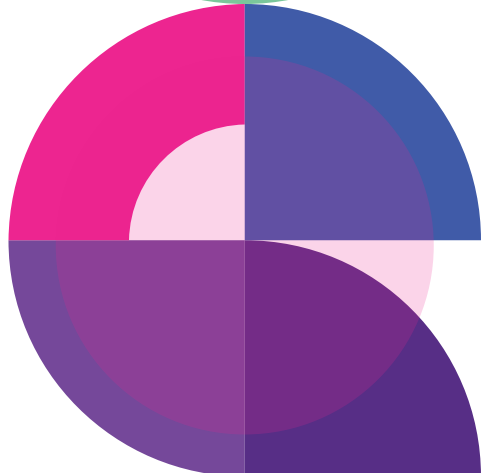
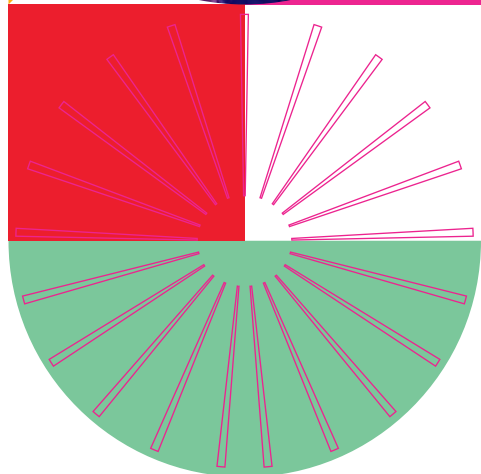


I WISH

2024 SURVEY

OF FEMALE STUDENTS' ATTITUDES TO STEM

#DREAMIT
#DAREIT
#DOIT



Welcome to the I Wish 2024 survey results, where 1,703 girls who attended the I Wish Showcase shared their attitudes towards STEM.

2024 marked our 10th anniversary, and while we are happy to report on some positive changes over the last 10 years, there is still room to grow.

When we founded I Wish, we began by asking why there were so few women visible in STEM and then quickly followed with why not.

Why not imagine a future where every girl has access to STEM subjects.

Why not imagine a world where every girl feels confident in her choices.

Why not imagine a world where female participation in STEM is equal.

The science is sound. The jobs of tomorrow will heavily rely on a good grasp of STEM subjects, as the demand for roles that bridge the gap between humans and advances in machine intelligence increases.

Why are we not preparing our daughters, our nieces or our sisters for the jobs of tomorrow?

Why do girls in single sex schools have fewer STEM choices?

Why don't girls in mixed sex schools select STEM choices?

Why do girls report more confidence in STEM In primary school versus secondary school – what happens during that crucial transition from tween to teen?

The world is changing rapidly through STEM and all of humanity needs to engage in it. This is on us. It is not exclusively a workplace issue, a schools issue, or a home issue. This is a whole of society issue and can only be addressed holistically. Yes, we need to urgently address the equality of access to STEM subjects in all schools or else systemic bias will continue and be exasperated but we need to do so much more than that.

In all of our interactions with young women we need to showcase the possibilities in STEM and empower them to play their part in it.

This is on us and time is running out. What are we going to do?

#DreamDareDo

♥ The I Wish Team

Who participated in the 2024 I Wish survey?

1703 online surveys completed
58% students from mixed schools



10 YEARS OF PROGRESS...

How it started



3 women having a cup of coffee!

How it's going



Annual showcase event



Third level I Wish Campus Programmes



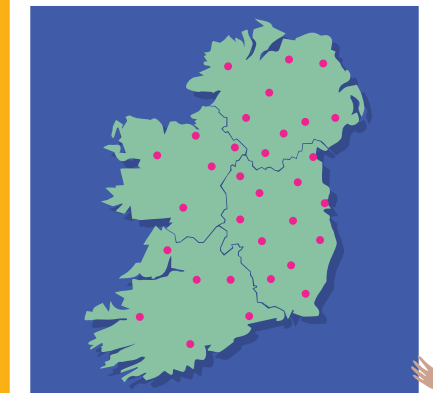
I Wish Deloitte Mentorship Programmes

New this year



Pilot Primary Programme

2025



I Wish completes the 2025 Showcase with the first all-island event

- Engaged with 62,688 girls
- Third level campus programmes
- 1,018 Speakers
- 125 industry partners
- International Twinning programmes
- I Wish Deloitte Mentorship Programmes



International Twinning Programmes

- 179 Primary Students Participated
- 5th & 6th Class



WHAT'S NEW?

