

STEAM in Youth Work



National Youth Council of Ireland

- a representative body for youth work organisations in Ireland.
- has 50+ member organisations working in every community in Ireland with about 400,000 young people aged 10-24 years.



National Youth Council of Ireland

- Health promotion
- STEAM and Digital Youth Work
- Arts and culture
- Development education
- Equality and intercultural
- Child protection
- Youth participation
- International

The Context

- **2012:** National 'Screenagers' conference on digital tools in youth work **2014:** Organised International Screenagers Conference
- **2014 – 2016:** International 'Screenagers' research and a range of responsive projects
- **2015 – 2017:** EU Commission Expert group on Developing Digital Youth Work
- **2016 – 2018:** Two-year, SFI-funded, NYCI Techspace STEM in Youth Work Maker project
- **2019 – 2021:** Two-year, SFI-funded, STEAM in Youth Work project
- **2017-2019:** Digital Youth Work European Project

Screenagers Project



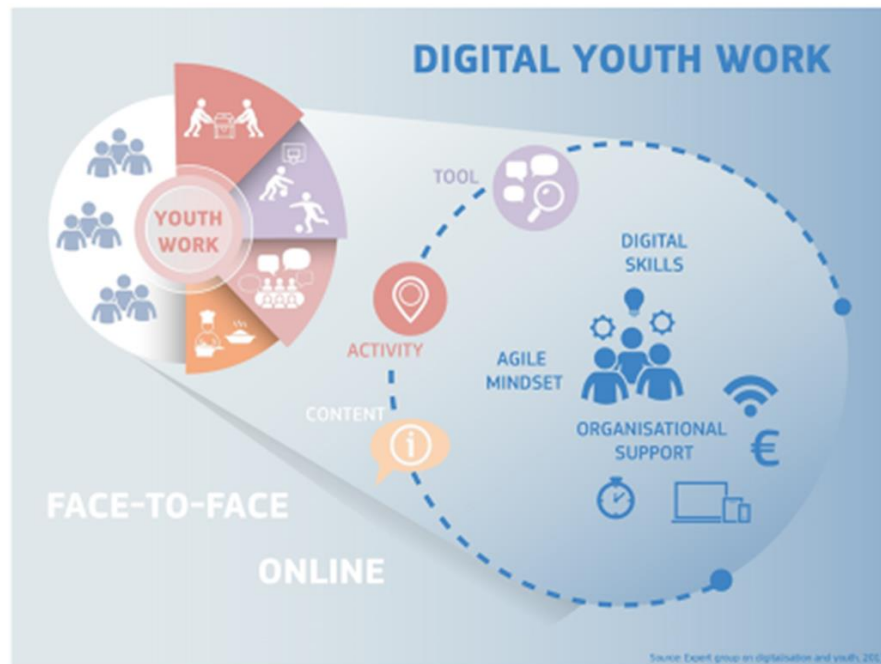


Common Findings

Across the 5 research reports similar findings emerged:

- Need for greater **strategic financial investment** in infrastructure, hardware, professional development and practice development
- Need for the provision of adequate **training** to respond to the needs of youth workers at all levels
- Need to **challenge resistant mind-sets** and to support and enhance more creative use of ICT in youth work
- Ensure **policy commitment** with youth work sectors
- Need for **written guidelines** for youth workers containing best practice

Developing Digital Youth Work



What is STEAM in Youth Work

Innovative methodologies to increase the use of STEAM (science, technology, engineering, art and maths) to support the achievement of youth work outcomes and build capacity to support the young people they work with to deal with both the risks and opportunities that living in an increasingly digitalised world bring.

WHY

Youth Work outcomes enhanced in unique ways

- Tools to engage young people struggle to engage with through other approaches.
- Enhances YW outcomes related to learning and development eg problem solving skills; resilience

Why the Youth Sector?

