculum should develop a background understanding of photography – what it was

The exercises should include familiar subjects and topics, that would allow all students to relate to the educational tasks

The exercises should also use the local environment

- to allow mobility and an understanding of different social, cultural and geographical environments through photography

DEVELOPMENT OF CURRICULUM

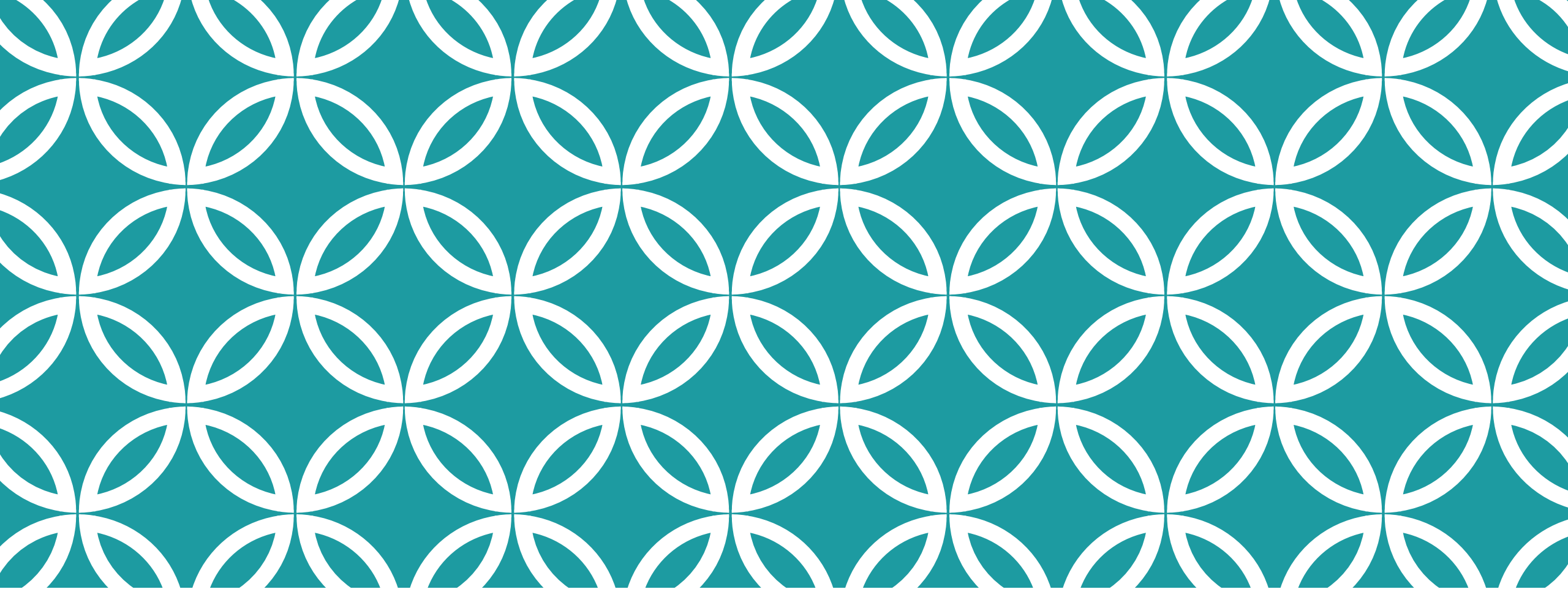
Day 1 – Thursday 2nd July: Introduction to the technology, introduction to different types of photography, uploading and sharing work based on body parts, exhibiting work, and self-portraits. Lecture on this history of photography.

Day 2 – Friday 3rd July: A photo-narrative of the life of Canterbury Cathedral and city centre. In addition to public areas around its perimeter, tours of places not open to the public. Some of them less accessible by wheelchair – heritage environment

CONTINUED

Day 3 – Saturday 4th July: A photo-narrative of the life of Margate beach and sea front, based at Turner Contemporary. Private work space - Examination of a number of photographs and use the gallery as an initial backdrop. Move onto the seafront, and continue photographing – modern cultural environment

Day 4 – Sunday 5th July: A summary of the exercises, developing a portfolio for exhibition, and an evaluation of the course. Swap information, choose favourite photographs from the weekend, and complete the evaluation.