This year, we launched the I Wish Primary Programme, following last year's recommendation that we need to start telling the STEM story earlier. Interestingly, girls at primary level display higher confidence to pursue STEM as a career (76%) than girls at secondary school (53%) and their confidence was further boosted after participating in our programme. Only 53% of secondary school girls have confidence in their ability to pursue STEM as a career.

The programme was structured across 3 modules:

1. *Role Models* – The girls heard from I Wish Alumni where they told their STEM story.
2. *Focus on I Wish* – I Wish Watch Party – The girls got to experience how STEM can be interactive, fun and engaging.
3. *STEM in Action* – The girls were taken on industry visits to Carbery, Johnson & Johnson, Merck, Janssen, & PepsiCo.



100%
of girls said
that STEM is
suitable for
EVERYONE

Questions asked	Pre-programme	Post-programme
Do they know what STEM means	53%	89%
Where would you rank a career in STEM?	#4	#1
Who is their role model ?	58% none or if yes, either Mum or Dad	86% named someone from industry visit 100% no mention of parents
Confidence in their ability to do STEM	76%	100%

REAL PROGRESS MADE...

Female new entrants in STEM undergraduate programmes in Ireland by broad International Standard Classification of Education (ISCED) categories HEA (2022).

	2014	2022
All STEM Disciplines	29%	36%
Engineering, Manufacturing & Construction	15%	24%
Natural Sciences, Maths & Stats	51%	55%
ICTs	15%	23%

In 2021, Ireland was ranked twelfth in Europe with 33.6% of STEM third-level graduates being female. Romania, who ranked first, had 42.5% female STEM third-level graduates. When we look at second level education, there has been an increase of 37% of girls taking at least one STEM subject (apart from science and maths) from 2018 to 2022. However, there is still progress to be made.

Perhaps we need to look back to second level education and the subjects being offered and taken by both boys and girls.

76% of 3rd year boys take a STEM subject other than science or maths compared to 29% for girls. While the numbers have improved since 2018, it still remains low.

	2018	2022
Girls	21%	29%
Boys	74%	76%



...BUT STILL ROOM TO GROW

ENGINEERING, MANUFACTURING & CONSTRUCTION

The highest percentage of female uptake are in the following courses within these categories:

64% Food Processing
46% Chemical Engineering
42% Architecture & Town Planning

However, the lowest within these categories are:

16% Building & Civil Engineering
15% Electrical & Energy
12% Mechanics & Metal Trades

NATURAL SCIENCES, MATHS & STATISTICS

The highest percentage of female uptake are in the following courses within these categories:

68% Biology
65% Biochemistry
53% Environmental Sciences

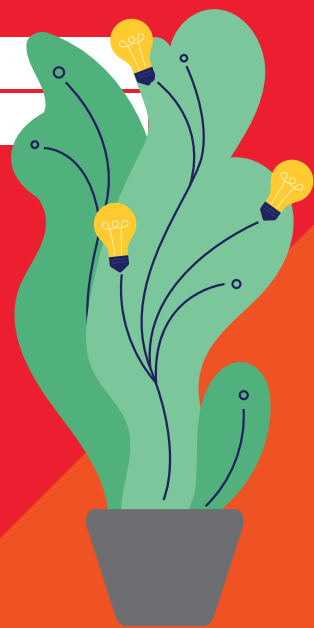
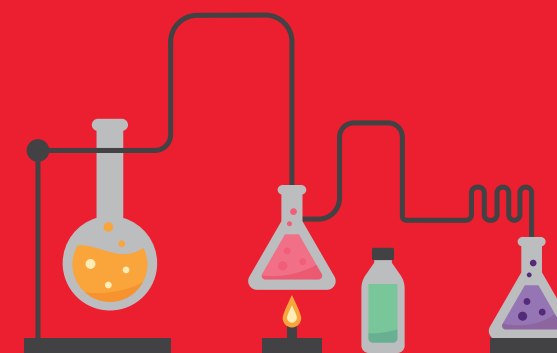
However, the lowest within these categories are:

