

Inclusive Universities: How student ambassadors can drive change

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Table of contents

| | |
|---|----|
| Introduction..... | 1 |
| Why are student ambassadors important? | 2 |
| Why are some groups underrepresented in HE? Using theory in planning student ambassador activity..... | 3 |
| A model of practice: developing activities and training for student ambassadors to work in schools..... | 6 |
| Partnerships and collaborations..... | 7 |
| Purposes..... | 8 |
| Target groups..... | 8 |
| Location | 9 |
| Pedagogy..... | 9 |
| Training..... | 10 |
| Putting the model into practice | 10 |
| Handbook content | 11 |
| References..... | 12 |
| Chapter 1. National contexts: Support for underrepresented students to access and succeed in HE | 15 |
| Benefits of HE | 15 |
| An overview of higher education system in Romania | 16 |
| Pathways to university in Romania | 16 |
| HE funding and financial support for higher education students in Romania | 17 |
| Career support in Romania | 18 |
| An overview of the higher education in England..... | 18 |
| Pathways to university in England | 19 |
| HE funding in England | 20 |
| Fees and financial support for university students in England | 20 |
| Additional financial support for underrepresented students in England | 21 |
| Academic & career support in England..... | 21 |
| Supporting success post-graduation in England | 22 |
| An overview of the higher education system in Turkey | 22 |
| Pathways to university in Turkey..... | 23 |
| Types of higher education Institutions and Academic Units in Turkey | 23 |

| | |
|---|----|
| HE funding and financial support for Higher Education students in Turkey | 24 |
| Academic and career support in Turkey | 24 |
| An overview of the higher education in France | 25 |
| Pathways to university in France | 26 |
| HE funding and financial support for higher education students in France | 27 |
| Academic and career support in France | 27 |
| Career support post-graduation in France | 28 |
| Conclusion | 29 |
| References | 29 |
| Chapter 2. Practices and pedagogies of ambassadors: Starting points - the benefits of being an ambassador and how this works in different national contexts | 34 |
| Benefits of working as a student ambassador | 34 |
| England | 35 |
| Turkey | 36 |
| Romania | 36 |
| France | 38 |
| Pedagogies in student ambassadors training | 39 |
| Good pedagogy as a civic responsibility | 40 |
| Context of student ambassadors' pedagogical role | 40 |
| Experiential learning and widening participation | 41 |
| Experiential learning in outreach and ambassadors training | 43 |
| Fostering possible selves | 46 |
| Problem- and project-based learning in outreach and ambassadors training | 51 |
| Conclusion | 52 |
| References | 53 |
| Chapter 3. Co-created activities for student ambassadors training | 58 |
| Overview of activities | 59 |
| Science, technology, engineering and mathematics (STEM) activities | 60 |
| Arts activities | 62 |
| Social sciences and humanities Activities | 65 |
| Health activities | 67 |
| References | 70 |
| Chapter 4. STEM activities | 72 |
| Power up! | 72 |

| | |
|---|-----|
| Aims of the activity | 72 |
| Outline of the activity..... | 73 |
| People, places, careers and curricula | 75 |
| Resources and references | 79 |
| Biomimicry..... | 80 |
| Aims of the activity | 80 |
| Outline of the activity..... | 81 |
| People, places, careers and curricula | 83 |
| Resources and References..... | 85 |
| Welcome future | 85 |
| Aims of the activity | 86 |
| Outline of the activity..... | 87 |
| People, places, careers and curricula | 89 |
| Resources and references | 91 |
| Trim trim trigonometry | 91 |
| Aims of the activity | 92 |
| Outline of the activity..... | 92 |
| People, places, careers and curricula | 93 |
| Resources and references | 95 |
| Chapter 5: Arts activities..... | 96 |
| Exhibit your photographs..... | 96 |
| Aims of the activity | 97 |
| Outline of the activity..... | 97 |
| People, places, careers and curricula | 99 |
| Resources and references | 101 |
| Addicted to fashion..... | 102 |
| Aims of the activity | 103 |
| Outline of the activity..... | 103 |
| People, places, careers and curricula | 105 |
| Resources and REFEREnCES | 107 |
| Becoming ecoart-makers | 108 |
| Aims of the activity | 109 |
| Outline of the activity..... | 110 |

| | |
|--|-----|
| People, places, careers and curricula | 117 |
| Resources and references | 123 |
| Animated book activity | 124 |
| Aims of the activity | 124 |
| Outline of the activity | 125 |
| People, places, careers and curricula | 125 |
| Resources and references | 127 |
| Chapter 6: Humanities and social sciences activities | 128 |
| Vision of the perfect school | 128 |
| Aims of the activity | 128 |
| Outline of the activity | 129 |
| People, places, careers and curricula | 131 |
| Resources and references | 133 |
| Get ready for the next crisis! | 134 |
| Aims of the activity | 135 |
| Outline of the activity | 135 |
| People, places, careers and curricula | 137 |
| Resources and references | 139 |
| The world of people who think in numbers and percentages | 140 |
| Aims of the activity | 141 |
| Outline of the activity | 141 |
| People, places, careers and curricula | 145 |
| Resources and references | 147 |
| Junior chefs | 148 |
| Aims of the activity | 148 |
| Outline of the activity | 148 |
| People, Places, Careers and Curricula | 149 |
| Resources and references | 150 |
| Suffragettes – rights activists or criminals? | 150 |
| Aims of the activity | 151 |
| Outline of the activity | 151 |
| People, places, careers and curricula | 154 |
| Resources and references | 158 |

| | |
|---|-----|
| Chapter 7. Health activities | 160 |
| Healthy Movement, Healthy Living | 160 |
| Aims of the activity | 160 |
| Outline of the activity | 160 |
| People, places, careers and curricula | 161 |
| Resources and references | 165 |
| Healthcare inside and outside the hospital | 165 |
| Aims of the activity | 166 |
| Outline of the activity | 166 |
| People, places, careers and curricula | 168 |
| Resources and references | 172 |
| Join a league of elite people – feel the pride | 173 |
| Aims of the activity | 174 |
| Outline of the activity | 175 |
| People, places, careers and curricula | 177 |
| Resources and references | 179 |
| Become your best version | 179 |
| Aims of the activity | 181 |
| Outline of the activity | 182 |
| People, places, careers and curricula | 185 |
| Resources and references | 187 |
| Chapter 8: Common approaches to outreach with older school students and to supporting retention and progression in HE | 189 |
| Outreach interventions | 189 |
| Information, advice, and guidance | 190 |
| Curricular and pedagogical approaches | 190 |
| Supporting HE retention and progression | 191 |
| Benefits for student ambassadors | 191 |
| The importance of supporting HE retention and progression | 192 |
| Examples of HE progression activities in different subject areas | 193 |
| STEM activity | 193 |
| Arts activity | 195 |
| Health activity | 198 |
| Social sciences activity (I) | 201 |

| | |
|--|-----|
| Social sciences activity (II) | 206 |
| Concluding remarks and takeaways | 210 |
| Takeaways for universities | 211 |
| Limitations to our approach | 213 |
| Future research directions | 214 |
| References | 214 |

Introduction

Combating inequalities in educational access and progression is critical to addressing social exclusion (Eurostat, 2009). Across Europe and the developed world, there are vast inequalities in terms of who accesses and succeeds in Higher Education (HE). Young people, including from low socio-economic groups, ethnic minority groups, Roma communities, and from migrant backgrounds, are underrepresented in HE and are less likely to succeed in their HE studies.

Various strategies are employed by universities across Europe and internationally to encourage HE access, progression and attainment amongst underrepresented groups. Outreach activity with schools and local communities is undertaken by Higher Education Institutions (HEIs) with the goal of engaging underrepresented groups and encouraging HE access, as well as to promote the uptake of certain subject areas (notably science, technology, engineering, and math (STEM) (Gartland, 2020). Outreach encompasses activities such as summer schools, career information advice and guidance, campus visits, taster days, tutoring, and study skills assistance and often involves a combination of these activities.

Student employees and volunteers play a vital role in promoting HE access, progression and retention, and frequently lead outreach activities with school students. These student employees and volunteers have a range of titles, with student ambassador being one of the most common. The term student ambassador is used in this handbook as an umbrella term for student employees and volunteers.

This handbook provides information and training material for organisers of student ambassador activity, including academics, other professional HE staff, and student ambassadors themselves. It draws on strategies and approaches found to be effective in ambassador HE widening participation (WP) outreach activity with underrepresented groups. The handbook also provides material and information about how ambassadors can work with their peers to support retention and success in HE, as well as how working as an ambassador can support and benefit students in these roles. The practices and research outlined in the handbook draw on two literature reviews undertaken for the Erasmus+ DIPLOMA project.

The handbook aims to empower student ambassadors by equipping them, and those working with them with the information, guidance, and approaches they need to be able to make a positive difference to the communities in which they live and study. Establishing student ambassador roles in HE and organising outreach activities in schools is a multi-layered process that requires collaboration between academic and professional staff, schoolteachers, and students as partners. It is also beneficial to extend collaborations to include other HEIs and organisations that already engage with schools. This handbook aims to support all those involved in this process. It provides practical examples of how co-creation and co-production through partnerships can be implemented.

Why are student ambassadors important?

Educational choices, aspirations and expectations are relational - formed in relation to others (Burke, 2013; Tarabini & Ingram, 2020; Erikson, 2018; Harrison, 2018). The importance of adult figures in motivating and encouraging young people to progress in different subject areas is well-known. Young people from underrepresented backgrounds need access to adult figures who are like themselves in different professional and educational roles, and need to be supported in developing their expectations and in accessing information to enable them to successfully navigate progression routes (Hayton and Bengry-Howell, 2016; Harrison, 2018).

Research highlights that sometimes subtle indicators can signal who belongs to an environment (such as HE) and who does not, highlighting the importance of similar peers in inoculating against stereotypical views (Dasgupta 2011). Ambassadors have been found to be relatable figures who can quickly forge relationships with school aged students and become important sources of information about subject areas, universities and courses (Slack et al., 2012; Gartland, 2014, 2015, 2020). However, this is not automatic. The location and pedagogies of outreach activities affect ambassadors' interactions with school students (Moison et al., 2020; Gartland, 2014, 2015, 2020) and are a focus in this handbook. Additionally, the identities of ambassadors (including subject interests, gender, class and race) and how these intersect and resonate with school students' own identities have been found to be important (Sanders, Brett, Paul and Scott, 2021; Moison et al, 2020; Gartland 2014, 2015, 2020; Gannon, Tracey & Ullman, 2018).

Student ambassadors can play a significant role in addressing inequalities by supporting younger students in developing the relationships, confidence, knowledge, and skills they need to progress to and succeed in HE (Gartland, 2014, 2018, 2020; Donnelly, 2018; Sanders et al., 2018). However, for their work to be successful, it needs to be carefully planned, and ambassadors need training and support. The outreach activities and ambassador training developed for this handbook are based on research evidence of effective practice. Research widely indicates that it is vital to work with school students from underrepresented groups early if patterns of progression to HE are to be challenged (Gartland & Negrea, 2022), however much WP activity focuses on students in their final few years of schooling This handbook addresses this gap and focuses particularly on student ambassador training and outreach activities developed for Level 1 students. Vitally outreach activity with school students needs to be sustained and long term to be successful (Harrison, 2018; Gartland & Negrea, 2022) and activities presented in the handbook should be viewed as part of a long-term programme of activities. The handbook additionally includes information and suggestions about outreach activities and training for ambassadors to work with students across age groups, including activities that support retention once underrepresented students have entered HE.

Why are some groups underrepresented in HE? Using theory in planning student ambassador activity

Disparities in HE participation and attainment rates between different underrepresented groups has been widely explored in research literature (Harrison, 2018; Hayton and Bengry-Howell, 2016). Many researchers take a Bourdieusian perspective to understand and explain challenges facing underrepresented groups in accessing and succeeding in HE (Webb, et al. 2017; Gale and Parker, 2017). According to Bourdieu, underrepresentation in HE can be understood through the concepts of habitus, capital and field which are interlinked. Habitus 'drives feelings of incongruence' (Webb et al., 2017, p. 142) for students underrepresented in HE - for example the way students talk and dress can make them feel that they do not fit in. Whilst more advantaged students feel like a "fish in water" in HE (Bourdieu and Wacquant 1992, in Webb et al., 2017, p. 142), for underrepresented students, HE may be perceived as risky and unwelcoming (Clayton et al., 2009; Harrison, 2018). Capital is 'a resource employed in the power play of a field' (Webb et al., 2017, p.144), such as the field of HE. The capital students need to access HE (e.g. the skills and knowledge they need for an HE course) is dictated by dominant groups whose interests are maintained by the HE system. HE pedagogies can be challenging and unfamiliar to students from underrepresented groups, and experience of these, sometimes alienating practices, has been found to impede these students' progress in HE (Webb et al., 2017). Research also indicates that students from underrepresented groups possess forms of social and cultural capital that are not recognised or valued by universities (Hayton and Bengry-Howell, 2016; Harrison, 2018).

Educational research using a Bourdieusian lens has effectively highlighted the role schools and universities have in perpetuating social hierarchies (e.g. Reay et al. ,2010, Webb et al., 2017). The positioning of schools and universities (e.g. in geographical and socio-economic terms, whether they are selective or fee-paying and how prestigious they are perceived to be) impacts the students who study within them. This institutional effect has been noted to impact school students in many ways, particularly their 'attitudes towards learning and their degree of confidence and entitlement in relation to academic knowledge' (Reay et al., 2010, p.109). Bourdieu's theories have also been extended to consider educational progression in particular disciplines in schools. For example, Archer et al. (2015) have extended Bourdieusian concepts of capital to include science capital. They identify how low and high levels of science capital affect young people's identities in relation to science and their subject choices while they are at school. Bourdieusian perspectives have also been used to explore issues of elitism in Art and enculturation in Health fields (e.g. Burke & McManus, 2011; Jackson, 2023). These Bourdieusian perspectives enable understanding of how structural constraints delimit students' educational experience and outcomes and provide some valuable insights into how to redress inequities.

Other theoretical lenses are also useful, particularly in understanding the interplay between social processes and 'students' motivation and ability to take action' (Gartland

& Smith, 2018). The theory of 'possible selves' from social psychology, provides a valuable lens through which to consider the planning of HE interventions. Possible selves 'represent the individual's persistent hopes and fears and indicate what could be realized given appropriate social conditions' (Markus and Nurius 1986, p. 965). The "possible selves" literature acknowledges the sociocultural location of individuals but also understands that students envision desired and undesired possible future selves and are active in trying to identify pathways towards these futures (Markus and Nurius, 1986; Rossiter, 2009; Stevenson and Clegg, 2011; Gartland & Smith, 2018). Oyserman et al. (2004) note that "if we wish to improve outcomes for low-income and minority inner city youths, we must help them link wishes, expectations, and concerns for their academic future with concrete strategies to take action" (p. 145).

Harrison (2018) proposes a conceptual model based on the theory of possible selves. He argues that young people's sociocultural context inevitably shapes young people's initial 'palette' of possible selves that are meaningful to them (ibid. p.7). This palette of possible selves is informed by the ways in which various educational or career paths may be perceived in relation to a young person's social class, gender, or ethnicity, according to the norms inculcated through relationships with adults around them. A young person's expectations are further shaped by what they expect to be able to achieve based on their own personal experiences and knowledge. For example, Harrison notes that a young person might know about available local labour market opportunities, but may be concerned that their accent or where they live will impact their ability to access these opportunities. Young people's' expectations are also highly influenced by their 'individualised beliefs and dispositions' about their 'ability to influence their own future' (ibid. p.10). Harrison notes that inevitably shaping students' repertoire of possible future selves is their 'self-efficacy' and 'locus of control' ((Bandura 1977, 1982; Ajzen 2002; Lefcourt 2014 in Harrison 2018: p.10). Self-efficacy reflects how confident young people may feel that their actions will result in intended outcomes, and locus of control highlights how agentic individuals feel about being able to meet their goals. These two elements shape whether a young person expects to be able to influence their future through their own endeavours or whether they expect to fail' (ibid.). It should be noted that young people from disadvantaged communities might expect failure through 'negative stereotyping, self-fulfilling prophecies, and an objective scarcity in opportunities' (ibid. p10-11).

Harrison's conceptual model identifies points for planned interventions to promote more equitable access to HE.