Valuable role in STEM education ecosystem

- Relevant to young people, capturing imaginations
- Making STEM practical and hands-on: process where failure is important and mistakes provide learning opportunities.
- Changing perceptions and engaging the underrepresented in STEM

How

Training on STEAM activities

- skills and knowledge to facilitate high-quality STEAM learning experiences with young people. For example: learn how to solder; use a Makey Makey to turn an everyday object, such as a bunch of flowers, into a computer keyboard; make story books that include circuits; make scribble bots; make speakers for phones; build cameras and dark rooms to develop the photos in.
- youth workers learn about the fundamental science underpinning the activities.

Art in STEAM

Make story books
that include
circuits



Soldering





build cameras and dark rooms to develop the photos in

Equipment or equipment grants are available with most of the trainings



Scientist in Youth Work Residency Scheme

- Those who participate in the STEAM in Youth Work residential will be eligible to apply for a grant of €5,000 to deliver STEAM projects/exhibitions of relevance to local young people. The projects should involve some collaboration with STEAM professionals. NYCI can help broker links.

Gaming for Development Education & climate/environmental action



“STEM + Arts = STEAM

WHY

- Cross Over and commonality of processes, themes, practices and methodologies
- Opportunity to widen and strengthen perception and experience of what's considered 'creative' or artistic participation for young people and youth work organisations
- Learning and reflective practice mutual impact on Arts and Science Learning for NYCI programmes (and for young people)
- Embedding Fused Learning

STEAM is about the vital interplay between – and having a parity of esteem for – science, technology, engineering, arts and mathematics”.

Paper: Cultural Learning Alliance Briefing Why STEM can only take us so far, 2017



Key achievements of STEM in Youth Work, 2016 - 2018

- 4,871 young people had access to fun, hands-on STEM experiences.
- Young people's perceptions about STEM improved.
- Young people gained a range of skills.
- Significant impact on youth workers and their organisations.
- STEM brings something unique to youth work.

evaluation data from **264** survey responses, **10** site visits and **8** interviews were analysed

Enables youth workers to **engage** young people that they struggle to engage with

Enhances youth work outcomes related to learning & development in **unique** ways e.g.

- Problem solving
- Resilience
- Technical skills
- Positive experience of STEM

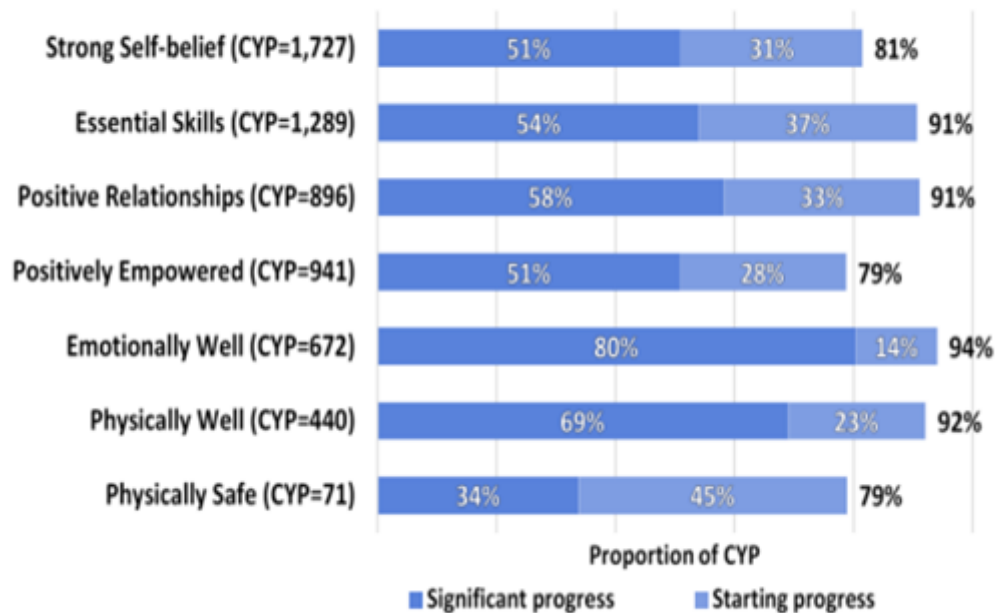
Youth Work Manager

*“It’s [STEM] something that a lot of the staff and the young people wouldn’t really be thinking about. It was mentioned to a group of young people and they took a pause, they never really thought it could be an area they could get into work-wise. So that’s **opening up some possibilities for them**, you see a lot of buzz-words around young people becoming the creator and not just the consumer and that really resonates.”*