38% Statistics
34% Mathematics
27% Physics

INFORMATION AND COMMUNICATIONS TECHNOLOGY (ICT)

The highest percentage of females are in broad courses involving ICT, however it is much lower in the more IT focused courses.

51% Interdisciplinary programmes & qualifications involving ICT's
21% Software and application development and analysis



33%

ONLY ONE IN FOUR PEOPLE WORKING IN STEM ARE WOMEN.

15%

Lack of
Information/
awareness
about STEM
subjects and
careers

11%

Lack of
opportunity for
women to
study STEM
subjects in
school/access
STEM jobs

11%

Lack of
confidence
among women

8%

I don't know

Stereotypes
(in school/the
workplace/in
society)

WHY DO YOU THINK THAT IS?

7%

Lack of role
models/
representation

6%

Lack of support

5%

Other

4%

Lack of
interest/
boring

“I think it's because women feel like there's less room for them in STEM so the majority end up not giving it a shot.”



#DOIT

WHAT CAN WE DO TO CHANGE THESE TRENDS?



Barriers to STEM Careers

This is the first year that the answers from both mixed and single sex schools had a major correlation in results

60% Lack of information about careers in STEM

60% Poor gender equality in STEM careers

58% Lack of school visits by female role models

56% Lack of information about STEM college courses

56% Lack of access to STEM work experience

53% Lack of self-confidence about their ability to pursue a career in STEM

50% Lack of self-confidence in their ability in STEM subjects

45% Lack of access to female role models

43% Limited STEM subjects in their school

Students' answers to our I Wish survey highlight the potential barriers they face to a career in STEM, many of which appear to begin early in life. The low take up is a complicated issue and it has been shown that it begins very early on in life for both males and females.

ATTITUDES TO STEM

85% said they were interested in STEM

89% would like to know more about STEM

89% agreed that STEM is a growing area of opportunity

88% agreed STEM courses are more suited to everyone



SCHOOL SUBJECTS & GENDER

Girls in single sex schools reported a barrier of limited STEM subjects. This difference was statistically significant.

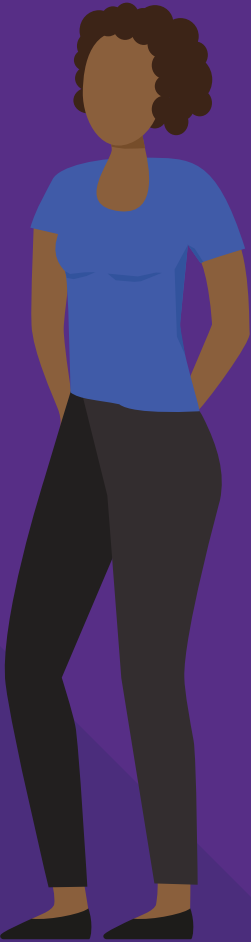
Only 68% of girls schools offer STEM subjects other than science or maths, while 96% of boys schools offer them.

Girls only see males in almost all STEM careers and when choosing subjects only see boys in their year choosing them too.

44% of girls surveyed said believing 'they would fit in' was an important factor when choosing a Leaving Cert subject

	% of Leaving Certs taking the subject in 2022	The breakdown of that % Female Vs Male	
		Female	Male
Engineering	10%	9%	91%
Computer Science	3%	22%	78%
Biology	59%	64%	36%
Chemistry	17%	60%	40%
Physics	13%	27%	73%
Applied Maths	4%	29%	71%
Construction Studies	17%	13%	87%
Technology	4%	19%	81%

The subjects that are being taken are polarised. We need to look at the 'WHY' in mixed schools, where the subjects are available to both sexes there are still gender differences. The above table shows that, with the exception of biology and chemistry, more boys take STEM subjects than girls. These figures include mixed sex schools and single sex schools.