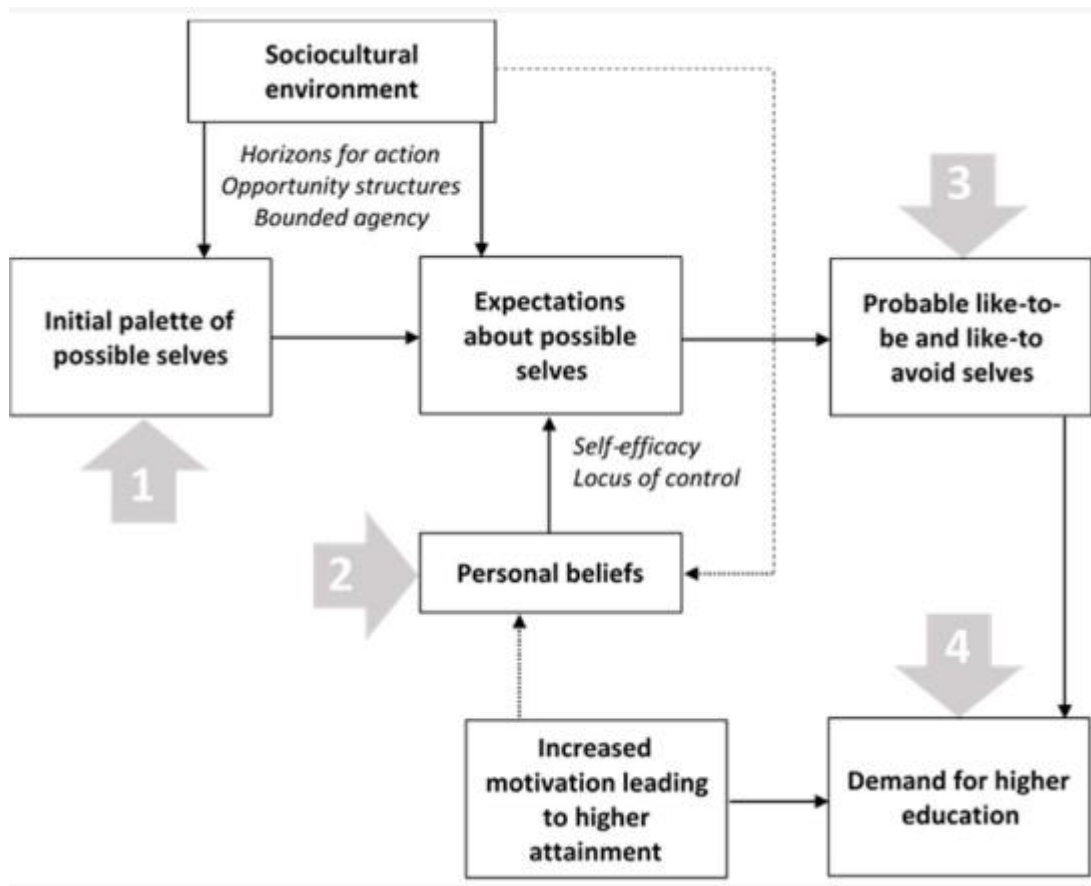


Figure 1. Harrison's conceptual model based on the theory of possible selves

The grey arrows note possible points for planned interventions (Harrison, 2018, p.11)

Using this conceptual model, Harrison proposes HE outreach interventions with schools at four points:

- 1. 'expand the pool of possible selves available that have a relationship to higher education'
- 2. 'focus on reinforcing young people's belief in their ability to be successful through supported short-term tasks and a process of reflection that actively demonstrates their potential for more sustained forms of success'
- 3. translate young people's 'visions of themselves in the future into something that is vivid and detailed in order to provide the motivational impetus that results from integrating this vision into their working self-concept'
- 4. expose young people 'to a campus environment, involvement in inspirational experiences, collaboration with current students, and information about graduate careers and other opportunities to enable them to envisage oneself as a student and/or graduate' (Harrison, 2018, p.13-14).

Harrison (ibid.) contends that the four intervention points are mutually reinforcing, and single interventions are unlikely to be successful.

Another framework, drawing on possible selves and Bourdieu's theories, to guide the practical planning of outreach and retention activity is proposed by Hayton and Bengry-

Howell (2016). The NERUPI Framework places an emphasis on students' habitus and capital underpinned by an acknowledgement of HEIs' responsibilities to deliver 'enabling' interventions. This framework highlights five aims for outreach interventions that can be considered when developing and evaluating interventions. These include to enable school and university students:

- To know about HE - 'develop students' knowledge and awareness of the benefits of higher education and graduate employment'
- To be able to choose - 'develop students' capacity to navigate higher education and graduate employment sectors and make informed choices that align with personal interests'
- To become - 'develop students' confidence and resilience to negotiate the challenge of university life and graduate progression'
- To practise - 'develop students' study skills and capacity for academic attainment and successful graduate progression'
- To understand - 'develop students' understanding by contextualising subject knowledge' (2016, p.47-48).

There are several proposed levels (relating to the age group/ educational stage of students) within the framework, with objectives set out by level. For example, objectives for Level 1 students (approximately aged 11-14 years) include:

- 'Understanding how the next stage of study (GCSE in the UK) relates to HE and future career opportunities'
- 'Choose GCSE subject choices that correspond with personal and career interests'
- 'Explore how personal circumstances, interests and characteristics influence academic and employment aspirations'
- 'Identify skills and capacities they will need to develop to achieve future aspirations'
- 'Consider how GCSE subject knowledge can be applied and developed in post-16 educational and employment contexts'
- Access and experience appropriate attainment-raising interventions' (NERUPI website)

These frameworks provide useful guidance in understanding, practically planning and developing student ambassador activities aiming to promote access to and progression within HE.

A model of practice: developing activities and training for student ambassadors to work in schools

The model developed to guide the training and activities presented in this handbook has been informed by these theoretical frameworks, alongside research evidence on effective practices in outreach and ambassador activities. Research indicates that outreach work with schools needs to be carefully targeted and long-term so that it can

build school students' repertoire of possible future selves, self-efficacy in subject disciplines, and knowledge of progression routes and careers (Gartland & Negrea, 2022). Research into the work of student ambassadors indicates that the purposes, location and setting, processes, and content of activity are important to the relationships ambassadors and younger students develop and the quality of learning experiences younger students have (Gartland, 2014, 2015, 2020). Matching ambassadors to the school students they are working with in terms of aspects of identity such as school attended, class, gender, race, ethnicity and interests is also important to ensure that younger students can relate to ambassadors (Corradini, 2012; Taylor, McLean and Weston, 2019; Gartland, 2014, 2015 & 2020; Gartland et al., 2022).

Much outreach activity undertaken by HEIs targets post 16 students and concerns have been raised that activity with this age group is simply redistributing underrepresented students who are already interested in HE, in different institutions or subject areas. While outreach activity with post 16 students can be valuable in confirming subject interests and helping with choice of course and university, if the ambition is to increase the number of students from underrepresented groups accessing HE, there is an urgent need to work with younger students.

A staged and collaborative model for developing outreach activities and relevant training for ambassadors is proposed in this handbook. The staged model includes partnerships with schools and other organisations, specifying the purpose(s) of activity, identifying groups of school students that activity will target, developing activity, selecting a location for activity, and identifying specific ambassador training needs. A further feature of the proposed model is that the activities developed reflect young peoples' interest and concern to engage with big societal issues. All activities outlined in the handbook are developed to connect with the United Nations (UN) Sustainability Goals: to end poverty, promote equality and support well-being, create prosperity, protect the planet and tackle climate change, promote peace, and encourage partnerships.

Partnerships and collaborations

Partnership working has been found to powerfully impact the success of programmes. Collaborations with schools enable the planning of a series of activities that are longer term and target different year groups (Hayton and Bengry-Howell, 2016; Harrison, 2018). Schools catering for large numbers of underrepresented students can be targeted for collaborations. Collaborations with such schools enable expertise in subject specific pedagogies to be shared, knowledge of the needs of underrepresented groups to be understood, and age and cohort appropriate activities to be effectively developed. Partnerships with schools also enable activities to be planned to suit local needs and contexts. Research indicates that ambassadors' work with schools benefits from ambassador training within schools where they are to be placed (Bissoonauth-

Bedford and Stace, 2017). Other collaborative partnerships are also valuable in supporting this activity including working with other HEIs, employers and charities.

Purposes

It is valuable to clearly identify the purpose of ambassador activity. The purpose of activity may be quite specific, such as increasing the ESOL levels of recent refugees or improving attainment in Maths at Level 2. Ambassadors often give presentations in schools and have conversations with groups of post 16 Level 3 students about subject disciplines and progression routes in order to promote progression in particular subject disciplines and HEIs. However, activity may have a number of different purposes, especially if ambassadors are working with large groups/ whole classes of younger students. Activity may aim to develop knowledge of subject disciplines. For example, universities often work with schools to raise awareness of engineering, as this subject is generally not included in school curricula. Such activity often has a range of aims, such as providing younger students with relatable role models, increasing younger students' engineering efficacy, supporting curriculum learning in maths and science, introducing engineering pedagogies, raising awareness of the importance of engineering to solve big global challenges, and raising awareness of engineering careers. Research indicates that integrating careers education in outreach activity is an effective approach (Gartland & Negrea, 2022).

Such multiple purposes of ambassador activity in schools can be valuable but there is a need for shared clarity, for example between ambassadors, teachers in schools and HE staff leading outreach, about the purposes of activity. It is also important that activity with younger students does not replicate the formal learning they often experience in the school classroom and that they have the opportunity to explore subject areas and possible future selves (Harrison, 2018; Gartland, 2014, 2015, 2020).

Developing activities that help to address inequitable opportunities and that engage younger students with big societal issues is motivating for student ambassadors who are often keen to take an active role in helping to address real world problems (Gartland et al, 2023). University and school students can be interested in and engaged with issues such as climate change and the need for clean energy or reducing inequalities. Engaging with these big issues while co-creating activities for younger students also encourages university students and staff to develop a shared sense of civic responsibility and could help shape the civic mission of universities (Gartland et al., 2024).

Target groups

Partnerships with schools enable longer-term engagement with cohorts of students and the development of activities with specific purposes suited to different groups. For example, ambassadors can start working inclusively with whole year groups of students aged 11-14 or younger, and then work more selectively with targeted smaller groups of students in older year groups who have specific subject interests and need

more tailored information, such as about subjects and progression routes. Underrepresented groups of students can also be specifically targeted.

The intersecting identities of younger students (including gender, socio-economic status, ethnic identity, cultural background and regional identities) and how these connect with the ambassadors they work with, is important. Alongside this the subject expertise of ambassadors and their enthusiasm and commitment to their studies is significant; when ambassadors' and younger students' share subject interests this can positively impact their working relationships. However, subject specific activity on campus is resource intensive and most appropriate for school students who have developed clear subject interests. -Schools and universities often cannot facilitate campus visits for whole year groups of young students.

Location

Much outreach work with schools has focused on bringing groups of younger students (usually post 16- and 15–16-year-olds) to visit university campuses such as for campus visits, taster sessions, master classes and summer schools. Ambassadors usually play a key or lead role in such interventions. Direct experiences of being on campus are impactful for students especially if they form part of a series of activities over time. However, working more inclusively with younger groups of students is vital if the ambition is to increase number of students progressing to HE from underrepresented groups. To reach large cohorts of younger students, holding outreach activities in schools is a logical way forward. Working inclusively with whole classes and year groups in schools with late primary and early secondary school students (11–14-year-olds) as part of a series of activities for students from partner schools, ensures that students from underrepresented groups are reached in time to shape their repertoire of possible future selves (Harrison, 2018; Gartland, 2020). Targeted activity in schools with small groups of underrepresented students (e.g. care leavers or refugees) is another valuable approach.

Pedagogy

The vital importance of consideration pedagogy in student ambassador outreach work with school students has been noted (Gartland, 2016, 2020; Halim, 2020). Studies widely observe the importance of learning activities to provide opportunities for free conversations and opportunities for ambassadors to talk about their own stories and progression routes (Gartland, 2014, 2015, 2020; Green, 2018; Sanders et al., 2021). Learning activities with informal attributes, such as hands on, interactive and experiential learning activities where younger students are problem solving with the support of ambassadors are seen as valuable (Gartland 2014, 2015, 2020; Anthony, 2019; Halim, 2020). Such activities position ambassadors as facilitators of learning working alongside younger students, scaffolding their learning. Working in this way can help to overcome younger students sometimes negative experiences of hierarchically organised learning that can perpetuate inequality. Learning activities involving real

world applications for knowledge and with embedded careers information have been found to work well in ambassadors' interactions with school students (Gartland, 2014, 2015, 2020; Green, 2018). Research indicates it is better to avoid positioning ambassadors in didactic roles and in formal learning activities with rigidly determined content and structures (Gartland, 2014, 2015, 2020; Anthony, 2019; Halim, 2020), and rather focus on relational aspects. Informal activities of 'doing something together', problem-solving or creating a product facilitate empowerment of students as competent members of the community of practice (Trowsdale & Davies, 2022).

Training

Ambassador training opportunities have been found to serve a dual function. Training supports and prepares ambassadors for the work they do with schools but also creates a community for ambassadors themselves. If ambassadors are from underrepresented groups, this community can be important in developing a sense of belonging at university and motivating and engaging HE students. Networks of ambassadors can span universities and provide access to social and cultural capital as well as support good practice in ambassadors' work with schools (Anagnos et al., 2014; Williamson et al., 2014; Baker and Sela, 2018).

A range of training activities for ambassadors have been found to be valuable, including observing and working with more experienced ambassadors, networking, and receiving mentoring from other ambassadors. Training from teachers in schools, academics, and HE staff have all been found to support ambassadors in their practice. Training provided in schools enables ambassadors to develop an understanding of the students they will be working with and the school setting (Bissoonauth-Bedford & Stace, 2017). Ambassadors participating in the creation of activities and trying out activities themselves in the role of the school students they will be working with, have also been found to be important approaches to training (Gartland, 2014, 2015, 2020; Garner et al., 2018; Halim 2020). Also noted is the need for training to support ambassadors in their interactions with school students, particularly in using effective questioning (Halim, 2020).

Putting the model into practice

The outreach activities with schools and training for ambassadors proposed in this handbook focus on the following:

- **Partnerships** - working collaboratively with schools with high numbers of underrepresented students and other organisations; developing partnerships with other organisations; co-creating activity with partners and student ambassadors.
- **Purposes** - building on curriculum learning in a range of broad disciplinary areas and making real-world applications for this knowledge visible for school students, highlighting how this relates to careers; developing school students'

self-efficacy in subject domains; expanding students' repertoire of possible selves and raising awareness of big societal issues.

- **Target groups** - ambassadors working with school students aged 11-14 and working inclusively with whole classes/year groups in four broad disciplinary areas (STEM, Health, Humanities and Social Sciences, and Arts).
- **Location** - activities taking place in school classrooms to ensure activity is inclusive and all students can participate.
- **Pedagogy** - learning activities focusing on experiential learning relevant to subject disciplines; ambassadors working alongside school students scaffolding and supporting learning; learning activities providing opportunities for ambassadors to share their own experiences and progression routes.
- **Training** - ambassadors co-creating learning activities; developing experiential learning activities that ambassadors can try out themselves and experience the learning and challenges school students will encounter; partnership working with schools supporting training for specific learning contexts.

Handbook content

The handbook is organised into nine sections.

- **Introduction** provides an overview of research findings about effective approaches to widening participation and working with student ambassadors.
- **Chapter 1** provides a brief overview of the HE system in Romania, England, France and Turkey. This overview includes useful information for academics, practitioners and ambassadors about the system in their own country, including the available financial support, potential benefits of HE, information about social and leisure opportunities, and study skills. The chapter includes information about the benefits to students of working as an ambassador. Information is also provided about how ambassador programmes are organized in the different countries.
- **Chapter 2** focuses on the pedagogical principles underpinning ambassador activities and training, introduces activities presented in the handbook and explores how these relate to the underpinning theoretical framework of possible selves.
- **Chapter 3** provides an overview of learning activities developed in each broad disciplinary area (STEM, Arts, Social Sciences and Humanities, and Health).
- **Chapter 4** provides details of example STEM activities co-created with student ambassadors from partner countries.
- **Chapter 5** provides details of example ARTS activities co-created with student ambassadors from partner countries.
- **Chapter 6** provides details of HUMANITIES AND SOCIAL SCIENCES activities co-created with student ambassadors from partner countries.
- **Chapter 7** provides details of HEALTH activities co-created with student ambassadors from partner countries.