- *“All the skills needed in a young adolescent growing up are there in STEM or STEAM, inclusiveness, communication, willingness to engage, building pride self esteem, the whole package is there, i couldn't say enough about this!”*

Youth Worker

Figure 2 The majority of young people made some progress against each of their differences, with over half making significant progress.



Based on data from 31 projects.

March 2019

The role of informal science in youth work

Findings from *Curiosity* round one



BBC
Children in Need



STEAM is Good for Youth Workers too



YOUTH WORK ENGAGES YOUNG PEOPLE WHO ARE UNDER-REPRESENTED IN STEM



NYCI (2019) Final learning report from the NYCI TechSpace STEM in Youth Work project

Girls & boys take part in equal numbers, with both talking on leadership roles equally



“ Interesting,
challenging
and rewarding

Challenges

- Balance between youth work and STEM education/engagement
- Science learning/communication needs to improve
- Develop a model of science communication specific to youth work:
 - co-learning between youth workers & young people,
 - youth work facilitation skills that include aspects of the scientific method & inquiry-based learning
 - links youth workers with STEAM communicators for shared learning and benefit

- Language - inclusion
- Engagement – Resistant Mindsets
 - Early adoptors
 - Whole organisational approach
- Different from formal education
- Health and Safety
- Environmental considerations – a lot of waste.
- Resource and Capacity issues

Evaluating Youth Arts/ STEAM processes in Youth Work



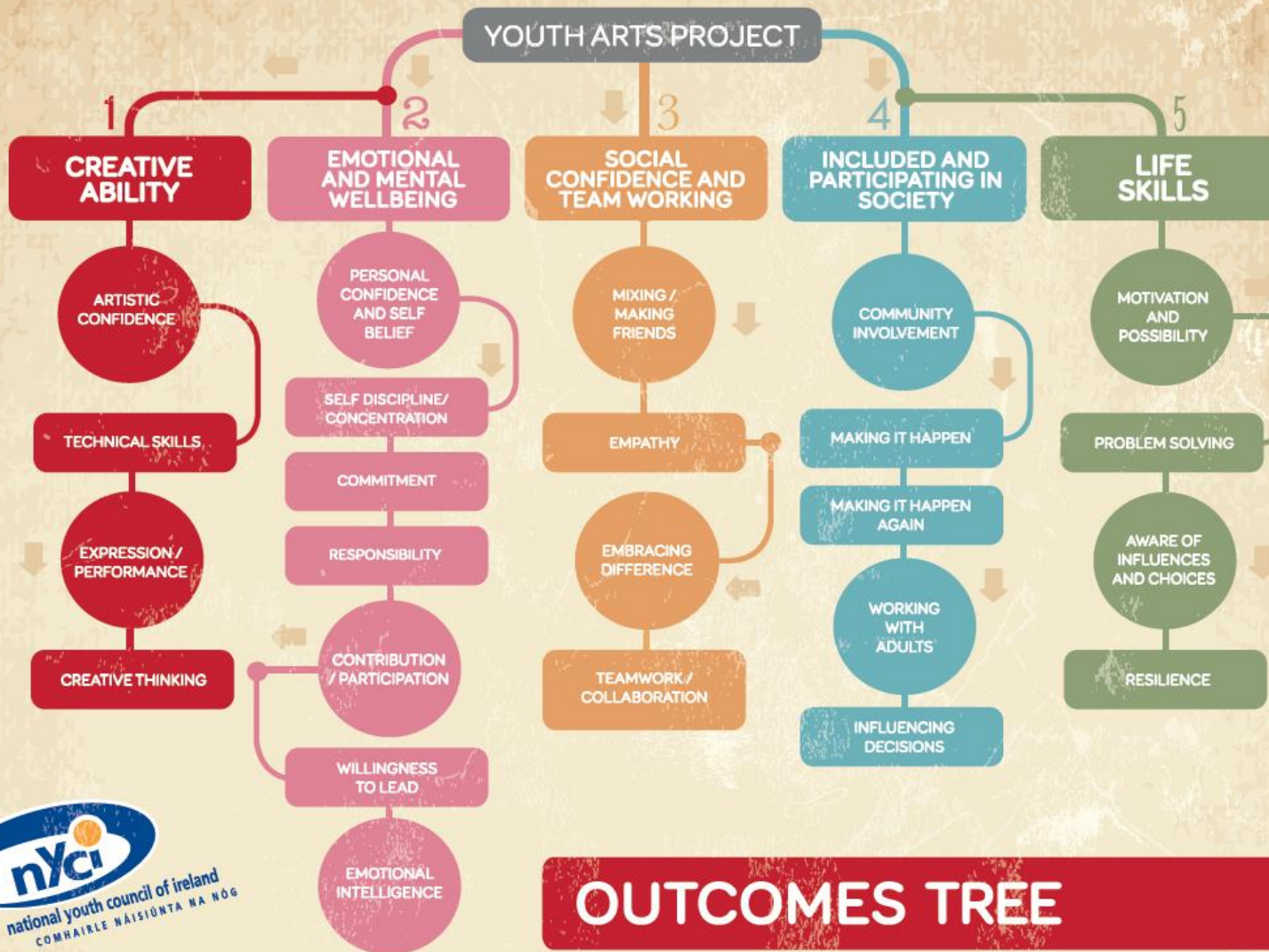
Some Thoughts...