#DREAMIT

WHAT DO GIRLS VALUE IN A CAREER?

2016

2024

#1	AN INTERESTING CAREER	HAVING A GOOD SALARY
#2	BEING GOOD AT IT	WORK -LIFE BALANCE
#3	EXCELLENT JOB OPPORTUNITIES	BEING GOOD AT IT
#4	CONTRIBUTING TO THE WORLD/HELPING OTHERS	OPPORTUNITY TO TRAVEL
#5	WORK-LIFE BALANCE	JOB SECURITY

This is what girls value today and we know that careers in STEM can deliver those values – we just need to focus on telling the STEM story so that the narrative changes for girls.

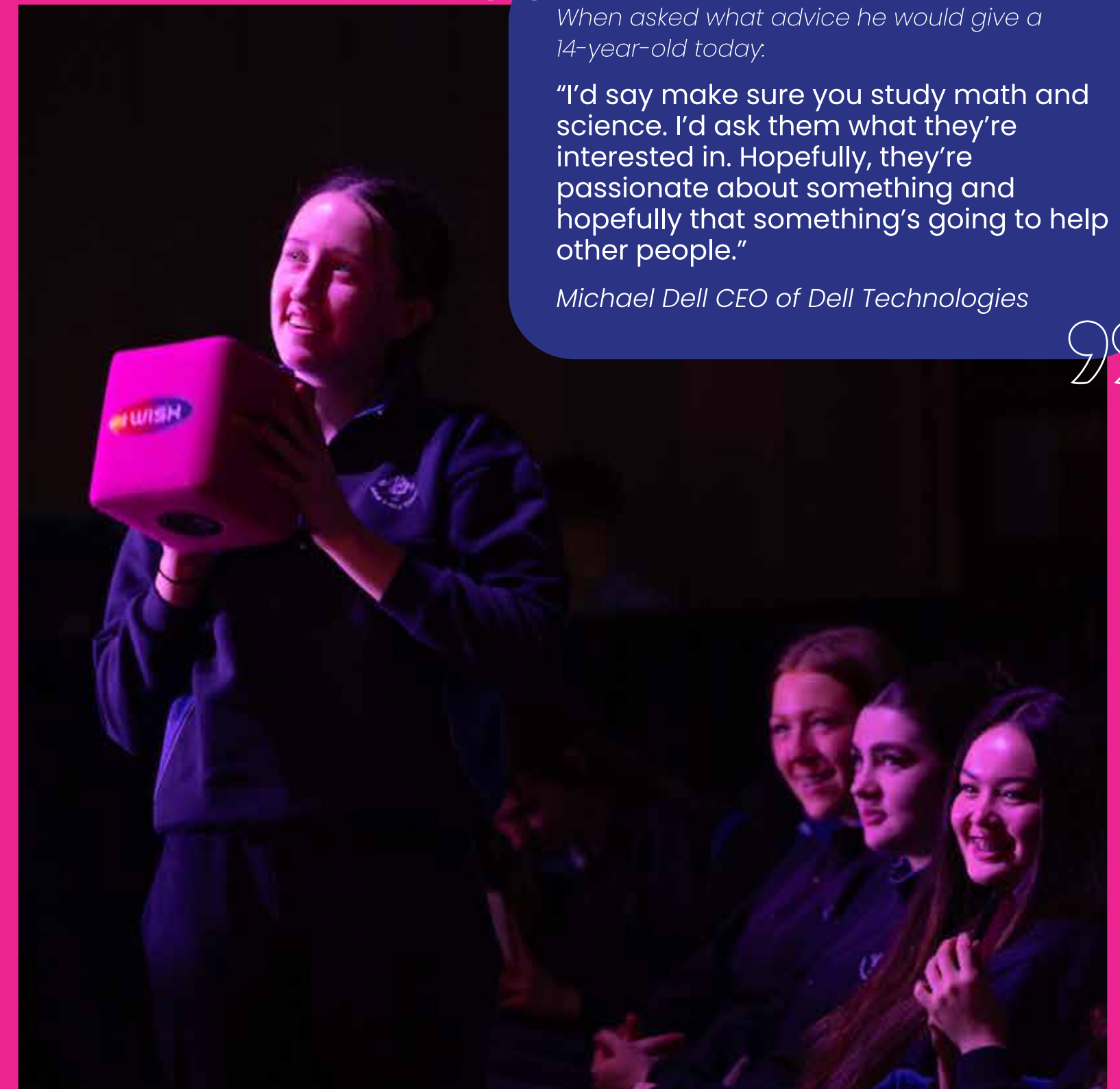
66

When asked what advice he would give a 14-year-old today.

"I'd say make sure you study math and science. I'd ask them what they're interested in. Hopefully, they're passionate about something and hopefully that something's going to help other people."

Michael Dell CEO of Dell Technologies

99



THIS IS ON US – WHAT CAN WE DO?

PRIMARY LEVEL

Integrate stories featuring women in STEM across all subjects to help counteract gender stereotypes from an early age.

Integrate STEM-focused community projects into the sixth-class curriculum-hands-on activities that encourage girls to pursue STEM subjects in secondary school. Tackle bias and stereotypes with specific training for teachers and students.

SECONDARY LEVEL

Formalise introductions to and connections with locally based female STEM professionals as part of the curriculum in first year – role models are a key influencer for young girls.