- **Chapter 8** provides common approaches to outreach with older school students and to supporting retention and progression in HE.
- **Chapter 9** focuses on the role of student ambassadors in supporting progression to Level 3 and 4 and provides examples of activities in STEM, Health, Humanities and Social Sciences, and Arts designed to support HE retention, attainment, and success.

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Chapter 1. National contexts: Support for underrepresented students to access and succeed in HE

It is vital for anyone working with students to support and encourage HE access and progression to have a broad understanding of the HE system. This chapter highlights some of the benefits of going to university. It further provides information about the national contexts in Romania, England, Turkey and France. The material provided aims to provide anyone working with or as a university student ambassador/ volunteer an understanding of the university system in their country, of progression routes and different ways of getting to HE, funding systems and the support available to students.

Benefits of HE

Economic, social, physical, and psychological benefits are all associated with having a university degree. For instance, research has shown that university graduates often earn more money than high school graduates and have better health outcomes, including longer lifespans (Hoskins, 2019; Bauldry, 2014; Zajacova & Lawrence, 2018). They are also more likely to engage in organized volunteer work, demonstrate a better understanding of political issues, and participate in the voting process (Baum, Ma, & Payea, 2013, p. 10). Acquiring a university degree additionally equips individuals with valuable transferable skills, such as effective oral and written communication, critical thinking, problem-solving, teamwork, and time management (Chan, 2016). Research on emotional intelligence has emphasized the importance of these transferable skills, not only for employability but also as predictors of successful careers (Succi & Canovi, 2020, p. 1835-1836). This is important as modern workplaces increasingly require employees to work effectively in teams and in cross-cultural environments, making these skills essential (Fenta et al., 2019).

While having a university degree is clearly advantageous, research indicates that individuals from low-income families and ethnic minority groups are generally less likely to access university and even if they are successful at getting a place at university, that are more likely to drop out (Wyness, 2017; Budd, 2017; McCaig, 2020). This chapter will examine the HE landscapes in England, Romania, Turkey, and France and explore the various support mechanisms provided to support disadvantaged groups and undergraduates in general within universities in these countries.

The chapter is divided into four sections, with each section focusing on individual countries. Although there are some variations (each country has a different HE policies and concerns) the discussions in each section are structured around these broad themes:

- Overview of HE provisions, access and participation
- Pathways / routes to HE
- HE Funding systems
- Academic and Career support provided by HEIs

An overview of higher education system in Romania

Romania's HE system is currently being reformed following accession to the Bologna Process (Appendix 2). This has included the introduction of an HE structure based on three levels of qualifications: bachelor degrees, masters degrees and doctorates. Under the National Education Law (the law ner.1/2011) national policies focus on: developing clearer routes into postsecondary education; sources of funding for university; supporting underrepresented students into university; and the provision of information advice and guidance.

In 2016 a new initiative focused on Level 2 students entitled "Educated Romania" was launched. Historically, attempts to support underrepresented groups in accessing university focused on financial support and support with accommodation for young people who were already qualified to go to university having successfully completed their secondary schooling. However, in comparison to other European countries, the numbers of young people qualifying for university in Romania are low (Ministry of Education, 2022). Reasons for this include that people leave school early, fail to pass the bacalaureate and emigration. Less than 50% of young people are eligible for university at the age of 19. Unless action is taken, this figure is likely to worsen as several universities rely on recruiting students from demographically vulnerable communities (Petrescu et al., 2018). The "Educated Romania" project focuses on equity, transition reform, curricular reform, early entry into formal education, and aims to support underrepresented young people's successful completion of upper secondary studies and to provide young people with a wider range of options for future development (Ministry of Education, 2021).

Pathways to university in Romania

Higher education institutions in Romania manage recruitment to bachelor's programs. This is based on the concept of university autonomy and the overall HE framework. The framework encompasses a standardized approach to admission into Romanian HE incorporating a set of essential criteria. Universities determine which study programs should receive subsidised study places at the institutional level. Also, universities may provide places to study with tuition fees in addition to these places.

A graduate with a Bacalaureate degree may apply to many undergraduate programs offered by the same institution or by other institutions at the same time, but they can only pursue one state-funded program.

Admission is typically scheduled in two sessions, one in the summer and one in the fall. There are various forms of admission processes, such as:

- the dossier competition is an evaluation process that primarily considers the average grade obtained in the bacculaureate exam. Alternatively, in some cases, individual grades for particular subjects within the bacculaureate exam may also be taken into account.
- Written exam or Interviews.
- Aptitude tests are commonly utilized in vocational bachelor's degree programs.
- A hybrid variation which incorporates both the bacculaureate average and written exam or interview results.

HE funding and financial support for higher education students in Romania

The Romanian Ministry of Education runs a number of social funding programs to help students from rural areas, other disadvantaged groups, and non-traditional students to go to college or university. These include allocated places for rural graduates and Roma school students, scholarships, and partial subsidies for accommodation, meals, and transportation. Over 6,500 students were enrolled in "special places" at the beginning of the 2020–2021 academic year. Of these, 3,900 were students who graduated from high schools in rural areas and 900 were Roma students (Ministry of Education, 2022).

Universities in Romania have social scholarships and study or merit scholarships. Study and merit scholarships are awarded based on academic achievement, whereas social scholarships are awarded primarily on the basis of socioeconomic status to students from low-income or no-income families, as well as those with disabilities or chronic illnesses. Beneficiaries of social scholarships are more likely to live in rural areas. Social scholarships have proved to be beneficial in enabling students to achieve good academic outcomes during their undergraduate education. Every university sets its own social scholarship amount, that starts at the annual minimum level recommended by the National Council for the Financing of Higher Education. In 2017 (Order nr. 3392) the National Education Ministry boosted the amount of social scholarship and linked it to set standard of accommodation and food. Since 2018–2019, 2,000 fully subsidized places have been allocated to universities annually for undergraduate study, especially for graduates from rural high schools (Ministry of Education, 2022).

The most important national project is the Romanian Secondary Education Project (ROSE), which was implemented between 2015 and 2022 and funded by the World Bank. Its main goals were to increase the success rate at the bacculaureate exam in institutions supported by the project and decrease dropout rates in upper secondary and tertiary education. Universities that implement institutional policies targeting disadvantaged students are encouraged and supported through the Institutional Development Fund (FDI), and The Supplementary Fund (FS). The Institutional Development Fund (FDI) is funding for increasing social equity, social inclusion and access to higher education. 393 projects focusing on equity and access were

implemented until 2022 in universities in Romania, and a total of 1267 projects were funded in total since 2016 (Ministry of Education, 2022b). Other financial resources are allocated through the Supplementary Fund (FS) to facilitate the integration of individuals from economically disadvantaged backgrounds. Data from the Supplementary Funding suggests that the ROSE project has been successful in increasing the enrolment of individuals from disadvantaged socio-economic backgrounds in HE over the past four years.

Career support in Romania

In Romania there is a framework for the organisation and functioning of counselling and career guidance centres in universities (Education Minister Order no. 650 of 19 November 2014). Career guidance centres in universities have provide guidance to: all students studying at the university; university graduates and students in the final year of High School through partnerships with units of pre-university education;

Career guidance centres aim to:

- provide careers guidance to support university students' motivation and reduce university drop out; support them into employment and increase employability in fields relevant to their degree programmes through activities such as employment portfolio training sessions, job interview simulation/ organisation of company presentations/ training sessions for the development of students' transversal competences
- guide school students so they can their educational pathways through activities such as presentation sessions type open door days, educational fairs and thematic visits
- undertake studies and analysis and propose measures for improvement e.g. on drop-out of university, integration of graduates into the labour market, the impact of counselling and vocational guidance services

Career guidance centres must be psychologists with a specialty in Educational psychology or school and vocational counselling, career counsellors, sociologists or teachers. (There is an expected ratio of at least 1 career counsellor / psychologist / 2,000 enrolled students.)

An overview of the higher education in England

The HE sector in England is hierarchical, with the Russell groups (elite) universities (<https://russellgroup.ac.uk/about/our-universities/>) consistently ranking high in The Times Higher Education (THE) and The Guardian UK University league tables. Higher Education Institutions (HEIs) in England are also mixed, comprising both of public and private universities. At the time of writing, the Office of Students (OfS) states that there are "423 registered [HE] providers" and a total of "2,048,216 [HE] full-time equivalent students (at all levels of study)" in England (OfS, 2023, p. 16).

The English HE system could be described as a universal system that is 'open to all' due to the availability of government backed tuition fee loan (and maintenance loan for the most disadvantaged students) for anyone who wishes to go university. Widening participation programmes and activities over many years have led to increased access and participation by disadvantaged groups (McCaig, 2020; OfS, 2023). However, studies have shown that factors such as social class, gender, ethnicity, and disability, as well as whether one has experienced being in care, are still barriers to accessing HE in England (OfS, 2023).

While female students make up the majority of full-time undergraduate and postgraduate students in England, the OfS noted that male students are still overrepresented in STEM subjects such as engineering (OfS, 2023). The OfS report also acknowledges that 'most black and minority ethnic groups have lower continuation rates than the white ethnic group [...]' (p.280). Students with reported disabilities were also identified as having lower continuation rates' compared to those with no reported disability with 'a continuation rate of 90.6 per cent' (p.29). Lastly, students who have experienced being in care have lower continuation rates than those who have not (85.6 per cent and 91.3 per cent respectively) (as summarised in OfS, 2023, p. 29).

The OfS recently launched the Equality of Opportunity Risk Register (EORR) which identifies 12 sector wide risks that may impact on students' opportunity to access and succeed in HE. Accordingly, the OfS has recommended that universities in England should take these risks into consideration when writing their access and participation plans (OfS, 2023, p.4). Please see the EORR register for detailed information. Equality of Opportunity Risk Register - Office for Students

Pathways to university in England

There are three main pathways or routes to getting admission into HE in England. These are GCSEs and A-Levels (academic) pathway; BTECs and vocational courses (vocational) pathway; and work-based (apprenticeships) pathway. It is worth noting that most universities in England make contextual offers (Contextual admissions - UCAS), which is a system whereby the socio-economic status of prospective students are taken into consideration when considering their applications (Boliver, et al., 2017). For more details on requirements and application procedures for each of the pathways please click the links below:

- GCSEs and A-Levels pathway - Undergraduate | UCAS
- BTECs and vocational pathway - Further Education | Post-16 Options | UCAS
- Work-based (apprenticeships) pathway - Apprenticeships | UCAS

Updated OfS' regulatory guidance on access and participation plans now includes an expectation that HE providers should be 'expanding and promoting pathways for study at Levels 4 and 5, and on higher apprenticeships and degree apprenticeships' (OfS, 2023, p12). Such expectations from the OfS could further widen participation in HE, particularly for students from disadvantaged background in England.

HE funding in England

HEIs in England are publicly funded (Research England, 2020). Public funding of HEIs is mainly through the Office for Students (OfS), and to access funding, HEIs in England must register with the OfS. As the regulatory body for HE in England, the OfS sets high targets for universities to achieve in areas such as Equality and Diversity, Student engagement, Quality and Standards, Graduate employability etc. The OfS is a public regulatory body that reports to Parliament through the Department for Education (OfS, 2022a) and a key part of the role of the OfS is to ensure that 'all students, from all backgrounds, are able to progress into employment, further study, and fulfilling lives' (OfS, 2020a, p. 1).

HE providers charging fees up to the basic amount to qualifying persons on qualifying courses in England are legally obliged (under Higher Education and Research Act 2017 and the Equality Act 2010) to have Access and Participation plan approved by OfS, which sets out the HEI's commitment to reducing 'the gaps between the most and least represented groups in relation to access, student success and progression into employment or further study' (OfS, 2021b, p. 5). The Access and Participation plan also serves as the first condition of registration with the OfS, an essential prerequisite for providers that wish to access public funding (OfS, 2020b).

The OfS also funds Uni Connect, which supports collaboration between HE and FE institutions, schools and other local partners across the country to deliver targeted and coherent outreach activity supporting HE access for underrepresented groups (OfS, 2024).

Fees and financial support for university students in England

One of the major disadvantages of going to university in England, particularly for students from low socio-economic background is the cost. Irrespective of their socio-economic background, students in England who have successfully gained admission into HE can apply for the government tuition fee loan from Student Finance England to cover their tuition fees. This is up to £9,250 for undergraduates, £11,836 for Masters and £27,892 for PhD students (Funding for postgraduate study - GOV.UK (www.gov.uk)). The Masters and PhD loans are intended to contribute towards the tuition fees and living costs of home students studying a master's programme at a university in the U.K. (Wakeling and Mateos-Gonzalez, 2021). Only those that are studying eligible course at an HE institution that has registered with the OfS are eligible for the tuition loan. (Students can check if a university or college is registered with the OfS either by asking them or via the OfS website - The OfS Register - Office for Students).

The student fee loan is repayable and accrues interest. However, there are differences when compared to other types of loans:

- students are not expected to start repaying the loan until they have completed their course or left university (e.g. dropped out), and earning above £25,725 a year;
- the repayment of the tuition fees is 9 per cent of students' future earnings and the 9 per cent is on the amount above £25,000 and not on the total earning (as annual earnings increase, so will cost of repayments and vice versa). Repayments are to the Students loan Company (SLC).

Students from low socio-economic backgrounds are also eligible for maintenance loans towards their living cost such as rent, books, food, travel etc. The amount that students can get towards their living cost varies and it is based on their family income (Bolton, 2021). It important to note that these loans are not available to EU students.

Students with SEND can also get the Disabled Students' Allowance (DSA) to help cover extra essential costs while studying. It is important to mention that the DSA is not dependent on family / household income but rather on student's need. Crucially, unlike tuition fee and maintenance loans, students do not have to pay the DSA back. Undergraduate and postgraduate students with disability can get up to £25,000 a year for support (U.K. Gov. 2022c).

Additional financial support for underrepresented students in England

While all students have access to loans for HE through Student Finance England (SFE), there are various additional financial supports to encourage students studying for level 3 qualification to progress to university including the Advanced Learner Loan (U.K. Gov. 2022d), The Advanced Learner Bursary Fund (U.K. Gov. 2022e), The Adult Education Budget (The Skills network, 2022) and the 16-19 Bursary (U.K.Gov. 20204).

In addition, universities often offer financial support to students from low socio-economic family through bursaries and scholarships which can be an effective way to support widening participation for disadvantaged groups (Sanderson & Spacey, 2021). For further details on student finance and the cost of going to university please visit the [Student finance – complete guide](#)

Academic & career support in England

According to the OfS (2023), continuation and completion rates are often lower amongst students from disadvantaged backgrounds. To ensure students successfully complete their degree programme, HEIs in England provide students with a range of support including academic, mental health and wellbeing as well as career support.

Academic support encompasses support aiming to make students effective and independent learners. These supports include developing students' academic and critical writing skills, individual tutorials, library and research skills, assessment feedback etc. Many universities in England have Academic skills advisors that offer students targeted support such as assignment planning, proof-reading strategies,

exam preparation, help with grammar etc. Additional support for example, exam concessions are provided to students with learning disabilities such as dyslexia. Universities also often have undergraduate student mentoring programmes matching first year students with experienced second, third or fourth-year students to help and support them throughout the academic year.

Mental health & Wellbeing are increasing concerns for universities. There has been a steep increase (exacerbated by the Covid pandemic) in the number of university students experiencing poor mental health in England, “from around 2,500 in 2011 to almost 22,500 in 2022” (Lewis & Bolton, 2023, p. 8). University life can be challenging for students particularly for those leaving home for the first time. The consequences of poor mental health can be quite severe, ranging ‘from poor academic performance and dropping out of university, to self-harm and suicide’ (Lewis & Bolton, 2023, p.4). Universities in England have dedicated teams of mental health advisers who provide vital support to students with either an existing mental condition or those who are merely seeking information on how to maintain good mental health and wellbeing. Most universities also offer counselling services. The recent launching of the Student Mental Health Evidence hub, which ‘brings together evidence, evaluation, examples of practice and resources for what works in supporting mental health among students’ (OfS, 2023, p. 13) means that universities in England now have access to evidence-based practices for supporting the mental health and wellbeing of their students.