- ‘Documentation is a political act....if you don’t decide what is important about your work, somebody else will’.

Project Zero, Harvard
Graduate School of
Education

- ‘What’s measured improves’

Peter Drucker



Capturing Magic- Evaluating Outcomes

- SET 1: CREATIVE ABILITY
- SET 2: EMOTIONAL AND MENTAL WELLBEING
- SET 3: SOCIAL CONFIDENCE AND TEAM WORKING
- SET 4: INCLUDED AND PARTICIPATING IN COMMUNITY LIFE/SOCIETY
- SET 5: LIFE SKILLS

SET 1: CREATIVE ABILITY

- explores how young people are taking up the artistic process for themselves;
- in terms of confidence, active use of tools and techniques, creative thinking, and their willingness to be publicly associated with work that is thought provoking or challenging.

SET 2: EMOTIONAL AND MENTAL WELLBEING

- Explores the difference participation in the arts project might make to the personal self-confidence, concentration, emotional intelligence and assertiveness of individual young people for personal resilience and broadly applicable life skills.

SET 3: SOCIAL CONFIDENCE AND TEAM WORKING

- Improving social skills –
- working as a team in taking forward aspects of a project, (a valuable skills set for the workplace or in community initiatives)
- better able to mix and make friends with others from different backgrounds.

SET 4: INCLUDED AND PARTICIPATING IN COMMUNITY LIFE/SOCIETY

- Empowers young people to gain confidence and respect to take more of a part in shaping their local community; in decision making, or in initiating their own projects.
- Active citizenship and becoming stakeholders in society.
- Entrepreneurial, or building their own personal profile

SET 5: LIFE SKILLS

- Provides new ways to investigate issues, explore options, and learn more about choices, influences, self, community and the wider world.
- Opens up a sense of possibility and vision for the future and confidence to become active in shaping that future.
- Along with problem solving skills, these can contribute to the resilience of a young person.