Connect future career opportunities with STEM classes throughout Senior Cycle – the lack of information on STEM courses and careers has a negative impact on higher level subject choices.

WHOLE OF SOCIETY

Change the narrative so that STEM careers are more accessible for girls. This gives them choices.

Empower girls to challenge bias and stereotypes when they hear them, no matter how small it seems. This gives girls a real chance.

Industry leaders in STEM need to take responsibility in supporting, promoting and engaging women in STEM. This is where the ultimate change will be realised.

Choices, Chances,
Changes.

POLICY

Government needs to equalise access to STEM subjects for girls or else the legacy of systemic bias will live on.





#DREAMIT
#DAREIT
#DOIT

The team at I Wish would like to thank our partners, teachers, higher education institutes, I Wish Alumnae and in particular the girls that have taken the time to participate in this survey. You are helping provide inspiration and encouragement to the female STEM leaders of the future.

Special thanks to Prof Ciara Heavin at Cork University Business School, UCC, Dr Samantha Dockray, Senior Lecturer, School of Applied Psychology, UCC and Vivienne Mallen for their incredible insights and invaluable assistance on the data analysis.

Designed by Kim McCullough at Minti Studios.

#NoGirlGetsLeftBehind

www.iwish.ie



REFERENCES

Department of Education (2024). Education Indicators of Ireland. Available at:
<https://assets.gov.ie/289901/66bf9068-8a83-4bf8-86d4-d3aba60ef7d1.pdf>