Supporting success post-graduation in England

In England graduate employability (15 months after the completion of a degree) and/or progression into postgraduate study is one of the factors that is used to determine a university’s ranking on the university league tables. As a result, employability is often embedded into the formal curriculum. Along with hosting biannual career/jobs fair events, the majority of the universities in England also provide their students with career services such as CV writing services, and interview preparations. Other ways universities in England provide career support for their students is via guaranteed work experience placements with partner employers, facilitating mentoring networks between students, alumni and careers advisors, and Enterprise programmes targeting underrepresented students to support entrepreneurship, freelancing, self-employment and start-ups etc. The OfS Graduate employment and Skill guide is a useful resource for final year undergraduate students. [Graduate employment and skills guide - Office for Students](#)

An overview of the higher education system in Turkey

In 1981, Turkey underwent a significant overhaul of its higher education administration in alignment with the newly enacted Higher Education Law (No. 2547). This transformative restructuring led to a centralized higher education system, where all tertiary educational institutions were affiliated with the Council of Higher Education (CoHE). As part of this reformation, all institutions offering higher education were

reconfigured as universities. This restructuring aimed at expanding access to higher education across the country, centralizing the application process, and introducing a uniform university entrance exam and placement system. In addition to public universities, Turkey welcomed its first nonprofit foundation university in 1986.

Starting from 2012, compulsory education in Turkey spans a 12-year period, divided into three stages: Primary Education, Elementary Education and Secondary Education. After graduating from high school (Secondary Education), students have the opportunity to enroll in higher education institutions, which adhere to the Bologna three-cycle system (Study in Turkey, 2023).

Pathways to university in Turkey

Before enrolling at HE institutions in Turkey, students have to take the *higher education institutions exam* (YKS) or *exam for foreign students for higher education in Türkiye* (TR-YÖS) exams (see appendix 1). Those who are in the last year of secondary education institutions (high school or equivalent schools, open education high schools, overseas schools) or those who have graduated from a secondary education institution can apply for the YKS exam.

Based on their scores on the YKS or TR-YÖS exams, students will be allocated to one of the higher education programs which they choose through the central placement. Students can find information about higher education programs in several ways.

- Advertisements on radio and TV channels, newspapers, city billboards;
- University Preference Fairs;
- Radio or Tv programs which university administrators are invited to introduce their universities;
- Radio or Tv programs which experts are invited to recommend programs based on students' exam scores.

Types of higher education Institutions and Academic Units in Turkey

Faculty (College): This division is dedicated to higher education, scholarly research, and academic publications. It often encompasses various departments and programs. Students typically earn a Bachelor's degree upon completing a program that spans at least four years.

Graduate School: These institutions within universities focus on graduate education, scholarly research, and practical applications. Graduate schools confer degrees such as MA, MSc, or PhD.

4-year School: These higher education institutions primarily provide training for specific professions, typically lasting for eight semesters.

Conservatory: Higher education institutions specializing in training artists in music and performing arts. These programs usually span eight semesters.

Post-Secondary Vocational School: These institutions aim to train individuals for specific professions and offer instruction lasting four semesters.

Research and Application Center: Institutions of higher education engaged in research and applied studies to address practical needs across various fields. They also provide preparatory and support activities for various professional domains, contributing to higher education.

HE funding and financial support for Higher Education students in Turkey

Tuition fees are structured differently for public and non-profit foundation universities in Turkey. In public universities tuition fees are governed by Presidential Decrees and take into account the specific program and duration of study in various fields. In non-profit foundation universities, tuition fees are established by the university's Board of Trustees.

Students are required to pay tuition fees for each semester prior to enrolling in courses. In both public and non-profit foundation universities, a portion of admitted students receive scholarships. These scholarships encompass full or partial tuition waivers, merit-based awards, or support scholarships. Some of these scholarships may cover academic materials, housing, meals, and even certain stipends. Additionally, there are opportunities for student assistantships and research fellowships (Study in Turkey, 2023).

Academic and career support in Turkey

Developing effective study skills is crucial for academic success and successful progression through university. These skills include time management, effective note-taking, organization and planning, effective reading strategies, seeking help and wisely using technology. HEIs are expected to provide institutional support and one-on-one guidance, especially for students in groups considered at risk, to maintain inclusiveness.

Research highlights challenges experienced by students with special educational needs in relation to the location of facilities and availability of lifts and study spaces (Biçer & İşcan, 2020). Students with visual impairments, including issues related to the physical and architectural aspects of campus buildings, interactions with both faculty and non-disabled students, transportation, accommodation and during measurement and assessment processes (Kamış & Demir, 2018; Tekin, 2019). With a focus on supporting HE students with disabilities the HE Institution (YÖK), has set some standards such as on the regulation of physical spaces, the accessibility of educational programs and accessibility in socio-cultural activities to ensure that HEIs are accessible. These approaches have had some success, with disabled and visually impaired students now having relatively higher HE access than other groups <https://www.yok.gov.tr>.

The support available in HEIs to students with disabilities include facilitating applications such as readers and markers to support them both during their studies and in university exams. These students also have the right to audible versions of exam guides and are exempt from questions containing visual data such as figures, graphics, tables, pictures; they are also entitled to access to enlarged versions of question booklets, and to take exams in single exam environments separately from their peers. If a student has difficulty fulfilling the requirements of their course due to their disability reasonable arrangements are made to ensure the student is able to succeed. If the student cannot fulfil the course requirements she/he can take another equivalent course.

International students face particular challenges in conversing in Turkish and adapting to cultural differences (Ertürk, Filizöz, & Erdirençelebi, 2017). There are programmes designed to support international students and refugees in Turkey, especially Syrian university students. The TÖMER (Center for Learning Turkish Language) aims to address some of the linguistic barriers faced by Syrian students.

An overview of the higher education in France

There are over 3500 HEIs in France, including both public and private establishments. Public institutions are funded by the state and award national degrees (bachelor's, master's, and doctoral qualifications). In 2021 approximately 2,969,000 students were enrolled in higher education in France, according to the data from SIES-MESRI (Sub-directorate for Information Systems and Statistical Studies (SIES), Ministry of Higher Education, Research and Innovation (MESRI))

Over the last decade student demand has changed the university landscape in terms of intake capacity, employment relations, geography and underlying structures.

The student population in France has grown extremely rapidly and its social composition has changed (Erlich, 1998). Women now make up 70% of the enrolments in law, arts, and health, but remain a minority in physical and sports sciences (Staps) with 29.3%, and in sciences with 49.5%. Among high school graduates, 83% come from the general education track, 15% from the technological track, and 3% from the vocational track.

The geographical distribution of students in France is mainly concentrated in the Île-de-France, Lyon, Lille, Nantes, Rennes, and Toulouse academies. Île-de-France accounts for 26.5% of enrolled students, and the other academies make up 29.2%. In the Paris academy, 44% of students are enrolled in universities and private education, with business schools and preparatory classes for prestigious universities (CPGE) being highly represented. Reforms to create large university complexes to increase these institutions' international visibility have led to a concentration of students in the Auvergne-Rhône-Alpes and Île-de-France academies (Students enrolled in higher education between 1998 and 2021 by field of study. Source : [Les effectifs du supérieur : évolution.](#)) In the overseas departments and regions (DROM), the HE offer mainly consists only of universities and short-term programs Overall, there is a polarisation of a small number of “world-class”

institutions that are geographically concentrated. These institutions, apply a particular educational model in an attempt to standardise learning outcomes for diverse student populations, which is challenging for traditionally underrepresented students.

The complex university landscape in France is challenging for students from lower socioeconomic backgrounds and other traditionally underrepresented groups and students are polarised in different sectors. Young people from working-class backgrounds are less likely to access higher education in general, but those who do access it are also less likely to reach the master's level (Peugny, 2013, Selz & Vallet, 2006). The average cost for courses per student varies: €10,100 for universities, €15,700 for preparatory classes for prestigious universities (CPGE), and €14,270 for sections of higher technicians (STS). These differences disproportionately affect disadvantaged segments of the population (Calvel & Chareyton, 2023).

Students from working-class or employee families make up 28.5% of the total student body, but only constitute 18.2% of CPGE students (MESRI, 2021). Students from working-class and employee families are relatively well represented in STS programs (42.6% of STS students compared to 28.5% of university students), with a lower proportion of students from executive families on these programmes (34.2% of university students compared to 15.4% of STS students). Students from families where parents work as labourers and employees are evenly distributed in universities (28.3%).

The French government has attempted to redress inequalities by regulating higher education through the introduction of the Education Code. Access to HE is based on the 2018 ORE law (Official Journal of the French Republic. Source https://www.legifrance.gouv.fr/download/pdf?id=9N45e7Wo_miQlrNPkI0tnZzKY6oT0Ac8uyatwTORrks) which has three main objectives: easier access to higher education through the “*parcoursup*” platform (which aims to improve support for high school graduates and make their entry into higher education more transparent and fairer), the reform of the first-cycle education, and the improvement of students' living conditions. However, the percentage of students dropping out of the university system remains a political issue.

Pathways to university in France

Universities offer training in different disciplines, leading to bachelor's (bac+3), master's (bac+5) and doctoral (bac+8) degrees. In France, university is accessible to all baccalaureate holders (general, technological and professional), without admission tests or competitions.

However, some universities are selective, for example dual-bachelor or bi-bachelor. Others, however, are accessible without the baccalaureate, such as the legal capacity, or the DAEU which allows people who already have professional experience to obtain an equivalent of the baccalaureate.

To register at university, future baccalaureate graduates (and those who passed their baccalaureate the previous year) must go through the Parcoursup platform and choose the bachelor degree they wish to enrol in. Others contact the university directly.

Universities take into account the averages obtained in the years preceding the requested training. A cover letter, associative and professional experiences linked to the training could be an advantage for admission.

HE funding and financial support for higher education students in France

In 2019-20, the amount of state aid to students was 5.7 billion euros. This amount is actually the sum of three main types of assistance: direct budgetary aid, indirect budgetary aid, and tax benefits.

- Direct budgetary assistance includes grants and loans, merit-based aid, social housing assistance, the state's portion of personalised housing assistance, and the state's contribution to transportation assistance. These direct aids account for 67.4% of the total student aid.
- Indirect assistance includes university services, support for associations and university healthcare.
- The final type of aid is fiscal and includes family allowances for children/students attached to their parents' tax household (21.3% of total aid in 2013-14) and the tax reduction for tuition fees in higher education (2.8%). (Calvel & Chareyron, 2023).

The social criteria-based scholarships awarded to students vary in amount based on the family's resources and expenses, according to a national scale. This scale defines several levels, ranging from 1,020 euros (32.2% of scholarships) to 5,612 euros (6.9% of scholarships) per year in 2019-20. In general, in 2019-20, 718,000 students received a social criteria-based scholarship from MESRI, which corresponds to 37% of students enrolled in a program eligible for a scholarship (Papagiorgiou, 2020).

Between 2018 and 2019, 745,000 students received at least one financial aid from MESRI, representing 39.5% of higher education students (Calvel & Chareyron, 2023).

Academic and career support in France

In France there is increasing awareness of the vital role of career guidance. At the end of school students can feel confused and disorientated about what their future plans

In France stakeholders in HEIs must provide support and information according to the ORE law. The framework of the 2018 high school reform made career guidance a priority across all regions. Fifty four hours per school year are dedicated to career guidance, with significant periods scheduled during the two orientation weeks and class councils. With "parcoursup", which aims to enhance coordination between

secondary and higher education, teachers play a significant role in guiding young individuals (Bobineau & Daverne-Bailly, 2020).

French universities deploy different strategies and actions to support under-represented students. According to national survey realised in 2019, there are 1.7% of students with disabilities. The main disabilities or disorders are language and speech disorders (24%), motor disorder (14%), psychological disorders (14%). Among different strategies, we can mention training programmes for student associations enabling them to contribute to the development of an inclusive student life, actions and training to raise the awareness of the university community to take disability into account, strategies passing exams, strategies facilitating accessibility to cultural activities and places (subscriptions taking into account student income), strategies supporting access to free health care for the poor and support adapted to the needs of the student during internships or professional integration thanks to the guidance services present in several French universities.

Career support post-graduation in France

Regarding professional integration, the French government stipulates in Article L. 611-5 of the Education Code: “An observatory for professional integration is established in each university by decision of the board of directors after consultation with the training and university life commission of the academic council”. The main functions of these observatories are as follows:

- Disseminate to students a diverse range of internships and job opportunities that are aligned with the university's offered programs and meet the needs of businesses.
- Assist students in their search for internships and their first job, and inform them about developments in the job market.
- Support students with their issues related to employment and professional integration.
- Prepare students who request it for job interviews.
- Compile a list of companies, associations, and public organisations that are likely to provide students with professional experience related to the major fields of study taught at the university, with the aim of offering them internship agreements.

The observatory presents an annual report to the training and university life commission of the academic council on the quantity and quality of internships undertaken by students, as well as on their professional integration in their first job. Statistics including the rates of professional integration of students, observed one year and two years after obtaining their degree, are published on the institution's website and, for programs registered therein, as part of the national procedure provided for in the second paragraph of the Article L. 612-3. “They are taken into account in the context of the review of the request by the institution for the accreditation of its offer conferring a degree or a university title, in accordance with Article L. 613-1”.

The debate on employability leads to considering alternatives to the role of an employee, including entrepreneurship as an alternative professional career path to traditional salaried employment (Chambard, 2019). In this context, universities increasingly focused on promoting entrepreneurial culture, enhancing the professionalisation of education provided, driving scientific research and innovation, and mobilising additional resources to support business creation (Bachiri & Retal, 2021). Entrepreneurship education is presented as a means to equip students with the tools to become entrepreneurs, with the dual purpose of combating unemployment and enhancing equality of opportunities (Chambard, 2019).

Conclusion

This chapter outlines the HE systems, funding, progression routes and supports available in Romania, England, Turkey and France. There are significant differences in these systems but there are also many similarities. Across all four countries increasing student numbers and the diversity of the student body present challenges and opportunities. First of all, most universities try to facilitate an access to HE to diverse student populations. It is still a challenge for the countries.

As EU report on “Drop-out and Completion in Higher Education in Europe” in 2013 states the number of students who can access higher education has increased but “the relatively smaller numbers of non-traditional students who enter higher education face a system which is not responsive to them and risk dropping out” (p.95). According the report, “Retention needs to be part of a national equality strategy at systems level which includes outreach and pre-induction activities specifically focused on students from lower socioeconomic backgrounds” (p.96)

If they are well informed, student ambassadors and volunteers can play an important role in supporting school, college and university students, building confidence and efficacy in disciplines, supporting their understanding of progression routes and HE courses, and facilitating them to make informed choices.

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Chapter 2. Practices and pedagogies of ambassadors: Starting points - the benefits of being an ambassador and how this works in different national contexts

This chapter notes the significant benefits to student ambassadors from working in these roles. The chapter outlines foundational requirements and preparatory training for student ambassadors involved in HE outreach activities. Before embarking on their roles, student ambassadors may be required to undergo some essential training to ensure compliance with statutory requirements. This can vary significantly across different countries. The procedures for England, France, Turkey, and Romania are presented. Each country outlines specific procedures for initiating these programs, emphasizing the necessity of training in safeguarding, understanding legal obligations, and promoting HE benefits. Research indicates that there is a need for more and better training for student ambassadors. This handbook sets out an approach to developing activities and training for ambassadors to enable them to support the educational progression of underrepresented groups.

Benefits of working as a student ambassador

Research indicates that student ambassadors find their experiences outside their existing academic commitments to be beneficial to their own skill development. Some ambassador and mentoring programmes are paid or include other financial inducements. This can have advantages in terms of inclusivity by drawing in student ambassadors from lower income backgrounds who can combine their studies with employment (Moschetti et al., 2018). Experiences working as ambassadors and mentors are also seen as a valuable addition to their CVs, as potential employers require career-relevant skills and knowledge ready for entry into the job market. Research indicates ambassadors report personal growth in several areas as well as the development of a wide range of new skills such as leadership skills, presentation skills, organizational skills, study and learning skills, critical thinking skills, and transferrable skills (Pugliese et al., 2015; Talbot et al. 2013; Baker and Sela, 2018). Additionally working in ambassador roles has been found to contribute to a sense of belonging in HE as well as building self-esteem and self-confidence and academic skills (Pugliese et al., 2015; Talbot et al. 2013; Nickson & Heniksen, 2014; Bissoonauth-Bedford & Stace, 2017; Gannon, Tracey and Ullman: 2018). Working as an ambassador has also been found to support university students in developing and refining their career interests (Corradini, 2012; Haas, et al. 2013; Talbot et al. 2013).