Exercise

- Describe your day- working with group of young people on a STEAM programme
- Pick one outcome that you could relate to that day
- Go to page number on that outcome
- Fill in scale

1.2 TECHNICAL SKILLS

This scale describes the way young people use tools and techniques as an indication of how familiar they are with them and therefore how skilled we can say they have become. Success is that young people demonstrate a fluid use of the techniques and tools of the artform, and may have formed a longer term plan for personal artistic development.

Techniques/routines are conducted mechanically.

Techniques/routines are conducted with some thought and involvement but depend on the instruction of the artist.

Participants show an understanding of how to use tools and techniques of the artform to achieve a desired effect or outcome. They often discuss approaches to using techniques to achieve different ideas and effects.

Participants sometimes lose themselves in the flow of using techniques/tools. Participants have begun to look for further opportunities to develop their skills such as taking part in activities with other organisations or going on to further education in that art form.

PATTERN IN THE GROUP:

NOTES:

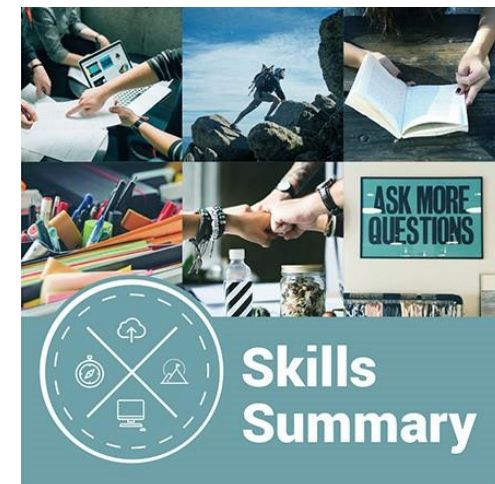
Practical guide in using Capturing magic

- 1. Identify the current needs of your group**
- 2. Design programme with group and artists**
- 3. Plan ahead for results**
- 4. Gather evidence and document progression**
- 5. Evaluate and Review**
- 6. Start again.**

Skills Summary - The easy way to track and develop your life skills

What is Skills Summary?

- ✓ an easy to use online tool for young people between 16 and 25
- ✓ measures skills young people gain in youth work, volunteering and other non-formal learning settings
- ✓ builds the confidence around these life skills, assists to better prepare for interviews and success in the job market
- ✓ supports particularly vulnerable or disadvantaged young people, or are most challenged by school
- ✓ recognised measurement tool in the Youth Employability Initiative



How does Skills Summary work?



COMMUNICATION
skills



INTERPERSONAL
skills



TEAMWORK



Skills Summary



DECISION MAKING



ADAPTABILITY



LEADERSHIP



ENTREPRENEURSHIP

**12
SKILLS**



PROBLEM SOLVING



DRIVE & RESILIENCE



ETHICS & INTEGRITY



IT *skills*



ORGANISATION *skills*

Interested in using Skills Summary?

Contact: skillssummary@nyci.ie



An Roinn Leanaí
agus Gnóthaí Óige
Department of Children
and Youth Affairs



Resources

- **STEAM in Youth Work**

Website: <https://www.youth.ie/programmes/steam-and-digital-youth-work/>

Report: <https://www.youth.ie/documents/stem-in-youth-work-maker-project-final-report/>

And

<https://www.digitalyouthwork.eu/>

- **Evaluation : Capturing Magic: A TOOL FOR EVALUATING OUTCOMES IN YOUTH ARTS PROJECTS**

<https://www.youth.ie/articles/capturing-magic-a-tool-for-evaluating-outcomes-in-youth-arts-projects-2/>

- **Skills Summary: Skills Summary is an easy to use online tool that measures the skills young people gain by participating in youth work and volunteering opportunities**

- website

<https://www.youth.ie/programmes/projects-initiatives/skills-summary/>

Video :

<https://youtu.be/pCZTANvcgII>

Manual:

http://www.youth.ie/sites/youth.ie/files/Skills%20Summary_Manual.pdf



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