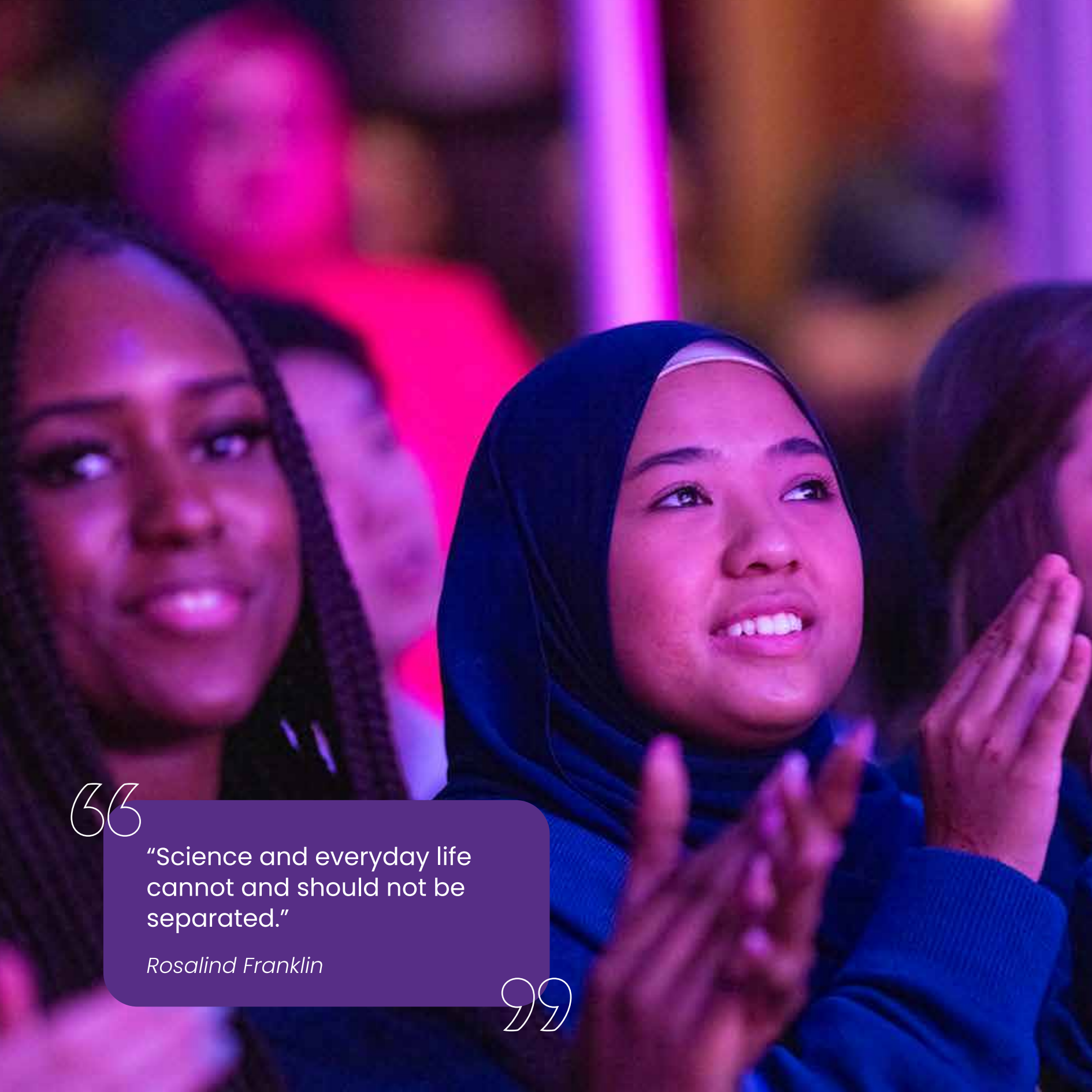
Department of Education, Professional Master of Education (Primary Teaching) Entry Requirements and Procedures for 2024. Available at:
<https://www.gov.ie/pdf/?file=https://assets.gov.ie/243703/e5f1fe40-759d-4123-a23a-a9963828906c.pdf#page=null>

HEA (2022) ; Key Facts and Figures/Statistics/Higher Education Authority (hea.ie)

Mullis, I. V. S., Martin, M. O., Foy, P., Kelly, D. L., & Fishbein, B. (2020). TIMSS 2019 International Results in Mathematics and Science. Retrieved from Boston College, TIMSS & PIRLS International Study Center website:
<https://timssandpirls.bc.edu/timss2019/international-results/>

Women in Digital Scoreboard (2024). Available at:
<https://digital-strategy.ec.europa.eu/en/news/women-digital-scoreboard-2024>





“

“Science and everyday life cannot and should not be separated.”

Rosalind Franklin

”