England

Universities and HE providers in England have been formally accountable for widening access and student success for many years. The Office for Students (OfS) has responsibility for issues of equality in HE in England. All universities charging tuition fees are required to have an Access and Participation Plan approved by the OfS; access and Participation plans set out each HEI's commitment and strategies to promoting equal opportunities. Most universities in England and other countries in the UK have a Widening Participation (WP) Team that works across the institution to support widening participation and organize outreach activity with local schools, colleges and other settings. WP teams are tasked with organising activities set out in their Access and Participation Plans. These activities are designed to raise attainment, raise aspirations and improve students' knowledge of HE. The Office for Students also funds Uni Connect, a programme that promotes collaborations between HEIs, colleges and schools in areas where participation is lower than expected.

WP Teams make arrangements for school and college students to visit HE campuses and for ambassadors to visit schools and colleges. When ambassadors are supervised and working with college or schoolteachers or members of the WP team at all times they are not required to have any specific training. However, it is considered good practice for student ambassadors to complete an enhanced DBS check. If ambassadors are working independently and are left in charge of groups of school or college students they will need to complete DBS checks as this is a requirement for anyone working unsupervised in a school and viewed as essential for the safeguarding of school students. Though it should be noted that even with a DBS, many schools still require that ambassadors are supervised whilst in a school setting. DBS checks are completed online <https://onlinedbschecks.co.uk/job-sectors/dbs-checks-for-schools/> and reveal information about any criminal convictions, warnings, cautions, reprimands, any other relevant information and checks that an individual is not on the Children Barred List.

It is also good practice for student ambassadors who are working with school and college students to undertake safeguarding training. There are six principles of safeguarding that were enshrined in law in The Care Act (2014), these are: empowerment, prevention, proportionality, protection, partnership and accountability. It is important student ambassadors understand their responsibilities to help to safeguard children and young people and/or any at risk adults they work with within their institutions. Many universities follow best practice and ensure that all ambassadors receive safeguarding training. The aim of training for ambassadors is to provide them with a broad introduction to safeguarding issues and most importantly, a knowledge of how to respond to concerns raised over welfare and about reporting processes. Training provides ambassadors with a detailed knowledge of the policies and guidelines of their own university. Additionally, for training provided by universities, some schools require all visitors (including student ambassadors) to read through their Safeguarding Briefing and sign to say that they have read it and agree to follow it,

though not all schools have this requirement. Student ambassadors should be informed and able to identify signs of abuse in children, young people and vulnerable adults and where to go for support, although there should always be a supervising member of staff present in the classroom with responsibility for safeguarding. *(Please see Appendix 1 for exemplar of safeguarding training provide by the University of Kent)*

Universities often offer a range of additional training for student ambassadors and mentors. This can vary according to the activities they undertake. For example, the University of Kent provides ambassadors with training in supporting 'Da Vinci Days'. These are days where ambassadors work with large groups of Level 1 students from local schools on campus, undertaking hands on cross-curricular STEM and Arts activities. This training and activity is considered a valuable introduction to working as an ambassador. *(Please see Appendix 2 for exemplar training material for this activity)*

Turkey

There is no formal student ambassador program in universities in Turkey. In schools affiliated with the Ministry of National Education, university students can carry out activities that can be considered within the scope of student ambassador program in two different ways: the community service practices course and student clubs.

Within the scope of the community service practices course, student advisors write a petition with the training program and materials attached and send it to the dean's office. The dean's office sends this letter with a cover letter to the rectorate. Afterwards, the rectorate sends this document to the provincial/district national education directorates. This document is then reviewed by commissions that meet weekly in the directorates. If the training program and materials are found suitable, the school principals where the training is planned are notified in an official letter. Finally, the educational program and materials can be implemented with the approval of the school administration.

Within the scope of the student club activity, club advisors write a petition with the training program and materials attached and send it to the department of health, culture and sports. The department of health, culture and sports sends this letter with a cover letter to the rectorate. Afterwards, the rectorate sends this document to the provincial/district national education directorates. This document is then reviewed by commissions that meet weekly in the directorates. If the training program and materials are found suitable, the school principals where the training is planned are notified in an official letter. Finally, the educational program and materials can be implemented with the approval of the school administration.

Romania

Access for students from disadvantaged backgrounds is guaranteed in Romanian higher education through measures to ensure equity throughout their academic development. Although legislation ensures these students' access to higher education,

no official regulations exist to foster social inclusion or assist them in achieving academic success. For this reason, in recent years, universities have implemented their own policies to ensure the tenure and success of students from disadvantaged backgrounds in HE. Some universities have adopted specific regulations to accommodate non-traditional students, while others are developing policies in the absence of a specific regulatory framework. Some institutions have set up dedicated offices and/or specialized support services for students with special needs. Other institutions are taking care of these students by initiating mentoring programs (e.g., Babeş Bolyai University from Cluj-Napoca) or student ambassadors for inclusion (e.g., the University of Bucharest and the Polytechnic University of Bucharest).

Under the mentoring or ambassadorship programs, school students and university students apply on a voluntary basis, filling out a form provided by the university where they want to work. Students already registered in a university can only work as mentors or ambassadors in the university in which they are enrolled. High school students can become "ambassadors" only if they are enrolled in grades 11 and 12. In the case of more than one enrolment of students belonging to the same school, a selection process will be organized, after which the "ambassador" will be chosen on the basis of school performance, attendance, teacher recommendations, and extra-curricular activities undertaken, respecting the principle of equal opportunities and gender equality. In the case of university students, the selection process takes into account academic performance, attendance at courses/seminars/labs, recommendations from teachers and extracurricular activities undertaken, respecting the principle of equal opportunities and gender. The ambassador status will be recognized through a volunteer contract between the student and the university. In the case of university students, the volunteer contract is contained in the *Methodology for obtaining additional transferable study credit points through volunteer activities* approved by the University Senate.

In Romanian universities, mentors and/or ambassadors have the following responsibilities:

- Mentors and ambassadors can promote the university in the schools and high schools they have graduated from. Ambassadors will thus be promoters of the moral, educational, scientific, cultural values and principles of the university.
- The mentor/ambassador carries out activities to promote higher education and initiates and organizes information sessions in schools and high schools in collaboration and with the agreement of the school management, teachers, student council, parents' association, or any other groups set up within the school.
- Compilation and management of the database of school students, their parents, caregivers or legal caregivers, and teaching staff in the secondary schools where they carry out outreach activities.
- Support information sessions on the benefits of access to higher education.

- Supporting sessions presenting the universities' educational offers and information on the admission process.
- Dissemination in schools and high schools of information and promotion materials about the universities to all the people in the school network (teachers, auxiliary staff, students, members of parents' associations).
- Implement and/or monitor online information and promotion campaigns on the social networks where they are present.
- Direct and/or online promotion of competitions, events, presentations, lectures, etc. organized by universities for school students.

Programs implemented in several Romanian universities reveal a first attempt to understand the issues of inclusion and accessibility for non-traditional students. Based on the information promoted on the universities' websites, we can conclude that they have different perspectives based on their individual experiences.

France

There is no formal programme of using student ambassadors. Often, each university decides its own strategy in order to employ and train student ambassadors.

Generally, a student ambassador represents the University during events: fairs, forums, open days, testimonies, etc. As a student ambassador, his or hers role is multiple:

- Promote the University where the student is enrolled, its global training offer, in particular the field of student of the student;
- To testify to the students' study course at the University;
- Inform and guide future students in their choice of training;
- To answer possible questions from future students and their parents.

It is mostly a paid job and the different departments of professional orientation or communication services of the universities accompany the students. This support often consist of:

- Training by a career guidance ;
- A communication kit (posters, flyers, training sheets, goodies...)
- Quick training on how to respond the answers of future students (example, is there any integration activities for the students, are there services that help to seek different internship programs, etc.)

Within the work with schools or community, student ambassadors participate in mentoring programs or undertake internships. Under internships, students apply on a voluntary basis, filling out a form provided by the university where they want to work ('convention' between university and a school). This work is supervised by the tutor at the university and the tutor at school.

However, universities put in place the student ambassador programs according to their rules and values. There is an interesting example of students ambassadors program

at the University of Bretagne Sud: students ambassadors 'social link' : "student tutor COVID". The 19 "social link" student ambassadors receive specific training from the UBS Student and Campus Life Department, the Crous de Bretagne and the MGEN (Mutuelle Generale de l'Education Nationale). This training allows them to familiarize themselves with the University's services and the assistance mechanisms set up at the UBS, the mechanisms for identifying psychological suffering, the health instructions contained in the University's activity plan and all aspects of campus life. They can thus answer all the questions of the University's students and staff and pay special attention to students who have been weakened by the pandemics. The main mission of these ambassadors is to foster social ties and communication between students at the University through face-to-face and/or distance learning support.

Pedagogies in student ambassador training

This section focuses on the pedagogical approaches that underpin the philosophy and methods proposed for student ambassadors' work with young people in schools as well as the methods of training student ambassadors, following similar principles. The pedagogies stem from the theoretical background and research evidence outlined in the first chapter of this handbook.

The pedagogical principles of the ambassador training aim to model the pedagogical approaches that ambassadors will be applying in their work with young people in schools. They are rooted in **learner-centred education** with methods of **active learning** that are:

- **Strength-oriented.** Students are viewed as competent learners who can apply their existing knowledge and skills and feel valued for their contributions to the community of learners (Lave & Wenger, 1991). Past experiences of learners are key in new learning (Dewey, 1916). The community of learners is expanded from pupils to teachers, student ambassadors, universities and employers in the co-creation process. Everyone is on their journey of becoming. Learning is seen as a life-long quest and all members of the community are constantly learning and developing their skills further. Equally, all members already have knowledge, skills and experience that is acknowledged and that they can genuinely contribute with. Such sharing of expertise is possible thanks to problem-solving methods of learning applied in outreach activities and ambassador training.
- **Constructivist.** Learners' knowledge is generated from the activity itself, from doing it, engaging with it. The task invites learners to engage and problem solve and that results in understanding of concepts. Problem and project-based methods allow such constructivist approach to learning (Stentoft, 2017) because they require learners to actively engage in information seeking and sharing. In addition, learners are solving real-world issues, making their learning journey instantly relevant and meaningful. Learning environments that provide

the opportunity for construction of knowledge in socially negotiated tasks which enhances the students' ability to regulate their learning (de Kock et al., 2004).

- **Relational.** Learners connect with each other and experience a sense of belonging, connecting with others and as a result connecting to themselves and their possible future selves (Markus & Nurius, 1986). Traditional hierarchies present in educational institutions and perpetuated by frontal delivery and transmission of knowledge are challenged (Freire, 1972).
- **Interdisciplinary.** Learning is focused on how concepts are related and how learners construct knowledge in complex situations, while enhancing their critical thinking. Learning happens through focusing on real-world problems "rather than being confined to predefined disciplinary boundaries" (Stentoft, 2017, p. 54).

Good pedagogy as a civic responsibility

Conceptualising student ambassador training lies in a belief in good inclusive pedagogies in general, implementing Education for All (UN, 2015) which requires high quality pedagogical methods. In focusing on activities that support underrepresented students, ambassadors often need to engage and connect with younger students who have negative experiences of the education system. This makes the need for commitment to good pedagogy even more vital. It is conceptualised here as a social justice issue that can be addressed by universities fulfilling their civic responsibility with the help of student ambassadors as agents of change towards social equity. What students perceive as possible or impossible depends on understanding the imagined future "*in the context of the ever-present legacy of the past*" (Henderson et al., 2018, p.2). Student ambassadors represent an embodied proof of this possibility. Thus, the pedagogical approach they apply in their work with younger students and that is used in their own training must follow research evidence on good pedagogical practice.

The civic responsibility of the student ambassador role in outreach to widen participation in higher education is inherently tied with answering the question of the purpose of higher education. There is a "*need to more fully understand higher education systems as integral part of the societies in which they operate*" (Ashwin, 2022, p. 1241), with several 'societal educational purposes' identified, such as 'employment', 'self-development', 'development of critical citizens', 'citizens who can help solve urgent social problems' and create 'harmony between people and the world' (ibid., p. 1240). The purpose of education is seen in empowering young people as active citizens, opening up their opportunities to a variety of possible future selves (Harrison, 2018).

Context of student ambassadors' pedagogical role

Student ambassadors occupy spaces and roles 'in between' (Gartland & Paczuska, 2006):

- In between of institutions (schools and universities)
- In between of proficiency levels (as apprentices between aspiring pupils and expert masters)
- In between of enculturation into a field (from school subjects to specific professional fields and careers)
- In between of formality and informality of learning situations (presenting with teachers but not as teachers, acting almost as peers, relatable but not close friends).

Belonging to both worlds, student ambassadors possess unique opportunities to support younger students in envisioning possible future selves as HE students, creating cognitive bridges (Markus & Nurius, 1987; Harrison, 2018) to future identities as HE students and in professional careers. As Henderson et al. (2018) point out, widening participation activities need to enhance “*access to imagined futures*” (p. 3). By providing experiential learning opportunities for young people, by doing things together and talking to them, bridging of social capital (Bourdieu, 1986) is facilitated. This can happen effectively due to **experiential pedagogic approaches** in learning situations that incorporate **attributes of informality** (Colley et al., 2003, as cited in Gartland, 2014, 2015; 2020) while focusing on **career advice** and **subject-specific knowledge**.

Experiential learning and widening participation

Experiential learning is driven by curiosity and does not have pre-defined right or wrong answers. It happens in interactions with members of the social community involved in shared activities. Students learn through doing, following and copying one another, with more experienced members of the learning community modelling the practice. Learners experiment with the capabilities of their bodies and minds, and the affordances of the objects and the environment around them. Therefore, it is crucial to provide learners with rich opportunities to experience the world and themselves in the world. Prepared environment with real-world materials is central to experiential learning.

Recognizing and accommodating diverse learners in student ambassador training is essential for fostering inclusive and effective learning environments. According to Fleming and Mills (1992), learning opportunities can include visual, auditory, kinaesthetic, and read/write preferences, each requiring distinct engagement strategies to maximize learning outcomes.

To support visual learning, Mayer (2009) suggests materials can be adapted to include rich visual content, for example, integrating graphical representations of concepts, such as mind maps or concept maps, can help learners visualize relationships between ideas. To address auditory learning opportunities, it is useful to incorporate listening to information such as discussions, and oral presentations. Experiential learning is often rich with kinaesthetic learning opportunities, involving interactive activities and physical movement keeping learners engaged.

Applying these principles into widening participation in higher education, experiential learning allows potential and new members of the community to learn the ways of being, acting and behaving (Lave & Wenger, 1991) in their subject disciplines and at university, adopting their culture and becoming part of it (Lee, 2008).

Experiential learning through problem-based construction of knowledge and its relational aspects allows learners to experience themselves in a new way, performing in previously unexplored or underutilised version of their self (Goffman, 1990). This may result in opening up the possibilities of thinking about higher education as an option that is individually meaningful and relevant to the person. Possible selves theory (Markus & Nurius, 1986) allows explanation and understanding of students' motivations and goals through an 'idiosyncratic' lens rather than 'generalised goal-conception' (Erikson, 2018, p. 14). Co-creation with students as applied in the DIPLOMA project thus helps us overcome what Erikson (ibid.) referred to as a wrong assumption that there is a collective understanding of the purposes of higher education and students' motivations to enter university. It is important to highlight that possible selves do not only include the individual motivations and aspirations of the students, but also involve the social and systemic influences. Considering this, pedagogies applied in order to broaden the learners' possible selves carry an important mission of social justice. Experiential learning allows students to construct their knowledge and to construct a positive view of themselves. Freire (1970, 2005) called for empowering educational practices, moving from 'the consciousness of the real' to 'the consciousness of the possible' (p. 113). Learning should be designed as a process of inquiry rather than depositing existing knowledge into learners.

Outreach activities that focus on raising attainment might be tackling a part of the problem of access to higher education. While higher attainment does raise aspirations through increased motivation (Gorard et al., 2023), aspiration raising becomes problematic if lack of aspiration is perceived as a deficit of the individual.

"A troubling and ongoing discourse of the WP field is the supposed 'poverty of aspiration' that conflates the idea of material poverty with that of assumed aspirational poverty. In this way, groups and individuals are constructed as 'lacking aspiration' for participation in higher education and, therefore, in need of having their aspirations 'raised'." (Lumb, 2018, p. 96)

Aspirations are shaped by systemic impacts of young people's access to imagined possible selves. Learner-centred experiential pedagogy thus presents an excellent means for exploring possible selves (Ibarra, 2007; Gartland, 2018) as it moves away from being overly focused on outcomes and teaching to the test and acknowledges wider societal roles and circumstances.