SELECTIVE CODING

The reality of the course,
testing the hypothesis

THE HYPOTHESIS FORMED

Students would prefer use iPads, as they are accessible and have larger screens

Students will collaborate to examine how photographs can represent the same concepts in different ways

Students would appreciate different environments as the backdrop for their work – to engage their interest and imagination

SELECTIVE CODING

Participant mixture

- 4 legally blind army veterans from Blind Veterans – one from Germany
- 1 legally blind local person
- 1 profoundly blind person from Germany & sighted companion
- 1 physically disabled local person
- 1 sighted local sighted professional artist
- Numerous staff members participating on different days
- All took part in all exercises collaboratively, with students mixing

LEGALLY BLIND ARMY VETERAN — PHOTOGRAPHY UNDERGRADUATE





RETIRED, SIGHTED, PHYSICAL IMPAIRMENT, NO PREVIOUS TRAINING IN PHOTOGRAPHY





**LEGALLY BLIND, FORMER VETERAN — NOT
FORMALLY TRAINED, EXPERIENCED**





MAIN OBSERVATIONS

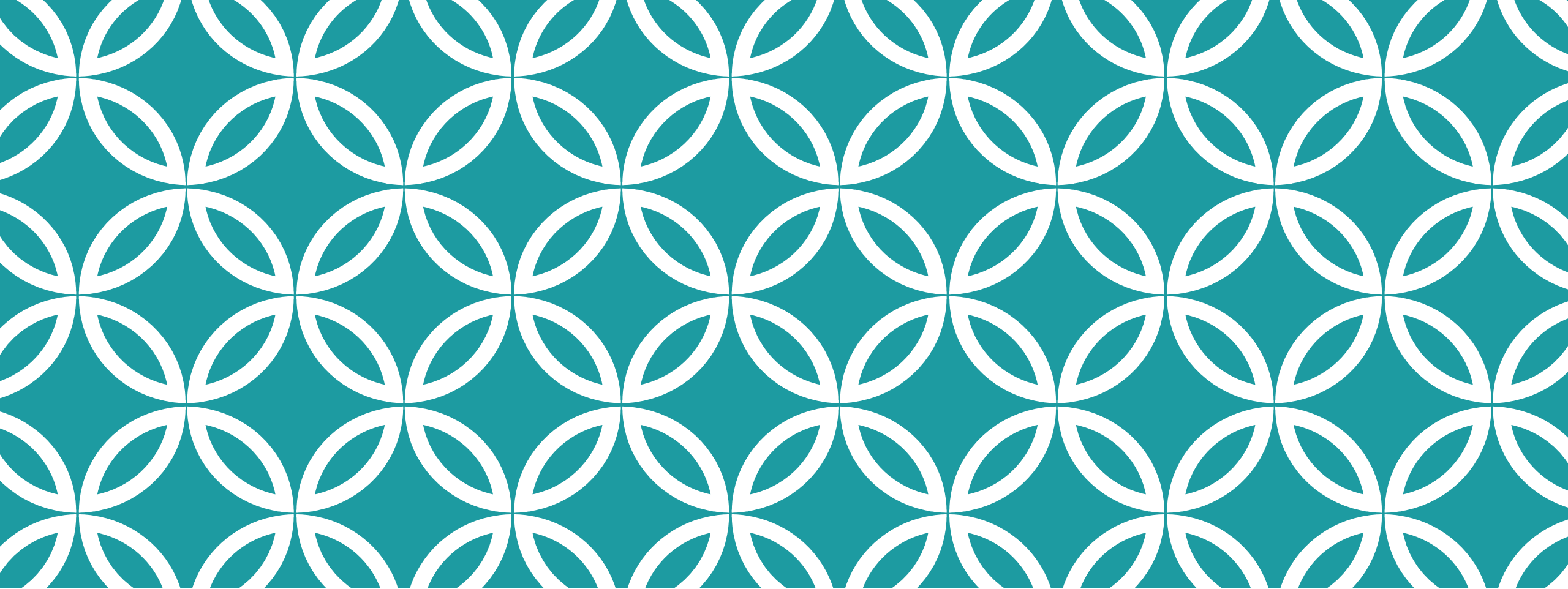
Technical

- Experienced blind students preferred to use their own equipment
- Less experienced students used iPads more, and gave positive feedback about apps
- Photo Booth allowed one blind veteran how to see handwriting for the first time since becoming blind




Students learnt social skills of photography

- Developed confidence to treat the environment as their own
- Socialised with members of the public, in order to take their photographs
- Felt a physical and cultural connection to their environment
- Twisted and lay on their backs in order to take photographs
- Discussed art history, sometimes for the first time
- Allowed some students social contact
 - One participant gave Karl and I jars of Jam on the final day!



CONCLUSION

Overall findings and possible
future directions



Photography developed soft skills, especially social skills of photography and navigating an environment

Participants learnt with and from each other, producing images collaboratively

Participants have stayed in touch afterwards, and continue to remain so

Forms of inclusive technical capital were developed, and can be used in future iterations and sessions

Universal design worked for all students, as sighted students benefitted from understanding accessible settings and the use of accessible apps

FUTURE RECOMMENDATIONS AND PLANS

The study is also being used as a critical model for future workshops

- This is in response to the needs for increased soft skills in the use of mobile technologies

If we gain funding, we will employ the previous participants as workshop leaders

Sustainable course development