Constructivist learning in this context allows (de Knock, 2004, as cited in Alt, 2015):

- Learning to learn as learning happens through "meaningful and perplexing problem solving in real-life situations" and includes "meta-cognitive learning approaches to knowledge" (ibid., p. 50).

- Learning to be perceived and enacted as a “situated contextual activity” (ibid., p. 50) moving away from external motivation to intrinsic motivation drivers as outlined by self-determination theory (Ryan & Deci, 2018).
- Learning as a social activity that supports cooperation (de Knock, 2004 as cited in Alt, 2015).

Experiential learning in outreach and ambassador training

Experiential learning respects rights of learners and acknowledges their capabilities. Through such democratic values, learner-centred approaches facilitate inclusivity and emphasise the role of universities in supporting widening participation more holistically.

Experiential learning creates an emotional connection to the subject area, promotes collaborative learning and highlights real-world contexts of learning. Through these means it increases intrinsic motivation, sense of belonging, transferable communication skills and possible selves as higher education students and professionals.

- *Long-lasting impact of self-experience and emotionally involved learning*

Focusing on experience and self-experience in learning presents an effective pedagogical method that leaves people with a long-term impression to be used in other areas of their lives. A skill learned through action is transferable into other domains and future activities. A learner gains an increasing sense of mastery, accomplishment and achievement which makes them feel good about themselves and increases their self-efficacy (Bandura, 1977). Learning connected with positive emotions tends to motivate the learner to continue or repeat the activity. Constructivist learning allows for such emotional outcomes (Alt, 2015). Young people thus gain experience with the meaningful activity and skills involved in it. Moreover, they gain a new experience of themselves, broadening the repertoires of possible future actions. *“Self-efficacy beliefs affect students’ outcomes by enhancing their persistence and motivation to master challenging tasks. ... academic self-efficacy is positively connected to grades and persistence in college”* (Alt, 2015, p. 48). Research on outreach evidenced that innovative approaches such as experiential learning were effective as they contributed to developing confidence and academic skills of young people (Webb et al., 2017, as cited in Gartland & Negrea, 2022).

Experiential learning allows learners to start thinking like professionals in the field. This has been elaborated in concepts such as Engineering Habits of Mind (Lucas et al., 2014). The report identified ways in which engineers think, which are then applied in the pedagogical design of experiential learning activities that allow for these ways of thinking to be developed. These include:

- Systems thinking
- Adapting
- Problem-finding
- Creative problem-solving

- Visualising
- Improving.

In the Erasmus+ DIPLOMA project, this pedagogical approach was applied for example in the “Power Up!” STEM-related activity. The activity is focused on learning about renewable energy. Students learn about energy distribution from a marble run experiment, and then design and physically construct a wind turbine. The pedagogical concepts with physically demonstrates what it means to think like an engineer, and provides an experience of being enculturated into such ways of working and thinking.

- *Supporting interactions between student ambassadors and young people in schools*

Experiential learning breaks down barriers implicitly included in widening participation activities “with practitioners positioned to target fellow community members using notions of low-ness (usually low socioeconomic status)” (Lumb, 2018, p. 95). Gartland (2014, 2015, 2020) notes that ambassadors enable young people to talk about university life and through identifying with the ambassadors as **role models** start seeing themselves as future university students. Informal experiential learning contexts such as practical experiments or games naturally allow to position student ambassadors as someone relatable in between the known self and the unknown future. Experiential learning thus creates the space for establishing relationships and feeling comfortable with each other through **collaborative learning** (Austen et al., 2021; Bennett et al., 2015; Webb et al., 2017; Gartland, 2014, 2015, 2020).

- *Co-creating outreach programmes*

For student ambassadors to develop skills of facilitating collaborative learning with younger students, self-experience of such conditions can be useful. **Co-creating** outreach programmes with student ambassadors provides an opportunity to model this practice to student ambassadors and provide them with such self-experience. As they feel valued and acknowledged in the community of practice of academics, schoolteachers and possibly industry representatives or other professionals, student ambassadors can take on co-creation and collaborative learning as a pedagogical legacy for their outreach work.

In the Erasmus+ DIPLOMA project, student ambassadors engaged in workshops where they learned from each other and shared experience about access to higher education in an international comparison. They brainstormed ideas in subject-specific multicultural groups and thought about best methods to reach various age groups. Then, with their university lecturers and local schoolteachers, they **co-created** regionally relevant outreach activities. These were specific to a subject area, however, often spanned across disciplines. The activities followed experiential, project-based pedagogical design with collaborative learning. Student ambassadors piloted the activities in local schools and engaged young people through informal learning and conversations about possible career pathways. Student ambassadors themselves might have belonged to groups under-represented in higher education. Empowered

through the experiential training and co-creation, they provided experiential learning to younger students.

- *Digitally facilitated co-creation of training and resources*

In the digital age, the role of technology in enhancing ambassador training and outreach activities cannot be overstated. Leveraging digital tools not only broadens the scope of learning opportunities but also aligns training methods with the technological proficiencies of today's learners. Online learning platforms, such as Moodle or Canvas, facilitate a blended learning approach, offering flexibility and accessibility to training to meet the diverse needs of student ambassadors (Bates, 2015). These platforms serve as centralized repositories for training resources, enabling asynchronous learning and discussion forums that support collaborative learning among ambassadors.

Moreover, digital tools like Slack or Microsoft Teams enhance communication and collaboration on projects, allowing ambassadors to work together effectively, regardless of geographical constraints. These tools mimic professional digital work environments, preparing ambassadors for future workforce collaboration (Hrastinski, 2019). Virtual reality (VR) and augmented reality (AR) technologies offer immersive learning experiences that can simulate real-life outreach scenarios, providing a safe space for ambassadors to practice their skills. For example, VR simulations of classroom settings can help ambassadors develop public speaking and engagement strategies before actual school visits, enhancing their confidence and effectiveness (Radianti et al., 2020).

Furthermore, social media platforms play a crucial role in outreach activities, enabling ambassadors to connect with a broader audience of prospective students through relatable and engaging content. By leveraging platforms like Instagram, TikTok, and YouTube, ambassadors can share insights into university life, demystify the application process, and highlight the benefits of higher education in a format that resonates with younger audiences (Greenhow & Askari, 2017).

Incorporating these technologies into ambassador training and outreach initiatives not only enhances the learning experience but also ensures that programs remain relevant and engaging in a rapidly evolving digital landscape.

In the DIPLOMA project, student ambassadors set up a Discord server to facilitate communication and promote international support network of student ambassador champions. Discord as a platform driven by young people has changed the power dynamics between students and lecturers. Students were leading and inviting lecturers to be part of their communication platform. The digital technology thus contributed to the ethos of co-creation and shifted the participation style towards empowerment.

Within the project consortium, shared documents on Google Drive were used as the main co-creation tool for all project outputs. Transparent access to all project documentation and most up-to-date progress on outputs enhanced ownership of project results by all project partners internationally.

National teams of student ambassadors, schools and university lecturers work collaboratively using a variety of online tools. For example, in the United Kingdom, co-creators had access to Microsoft Teams, which allowed for flexible arrangement of hybrid meetings, sharing of live documents and additional materials.

- *Real-world immediate application of knowledge and skills*

Experiential learning is inherently connected to real-world issues, especially if it is designed through problem and project-based methods. Everyday issues, whether tangible small-scale problems that require hands-on solutions and experimentation or large-scale global problems, inspire and provoke generation of new knowledge. In experiential learning, knowledge is not transmitted; it is constructed. Taylor et al. (1997) outlined key dimensions of critical constructivism as:

- School learning is **personally relevant** because it connected with the everyday experiences of students, which makes learning meaningful.
- Students are provided with opportunities to experience that knowledge and theory is **uncertain** as it evolves and is shaped by culture and society.
- Students are empowered to **voice** their learning needs and question pedagogical methods.
- Students **share control** over the learning environment – learning goals, design, management of activities, assessment criteria.
- Students **negotiate** their ideas **with other students** – explain, justify, reflect and self-reflect.

In the Erasmus+ DIPLOMA project, student ambassadors chose topics for their activities that were located in their subject areas, had a very clear every-day application, and were relevant to global issues such as upcycling waste, generating renewable energy, or questioning gender roles and rights, captured under the Sustainable Development Goals (UN, 2015).

Fostering possible selves

“Possible selves” theory (Markus & Nurius, 1986; Harrison, 2018) posits that individuals envisage a range of possible future identities. These visions of future states encompass both desired aspirations and feared outcomes. Possible selves theory has been utilized in various fields, including education, psychology, and career counselling, to understand how individuals' perceptions of their possible future selves influence their motivation, behaviours, choices, and expectations. Throughout the handbook (in Sections 4 to 8, which present multiple activities from STEM, Arts, Social Sciences and Humanities and Health domains) we have drawn on the theory of possible selves and Harrison’s (2018) model for interventions in the design of activities. The ambition of activities is to support young people in **expanding the palette of possible selves available to them, develop their self-efficacy in subject areas and support their belief in their ability to succeed**, and provide them with information about subject disciplines in HE and collaborative experiences with student ambassadors to encourage them to envision themselves as university students (Harrison, 2018, p.13-

14). Activities also draw on Bourdieusian theories and the NERUPI framework (Hayton & Bengry-Howell, 2016) and specifically aim to support young people in knowing about the benefits of HE, being able to make informed choices, developing academic skills and promoting a contextualised understanding of subject knowledge (2016, p.47-48). Beyond focusing on supporting the development of possible selves in relation to subject disciplines and progression to HE, activities are also designed to encourage young people to envision possible future selves as active engaged citizens who can make a positive difference to their communities and to the world.

- *STEM activities and possible selves*

The activities proposed within this domain allow students to explore the intersection of science, technology, engineering, and mathematics (STEM) with real-world applications. Through the “Biomimicry” activity, students have the opportunity to reflect on their interests, skills, and values in relation to STEM disciplines. As they collaborate in groups to design technical objects inspired by nature, students gain a deeper understanding of their own capabilities and preferences, providing them with opportunities to build self-efficacy in the domain and to develop their own interests and beliefs (Harrison, 2018). This process of self-discovery contributes to the development of their palette of possible selves, introducing them to ideas about who they can become in the future. The Biomimicry activity is situated within the broader context of sustainable development goals and environmental awareness. As students explore how biomimicry can address contemporary challenges in harmony with nature, they develop a sense of social responsibility and environmental stewardship. This awareness shapes their possible selves by instilling values of sustainability and ethical decision-making (Cross & Markus, 1991), also integral to possible future career roles as scientists and engineers.

Participating in "Welcome Future" activity encourages students to reflect on their interests, strengths, and goals in relation to STEM subjects. As they engage in activities like designing micro flats or brainstorming superpowers enabled by STEM, students gain self-efficacy in STEM and insight into their own abilities and interests. This process of self-discovery could help to shape their career possible selves by influencing how they perceive themselves and their potential future roles in STEM-related fields, potentially helping to challenge patterns of participation and enhance progression in engineering education (Fan et al., 2023).

Through hands-on activities and games focused on mathematical shapes, students engage in concrete experience, again building self-efficacy and helping to shape their mathematical identities. By creating shapes, discussing their properties, and applying mathematical concepts in real-life contexts, students begin to form positive associations with mathematics and see themselves as capable learners in the subject and perhaps even working in the field (Zeldin & Pajares, 2000).

The hands-on activities in the “Power Up” activity provide opportunities for school students to engage with real world contexts and careers. Activities are curriculum linked, reinforcing classroom learning and building self-efficacy, and career case

studies highlight routes into STEM careers. Ambassadors working alongside school students allow informal discussion, enabling school students to find out about studying in HE and providing them with relatable adult figures.

The involvement of university student ambassadors as co-facilitators provides school students with role models who represent possible future selves as STEM university students. Through interactions with student ambassadors, who share their university experiences and career trajectories, students gain detailed information about the educational and professional pathways available to them. The interaction with professionals from the STEM field foster authentic access to professional success stories and provide school students with access to detailed information about routes to future selves as HE students of STEM subjects.

- *Arts activities and possible selves*

The arts activities described in this handbook integrate visual arts and different career roles or jobs that students can have in the future (journalism, fashion, clothes design, sustainable environment advocate). Moreover, they are applied in different cultural contexts, which allows teachers to easily adapt them.

Some activities encourage students to explore their personal interests in fashion, design, and art. By examining different styles, discussing preferences, and participating in hands-on activities like reconditioning old items or creating fashion boards, students engage in self-reflection and identity exploration. They are supported to conceptualize their potential future selves as individuals with specific tastes, styles, and interests in the arts. In other activities, students have the opportunity to explore art-making practices in the context of environmental activism. This exploration can help them envision themselves as artists who use their creative skills to address pressing societal issues. Throughout the project, students engaged in collaborative processes, negotiated ideas and solutions, and worked together to achieve common goals. These experiences help them visualise themselves as effective collaborators and problem-solvers, building self-efficacy both within the context of the project and in future endeavours.

Moreover, the collaborative nature of the activities, which involves interaction between university student ambassadors, teachers, and secondary school students, creates a supportive environment for students to explore their interests and possible future identities. Through discussions with university student ambassadors, students gain insights into the pathways to HE and potential career trajectories. By engaging in dialogue about their own experiences, challenges, and achievements, student ambassadors help to demystify the transition to HE and inspire younger students to pursue their passions. In essence, the integration of photography and journalism activities allows educators to empower students to explore new possible selves as HE students, and in careers within the realm of visual arts. By providing opportunities for hands-on experience, exposure to diverse examples, and interaction with role models, educators can foster students' self-awareness, motivation, and engagement (Markus & Nurius, 1986). Through the lens of the possible selves, arts activities become

powerful tools for personal and professional development, enabling students to envisage possible new futures and identities.

- *Social Sciences and Humanities activities and possible selves*

Throughout activities such as “Creating a story about the vision of the perfect school”, students engage in reflective discussions about the roles of teachers, the structure of the school day, and potential changes they would like to see in their educational experiences. By reflecting on their own preferences and values, students begin to clarify their educational priorities and set goals for their future schooling and personal development, laying the groundwork for the construction of positive possible selves within the educational domain. Through discussions on contemporary and historical crises, students engage in a process of imagining themselves in various roles and contexts, considering how they might respond to crisis situations and contribute to solutions. By exploring different scenarios and considering the impact of crises on individuals and communities, students begin to shape their possible selves as resilient, adaptable individuals capable of facing challenges. Students also explore the history of the suffragette movement and engage in activities such as role-playing, debates, and historical analysis. By immersing themselves in the historical context and considering the actions and motivations of suffragettes, students are prompted to relate to issues of social justice, activism, and civic engagement.

In other activities, through interactive exercises, students explore the qualities and responsibilities associated with different occupations, informing their knowledge of graduate careers as auditors, accountants, bank workers, economists, business analysts, and managers. Through collaborative group work and discussions, students have the opportunity to develop their interpersonal skills, including communication, teamwork, and leadership. By working together to brainstorm ideas, negotiate preferences, and present their visions to the class, school students actively shape their social identities and learn to navigate collective decision-making processes, contributing to their development of possible selves within social contexts. By highlighting the interdisciplinary nature of addressing crises, some activities expose students to a range of potential career paths in fields such as history, economics, sociology, and public policy. Using discussions on the qualities needed to succeed as an entrepreneur and exposure to success stories of famous entrepreneurs, students explore different career paths and aspirations within the field of economics and business - further expanding their palette of possible future selves in careers as successful business owners or professionals in the economic sector.

The presence of university student ambassadors provides students with opportunities to collaborate with individuals who have pursued HE and career paths in social sciences and humanities. By interacting with the ambassadors and learning about their academic journeys, students can begin to envision themselves in similar roles and consider future possibilities for their own education and career trajectories. By connecting the historical narrative to contemporary issues and personal experiences,

students can envision themselves as agents of change in their communities and society at large.

- *Health activities and possible selves*

Through experiential learning approaches such as challenge-based learning and action learning, students are challenged to apply their knowledge and skills to real-world scenarios relevant to healthcare. By actively participating in these activities, students can visualize themselves performing tasks and solving problems encountered in the medical field, thus shaping their possible selves as future HE students and healthcare professionals. Using simulations and discussions about different stages of patient care, students are immersed in real-world scenarios that highlight the roles of healthcare professionals. Through debates, cognitive mapping, and discussions about emergency situations requiring medical intervention, students can begin to construct a clearer understanding of what it means to be a healthcare professional and how they might fit into that role in the future.

Through interactive sessions led by student ambassadors and medical staff, students have the chance to engage in discussions, ask questions, and gain insights into the realities of medical careers. This interactive engagement allows them to envision themselves as medical professionals and consider the challenges, rewards, and responsibilities associated with such roles. Some students may be drawn to the profession by a desire to help others, while others may be motivated by the perceived status, financial stability, or societal expectations associated with being a doctor. By providing a platform for students to discuss and reflect on these influences, some activities allow them to better understand their own motivations and aspirations (Sorrentino & Sheppard, 1978).

By integrating healthcare topics into the curriculum and aligning activities with career exploration, students can see direct connections between their academic studies and future career pathways in healthcare. With the help of exposure, engagement, hands-on experiences, goal setting, and experiential learning, students can visualise themselves as future doctors, nurses, or other healthcare professionals, thereby facilitating their personal and professional growth in the health sciences domain.

In conclusion, the diverse array of hands-on activities presented across the fields of arts, STEM, social sciences, and health collectively contribute to the promotion of school students' possible selves by fostering self-awareness, skill development, self-efficacy in different subject domains and career exploration.

Self-experiential, project- and/or problem-based learning pedagogies are important in achieving the expansion of possible selves, because hands-on activities provide the opportunity to experience oneself as capable and affirmed by the community in such new possible role. In addition, the activities are rooted in real-world issues that young people are passionate about, for example related to the UN Sustainable Development Goals (2015).

Overall, these multifaceted activities not only cultivate subject-specific knowledge, and build self-efficacy and skills, but also extend school students' palette of possible selves, inspiring students to envision diverse and fulfilling future selves, helping to shape their academic trajectories and career aspirations. HE student ambassadors working collaboratively with school students during these activities, often from similar sociocultural contexts and underrepresented groups themselves, can shape and challenge school students' expectations about what is possible. Younger students can 'see themselves' in the student ambassadors and experience themselves already involved in and capable of achieving what matters to them.

Problem- and project-based learning in outreach and ambassador training

Problem- and Project-based learning allow students to apply their knowledge and to discover what they need to learn. Collaborative problem and project-based learning allows for group learning and learning from others as it encourages "*student initiative, self-directiveness, inventiveness, and independence*" (Donnelly and Fitzmaurice, 2005, p. 90). Promoting self-directed learning is important as it leads to development of student competencies such as self-dependence, responsibility for project result and social competencies (Lasauskiene & Rauduvaite, 2015).

"Constructivist environments provide skills for abstract thinking and reflective multi-perspective examination of an issue, which allow students to construct essential information for themselves rather than being provided with information that fully explains the concepts and procedures that they are required to learn." (Alt, 2015, p. 61)

Problem and project-based learning focus students' attention on completing a meaningful task with a real-world implementation of results. Solving a problem means that student experience satisfaction (Lasauskiene & Rauduvaite, 2015). Drawing on self-efficacy theory (Bandura, 1977) the sense of mastery supports students' persistence in difficult tasks, building their resilience.

"Learning through research and enquiry' is not about sending individual students off into the unknown to fend for themselves intellectually but setting up structured opportunities for investigation that are infused with human interactions, peer learning and peer review. These interactions can increasingly empower diverse students to speak out as engaged members of their learning and research community." (Fung, 2017, p. 35)

Academic self-efficacy can determine students' motivation for learning and academic accomplishments through the belief in their own capabilities (Alt, 2015). Bandura (1986, as cited in Alt, 2015) identified four factors contributing to developing of a sense of self-efficacy: '*enactive mastery performance*', '*vicarious experiences*', '*verbal forms of persuasion*' and '*physiological and affective states*', with mastery experiences being

the most potent. Problem and project-based learning allows for self-efficacy to develop through experiences of mastery.

Key questions for designing problem and project-based activities or transforming existing educational activities into problem-based ones, are:

- What problem will the learners be challenged to solve?
- Does this problem matter to the learners? Or what problems do?
- How will the learning environment allow them to do so? (Do they have the resources needed? Who will support them with expertise? How will the learners collaborate with each other? Where will the learners be signposted to?)
- Is the problem-solving manageable in a timely manner (within the allocated timeframe) so that the learners can experience a sense of accomplishment? If not, could it be broken down into smaller, more manageable problems?
- How will the learners know that they have successfully solved the problem?

An example of a problem-based learning model was the Trowsdale Model of Art-Making for Education (TAME, Trowsdale & Davies, 2022) applied in the 'EcoArtists' Erasmus+ DIPLOMA activity. In following the TAME, a community of practice consisting of professionals, teachers, student ambassadors and young people gather around a real-world commission – a problem to solve, a product to create – and together they co-create, learn and practice their expertise. At the end of the project, they have created an artefact that is publicly displayed, discussed or implemented. In the particular exemplar activity of this handbook, the commission related to local needs of restoring ecosystems.

Conclusion

Concluding this chapter on the benefits to ambassadors of working in these roles and outlining the programmes and training requirements for student ambassadors, we note clear benefits for student ambassadors working in these roles, supporting them in both developing knowledge and skills relevant for university study and preparing them for future careers. There is a diverse landscape of preparatory and regulatory measures affecting the work and training of ambassadors across different countries, each tailored to the unique national educational and legal context.

In England, student ambassador programmes are well established and funded as a vital part of the mission for universities to ensure equitable access and success in Higher Education. There is an emphasis on safeguarding training and DBS checks reflecting a robust approach to ensuring the safety and well-being of school-aged students. This structured framework ensures that student ambassadors are prepared to engage effectively with young learners and equipped to recognize and respond to any welfare concerns.

Turkey's approach, leveraging community service practices and student clubs, demonstrates a flexibility for HEIs to engage with secondary education students in different ways. Though Turkey lacks a formal student ambassador program, the

process for approval and implementation of these activities still illustrates a commitment to extending the outreach of HEIs into the broader educational ecosystem.

Romania's focus on ensuring equity and inclusion for students from disadvantaged backgrounds through mentorship and ambassador programs highlights a growing awareness and response to social disparities within the HE sector.

The establishment of volunteer contracts and the incorporation of academic performance, extracurricular activities, and the principles of equal opportunities in the selection process for ambassadors demonstrates a growing commitment to embedding inclusivity in higher education outreach.

France again has a flexible approach to working with student ambassadors. While there is not a formal ambassador programme, ambassadors support the outreach work of individual institutions, particularly in providing information about their own university to prospective students and supporting younger students in their progression to university.

Since the role of student ambassadors is increasingly recognized as a critical component of HE outreach and inclusion strategies, further consideration of the training needs for ambassadors is vital. This handbook outlines an approach to developing contextualized ambassador training and provides examples of training materials for outreach activities that have been co-constructed by academics, ambassadors and other partner organisations, respecting the needs of students in different national and regional contexts.

Experiential learning, and specifically problem and project-based learning provide students with opportunities to experience mastery, increase their self-efficacy, relate to one another, establish a sense of belonging to a community of practice, and expand their possible selves. In outreach activities, this happens through the informal facilitation of the process by student ambassadors and pedagogically well-designed activities. Co-creating these activities with student ambassadors serves two purposes. On one hand, the process of co-planning allows student ambassadors to experience experiential learning, thus developing their own sense of self-efficacy and mastery as practitioners of informal learning pedagogies. On the other hand, co-creation assures that the activities offered are relevant to all stakeholders and of high-quality.

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Chapter 3. Co-created activities for student ambassador training

The main principle of student ambassador training is self-experiential practice with activities they will then offer to pupils at schools. Student ambassadors need to feel confident in these activities in terms of their subject knowledge as well as their pedagogical approach. Therefore, to increase the ownership and confidence (Bissoonauth-Bedford & Stace, 2017) of student ambassadors in implementing self-experiential learning activities with younger pupils, it is key that these activities are co-created with student ambassadors themselves. Co-creation represents a shared responsibility between university staff and lecturers, schoolteachers, student ambassadors, and ideally younger pupils and experts from other relevant organisations (such as careers advisers) as well. Each member of the learning community contributes with expertise related to their role as well as individual experience. Teachers have knowledge of the secondary school curricula, therefore can build career-focused activities into specific subject lessons. University lecturers contribute with subject area expertise as well as pedagogical content knowledge and support student ambassadors in constructing activities with real-life problem solving. Student ambassadors are a bridge between the pupils and their possible future selves in a specific career. Student ambassadors play an important role for school students as role models. Within their disciplines, they show a potential pathway to achieving a possible future self (Harrison, 2018). While this kind of role modelling happens also in terms of their role as a university student, and young people relate to student ambassadors in terms of their age, gender, race, ethnicity and other characteristics, the common interest they share presents a powerful connection because it has a direct link to the real world – it is the real world.

In the DIPLOMA Erasmus+ project, co-creation teams from four countries (Romania, France, Turkey, United Kingdom) shared experience and piloted co-creation of hands-on student ambassador training in their local contexts. Local teams worked in different ways; however, some commonalities were observed:

- Teams met several times to plan, develop, review and reflect on co-created activities – either in person or in hybrid / online spaces.
- Teams included lecturers, student ambassadors and to varying extent schoolteachers and other relevant experts too.
- Student ambassadors were empowered to design activities they felt passionate about and that they thought would be engaging for younger pupils. They were encouraged to plan real-world, experiential learning opportunities based on constructivist pedagogies.
- Student ambassadors used their international network to compare ideas and experience. In an international week-long workshop, they learned about the

contexts of studying in higher education in different countries and compared their ideas about working with young people in schools.

- Teams piloted co-created hands-on activities with pupils in local schools. Some student ambassadors led the activities, others supported teachers working collaboratively with pupils and talking to them informally about their career plans and possibilities.
- At the end, student ambassadors filled in a reflective questionnaire in order to gather their views on the impacts of being involved in the project.

During the planning, development and evaluation of experiential activities and according to (Pamungkas et al., 2019) learners can gain new experiences from what they have seen, heard, felt and done. Transforming the process itself into an experience allows learners to reflect on themselves, which in turn allows them to make improvements in what they do (Gartland, 2014, 2015, 2020; Halim 2020). This will encourage learners to be more active in the learning process. Empower younger learners with the opportunity to explore subject areas and possible future selves (Harrison, 2018; Gartland, 2014, 2015, 2020).

Overview of activities

All student ambassador training activities presented in this handbook are **self-experiential** activities that can be used in the training of student ambassadors as well as directly with groups of younger students. The activities are designed with enough detail to provide guidance and instruction; however, they allow further co-creation with ambassadors to be adapted for specific local contexts. They were co-developed and piloted by student ambassadors for other student ambassadors.

The aims of the activities therefore include two layers – direct impact on pupils in schools and impact on shaping the student ambassadors, further re-thinking their career aspirations, and supporting their self-esteem.

Based on research evidence around effectiveness of influencing young people's trajectories, decision making and possible selves in relation to future careers and higher education, the proposed activities focus on 11-14-year-olds. Younger students still have the opportunity to shape the selection of their courses that will help them in achieving their dream careers while taking into account the practical steps that need to happen in their education in order to pursue these dreams.

The activities were designed in order to engage whole classrooms, without selecting only students who have demonstrated an interest in the subject area, with the idea to open-up how young people think about themselves in a wide variety of possible roles. All activities are linked to their local contexts and/or regional needs and opportunities in the labour market, contributing to real-world learning and developing understanding of the relevance of higher education learning in local communities, while also being directly linked to global sustainable development goals.

Science, technology, engineering and mathematics (STEM) activities

Student ambassador training activities in the subject areas of STEM connect school curricula and careers in STEM through self-experiential hands-on interactive activities, experiments and discussions about real-world issues that STEM professionals can find solutions for.

The activity of **Power Up** was developed by the Royal Academy of Engineering, adapted and applied by student ambassadors in the UK. This activity aimed to improve school students' knowledge of sustainability, renewable energy and energy transfer. This activity included a series of three activities and took place with whole classes of school students. This activity was created based on the pedagogies of “Engineering Habits of Mind”, action learning and an inclusive approach. It shows young people how to think as an engineer, be creative and solution-focused. It shifts perceptions around STEM from technical to a more holistic and applied approach. In this activity, students in groups were asked to make hands-on activities such as creating a circuit to investigate energy transfers using different objects, marble runs and wind turbines. The activity draws from the regional needs and career opportunities in the East of England where renewable energy and agri-tech related careers are becoming increasingly important. This activity was associated with SDG 7 (Affordable and clean energy) as well as SDG 11 (Make cities and human settlements inclusive, safe, resilient and sustainable) and SDG 13 (Climate action).






The activities of **Biomimicry** were developed by French student ambassadors. The activity of Biomimicry was associated with the profession of a biomimicry engineer. It is aimed to improve students' knowledge of nature and their creative and collaborative skills. The activity of Biomimicry had a series of two activities and would be completed in two lessons. The activity of Biomimicry was associated with the goals of industry, innovation and infrastructure (SDG 9) and responsible consumption and production (SDG12).



The activity of **Welcome Future** was developed by Romanian student ambassadors. This activity too is aimed to improve school students' engagement and outcomes in STEM subjects, and its target group was 11–14-year-old students. This activity included a series of three activities and occurred in whole class and small group work. This activity was created based on the pedagogies of “action learning” and “learning through wonder”. In this activity, students were asked how they would make their own meals after a meteor hit the Earth, to think about waste management and design micro flats. This activity was completed in 3 hours. It is associated with SDG 2 (No hunger), SDG 3 (Good health and well-being), SDG 9 (Industry, innovation and infrastructure).

Trim Trim Trigonometry is an activity developed by Turkish student ambassadors aimed to help students to overcome their shyness and fear of mathematics. This activity included a series of seven activities and was created based on Kolb's Experiential Learning Theory. In this activity, students in small groups were asked to create concrete geometric shapes and explain properties of the shape which they

created. This activity was completed in a 6-lesson period and occurred in whole class and small group. The roles of teachers and student ambassadors were explicitly stated. This activity is linked to several SDGs in terms of students' learning experience and future career opportunities. In the short term, they might have opportunities to overcome their mathematics anxiety (SDG 3 Wellbeing) and receive inclusive and equitable Quality education (SGD 4). In the long term, they might choose careers related to Industry, innovation and infrastructure (SDG 9) and contribute to the goal of Sustainable cities and communities (SDG 11).

Table 1. Review of STEM activities

| Activity Title (Country) | What is this activity about? | What real-world problem do students address? | Related HE Courses and Careers | SDGs |
|--------------------------|---|---|--------------------------------|--|
| Power Up! (UK) | Students create an electrical circuit, energy machine / marble run and a wind turbine. | How could we make electricity accessible to all and keep the environment clean? | Agri-tech, Windfarms managers |  |
| Biomimicry (FR) | Students design an industrial object using mimicry. | How can we blend human-made objects into the environment? | Designer |   |
| Welcome Future (RO) | Apocalyptic Meals Students talk about what we could grow and what food we could produce in an apocalyptic world. | How can we survive in a world without sunshine? | Nutritionist |  |
| | Micro Flats Students design apartments for small-space living. | How can we provide housing for people in cramped cities? | Architect |  |

| | | | | |
|-----------------------------|---|--|---------------|---|
| | Should we go super? Students talk about superpowers that could be achieved with science. | How can superpowers help us and how can we achieve them? | IT specialist |  |
| Trim Trim Trigonometry (TR) | Students play games with geometrical shapes and recognise where shapes are used in their environment. | How can we design houses using geometrical shapes? | Architect |  |

Arts activities

Art-making and art as a field of study faces specific challenges. Arts have been marginalised in the school curriculum, side-lining the skills of creativity and students who might desire to pursue them. Marginalisation of arts-based knowledges in the state curricula perpetuates inequality in education for those whose strengths lie in the arts rather than maths and literacy. Moreover, access to arts education becomes a privilege of the elite, further disadvantaging those already disadvantaged.

Therefore, embedded arts and creativity into other subject areas becomes crucial in achieving SDG 4 of Quality Education for all and tackling inequalities in education. In addition, with the increasing pressure on learning outcomes directly linked with employability, integrating arts-based skills and thinking with applied areas of science, increases the job prospects of art graduates.

‘Exhibit Your Photographs’ activity is a year-long project that engages students in the process of art making typical for the industry. This activity focuses on SDG 4 (Ensure inclusive and equitable quality education and promote lifelong learning opportunities for all) and SDG 15 (Protect, restore and promote sustainable use of terrestrial ecosystems, sustainably manage forests, halt and reverse land degradation and halt biodiversity loss). Students learn about photographers and styles of photography, then they go take pictures, label their photographs and put up an exhibition of printed pictures. The activity is a good example of real-world learning as a pedagogical approach applied across this Handbook. Young people are encouraged to have an impact on influencing the public with their artwork. In addition, they learn about the profession of a photographer and what it entails in practical terms. They learn by doing and from doing, which are the principles of constructivist learning theories.

'Addicted to Fashion' responds to the interest of young people to express themselves through what they wear and at the same time to raise awareness of tackling poverty and contributing to a more sustainable lifestyle. Through making new from old, the activity encourages young students to think about environmental issues and sustainable living, linking to SDG 12 Responsible consumption and production, and applies arts-based skills in doing so. In addition, the activity innovatively implements social influencers as a method of learning and impacting wider communities. Students' and ambassadors' group work thus transfers beyond the classroom.






Student ambassadors studying art do not only represent university students. They are artists – they represent the profession in the real world. This approach of student ambassadors being the representatives of a real-world interdisciplinary profession is explicit in the **'Becoming EcoArt-Makers'** activity, connecting arts and environmentalism into a STEAM-related activity. Young people and student ambassadors work together on a commission responding to an ecological issue. They create a visual piece of art publicly displayed, having an immediate impact on the community. The project was designed in Suffolk, UK with local initiatives working towards increasing biodiversity, therefore making it relevant to the local context. Pedagogically, arts education naturally tends to be self-experiential, exploratory and experimental. The EcoArt-Makers activity implements the TAME model with a commission (product) being a central result of a community of artists and ecologists with varying levels of expertise (young people, teachers and student ambassadors) working together on a piece of work that will transform the wider community. The project is spread across five 2-hour sessions, assuring continuity and building of relationships within the community. It is staged and each session includes games, exploration and reflection.

The EcoArt-Makers project could be preceded by the 'Exhibit Your Photographs' activity, in which students are invited to take pictures of the landscape and share their concerns or positive aspects about their surrounding environments. The photography session can serve as a preparation for the eco-artists or can then accompany the exhibition of the commission.

Similar ideas of a continuous process of a community working on a production together constitute the **'Animated Book'** activity, where students take on roles as script writers, actors, performers, costume makers and work together as a team on delivering a production. The activity applies Kolb's experiential learning model and provides ambassadors and students opportunities to work together through concrete experience, reflective observation, abstract conceptualization and active experimentation. The advantage of this activity is that it offers a lot of freedom for the students and ambassadors to choose the topic of their interest that is relevant locally and globally. They could even work alongside the 'EcoArt-Makers' on a similar topic delivering it in different ways, making an impact on their community. Engaging outside stakeholders in the selection of the book, or choosing a local writer might be an opportunity to connect with the everyday needs of the public. Each student can engage

in a role that suits their strengths. This activity thus provides opportunities for disadvantaged students to find their firm place in the community.

Table 2. Review of ARTS activities

| Activity Title (Country) | What is this activity about? | What real-world problem do students address? | Related HE Courses and Careers | SDGs |
|-------------------------------|--|---|---|--|
| Exhibit Your Photographs (FR) | Learning about photography styles, experimenting with photography, exhibiting photos | How can photography contribute to solving climate crisis and raise awareness about the environment? | Photographer, Artist, Journalist |   |
| Addicted to Fashion (RO) | Making something new from old, valuing quality, upcycling vintage clothes and discussing how that fits into individual styles. | How can we reduce pollution by re-using and upcycling clothes and other products. | Make-up artist, Illustrator and Technical Illustrator, Cake Decorator, Fashion Designer, Graphic Designer |  |
| Becoming EcoArt-Makers (UK) | The community designs an arts commission that responds to environmental issues. | How can we raise awareness of ecological issues in our region and come-up with creative solutions? | Artists, Engineers |  |
| Animated Book (TR) | Students write a script, create and perform a play based on a book. | How can we raise awareness about issues that matter to us? | Script Writers, Actors, Performers, Costume Makers, Scenographers |  |

These arts-based activities co-created with student ambassadors and piloted with young people highlight that big world issues matter to the students, and that in their careers they want to be contributing to the society. Thus, school-based activities and building of employability skills necessarily needs to be connected to meaningful, impactful areas of significance for students locally and the world globally.

Social sciences and humanities Activities

As seen in the Research Reports presented in the Erasmus+ DIPLOMA project, closing the achievement gap between over and underrepresented students, as mentioned by Bensimon (2005) is “one of the most urgent and intractable problems in higher education”. Social Sciences and Humanities have the opportunity to open up possible selves and potential future careers for young people, tackling social injustice pertaining primary and secondary levels of education.

The activities carried out by the universities demonstrate as proposed by Morris (2020) that the fascinating thing about learning is that it cannot occur without experience. In this respect Dewey (1963) emphasises that experience is central and necessary in the learning process, where “knowledge is created through the transformation of experience” (Kolb, 2015, p. 49). Furthermore, learning involves risk, and experiential learning incorporates new and challenging experiences. Student ambassadors must respond and accept the challenge and participate spontaneously in a new and novel learning place or space that involves unpredictability and experimentation (Davidson, Ewert, & Chang, 2016; Fűz, 2018; Karoff, Tucker, Álvarez, & Kovacs, 2017; Whittington, Garst, Gagnon, & Baughman, 2017).

The activities in this section focus on exploring careers related to social sciences and humanities, encouraging young people to study these areas. Rather than being seen as ‘school subjects’, social sciences and humanities represented in these activities take on applied nature, directly linking to solving global and local issues that matter to young people and where they can make a difference immediately or in the long run. Student ambassadors represent role models that create the much-needed bridge between the area of study or a school subject and its real-world application in a valid career. With these principles in mind, the **‘Vision of a Perfect School’** activity let’s students and student ambassadors think together about social justice and equality in education, children’s rights to education and more generally. It encourages young people to apply blue-sky thinking about positive educational experience and to connect it with evidence-based thinking in creating policies for education. Students can envisage to approach this activity from the perspective of future educators, lawyers, policy-makers, or even historians.

While this activity promoted positive thinking, the following activity brings in the reality of difficulties that the society faces when hit by various global crises, such as the Covid-19 pandemic or natural disasters. **‘Get Ready for the Next Crisis’** encourages solution-focused conversations about learning from the past and preparing a plan for the next potential crises in the future. It is an interdisciplinary activity, looking at the




contribution of different professions to the conversation, such as psychologists for mental health support, economists for developments on the market, or lawyers resolving unprecedented disputes.

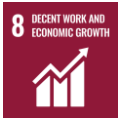




‘The World of People who Think in Numbers’ encourages young people to consider careers in business, economics and marketing. It supports entrepreneurial ambitions and raises awareness about skills needed. The series of activities leads students through an understanding of activities, skills, background studies that are involved in a profession. It is then followed up by a discussion around circular economy and planning entrepreneurial team activities, connecting economy-related professions with ideas of sustainability, opening possible career options for students interested in this area.

‘Junior Chefs’ allow young people to step into the lives of cooks, chefs, caterers who make sure people are fed well, eat healthy, provide good looking and affordable food for communities. Similarly to the previous activity, students’ entrepreneurial thinking is encouraged alongside increasing their awareness of skills needed to become a qualified chef and culinary expert.

Thematically different is the **‘Suffragettes – Rights Activists or criminals?’** activity demonstrating the current application of the expertise of historians. The activity was created in relation to local history and a local history trail curated by the archives in the region. It shows how history-related knowledge contributes to shedding light on current debates about rights and various approaches of activism.

Table 3. Review of social sciences and humanities activities

| Activity Title (Country) | What is this activity about? | What real-world problem do students address? | Related HE Courses and Careers | SDGs |
|------------------------------------|---|---|---|--|
| Vision of a Perfect School (FR) | Students brainstorm ideas about what makes a perfect school and why. They compare European education systems. | How can we make our schools provide high quality education for all? | Policy Maker, Teacher, Historian, Lawyer, Rights Activist |   |
| Get Ready for the Next Crisis (RO) | Students discuss crises that occurred throughout history and talk about success stories of | How can we manage crises effectively? | Psychologist, Economist, Sociologist, Lawyer |  |

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| | famous survivors. | | | |
| The world of people who think in numbers and percentages (RO) | Students are introduced to several brainstorming and planning techniques and they learn about the circular economy model. | How can businesses contribute to developing a more sustainable world through circular economy? | Accountant, Auditor, Bank Worker, Economist, Business Analyst, Manager, Marketing Specialist |   |
| Junior Chefs (TR) | Students are involved in observing chefs, preparing food and catering baskets. | How can we make sure people eat healthy and tasty meals? | Chef, Caterer, Dietician |  |
| Suffragettes – Rights Activists or criminals? (UK) | Student develop their debate and presentation skills while discussing various feminist movements. They also visit a local historical trail. | How can we achieve equality in society for women and other marginalised groups? | Historian, Museum Curator, Writer, Teacher |   |

Social Sciences and Humanities provide a wide range of career options. The main focus of the activities is to raise awareness and open conversations about these opportunities. As research evidence points out, the most effective activities contain self-experiential applied activities that focus on real problem-solving rather than generic development of skills for these professions.

Health activities

Health-based professions can be considered to be in a grey area when it comes to their perceived desirability – on the one hand, there is the status and salary that comes with being a medical doctor, but on the other hand, there are the long hours spent studying, the relative inaccessibility of higher education for those who come from disadvantaged backgrounds due to higher tuition fees, lack of resources or lack of

guidance towards health domains other than medicine. Still, it is vital to have people studying, working, and researching in this field for the betterment of society, and that is where student ambassadors come in, to serve as relatable role models, offering guidance, mentorship, and encouragement to navigate the academic journey and break down barriers to entry into these professions, ultimately fostering greater diversity and inclusivity within the healthcare workforce. In addition to medical doctors, there is a wide range of other health-related professions that might be less known to young people. For this purpose, we developed the below-mentioned activities for implementation.

The "**Healthy Movement, Healthy Living**" activity aims to instill the importance of a healthy lifestyle in children, promote physical activity, and encourage healthy eating habits. Students conduct research, prepare presentations, participate in physical activities, and acquire knowledge about healthy eating. Through this activity, students develop awareness of a healthy lifestyle, strengthen leadership and teamwork skills, and adopt healthy living habits. This can represent a great first step for students to become interested in health in general, and in professions such as physical therapist or nutritionist in particular. This is an especially important activity for students coming from lower socio-economic backgrounds with limited support of healthy lifestyles in their home environments.




"Healthcare Inside and Outside the Hospital" makes use of the Jay Perez story activity and focuses on three points in a patient's life – straight after an accident, during the hospital stay, and after the hospital stay. Students participate in a hands-on activity that is based on a real-world problem that can be examined and addressed by STEM subjects, then they are engaged in a discussion about their future options in the field and their own interests. Providing students with knowledge of possible jobs within health allows them to explore their own opportunities among them and gives them an idea of what it is like to work in a health-care-related environment.


The aim of the **"Join A League of Elite People – Feel the Pride"** activity is to highlight the role of health professionals in society, the risks and responsibilities to be taken, and the benefits offered by careers in the medical field. The first part is a discussion about the benefits of the health professions: personal satisfaction, community support, social and financial success, followed by stories about interesting personal experiences of medical students and a Q&A. Lastly, a brainstorming session is initiated by the student ambassadors together with the biology teacher and the school students to gather ideas on everyday emergency situations where a doctor was needed: car accidents, drug overdose, drowning, etc., so the students are aware of when their help will be needed if they follow this career.

"Become Your Best Version", similar to the previous activity, focuses on lived experience of people – famous doctors who made a change in the world, school medical staff, medical students – in order to attract students towards the field. The discussions are followed by a focus group on the special and indestructible connection between the doctor and the nurse towards the ultimate goal of healing or improving the

patient's condition, so students will be aware of the importance of all professions in the medical field.

Table 4. Review of health activities

| Activity Title (Country) | What is this activity about? | What real-world problem do students address? | Related Courses and HE Careers | SDGs |
|---|--|--|---|---|
| Healthy Movement, Healthy Living (TR) | Students research and make presentations about movement, healthy eating and sleep. They engage in a variety of sports and movement activities. | How can we live healthy lives? | Physiotherapist, Nutritionist, Sports Teacher, Sleep Specialist |  |
| Healthcare Inside and Outside the Hospital (UK) | Students are led through the process of helping a person who has been an accident casualty before, during and after emergency and hospital care. | How can we best support people when an accident happens? | Accident and Emergency Doctor, Paramedic, Nurse, Radiographer, Occupational Therapist, Counsellor, Physiotherapist, Surgeon |  |
| Join A League of Elite People – Feel the Pride (RO) | Students discuss the benefits of being a medical professional. Student ambassadors share their stories. Students discuss situations when doctors are needed. | Why does the world need more doctors? | Medical Doctor |  |

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| <p>Become Your Best Version (FR)</p> | <p>Students discuss how doctors can change people's lives and share stories of famous doctors. Strong collaboration between doctors and nurses is emphasised.</p> | <p>How do doctors and nurses change people's lives?</p> | <p>Medical Doctor, Nurse</p> |  |
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Chapter 4. STEM activities

Power up!

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|------------------|--|-----------------|--|
| Country | United Kingdom | Duration | Three 1-hour sessions, two weeks apart |
| Age group | 12-14 years | Careers | Agri-tech, wind farms |
| Summary | <p>Energy transfer with links to Electricity and Sustainability and related careers.</p> <p>The activity focuses on energy transfer, aligned with the English national curriculum, and has been planned in close collaboration with a local secondary school. Sustainability and renewable energy are focus of the activities. Locating the activities within these important topics provides young students with ways to think about ‘the big problems’ around energy such as inequality in access to electricity around the world. Sustainability and renewable energy are important in the local area in providing potential career opportunities for local students (e.g., agri-tech and wind farms located off the East Coast).</p> | | |

Aims of the activity

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| <p style="text-align: center;">For Student Ambassadors</p> <p>This activity serves as a self-experiential activity in training of student ambassadors. They can then also deliver it in schools. The university and the student ambassadors will co-design the exact delivery of the activity with the school. The aims of the activity in the training of student ambassadors are:</p> <ul style="list-style-type: none"> • To empower student ambassadors as co-facilitators of sessions, role models and professionals representing the discipline in practice and at the university. • To allow student ambassadors to gain skills through self-experience. • To build valuable work experiences for and contributing to student ambassadors’ employability skills. | <p style="text-align: center;">For Young People in Schools</p> <p>The intended outcomes of the activities in the school and impact of young people in schools are:</p> <ul style="list-style-type: none"> • An increase in Year 8/9 students’ knowledge and understanding of STEM subject areas using inclusive pedagogies that build Engineering Habits of Mind habits. • A better understanding of the need for renewable energy and sustainability and awareness about the equity issues around energy and its impact (an example fact to think on and discuss: 940 million people around the world have no reliable access to electricity*!). This links with the national curriculum and UN Sustainable Development Goals which are globally relevant. • An increase in students’ awareness and understanding of STEM career |
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| | <p>progression routes through self-experiential problem-based learning and relating to student ambassadors as role models.</p> <p>The sessions aim to raise students' motivation, engagement, and attainment in STEM subjects, increase self-concept and self-efficacy, and support GCSE subject choices and develop Year 8/9 students' interest in enrolling on STEM courses at university in longer term.</p> |
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Outline of the activity

The outreach activity involves two main exercises:

- Student ambassadors' visit a local secondary school and work with a whole class (ideally an entire year group) on a hands-on activity that is based on a real-world problem that can be examined and addressed by STEM subjects.
- Student ambassadors link the activity with careers and share their own experiences and knowledge with school students to help to inform GCSE (General Certificate of Secondary Education, an academic qualification) options.

Power Up! has been developed by the Royal Academy of Engineering (a national UK charity) and looks at different types of energy, energy in engineering, the importance of electricity and how it is generated. It investigates different types of renewable energy sources through a number of hands-on practical activities. As part of the collaboration and working with the regional arm of the Royal Academy of Engineering, resource training has been delivered by the regional teacher coordinator from the Royal Academy of Engineering.

Preparation and training for the activity and sessions aimed to co-create and prepare relevant, high quality hands-on STEM activities, relevant for the students in the school where activities were taking place. Student ambassadors worked collaboratively with academics, the charity regional teacher coordinator, and schoolteachers in STEM subject areas.

Content of the Student Ambassador Resource Training and Co-development of the activities:

- Greetings and introductions of each collaborator (researchers, student ambassadors, teachers and the teacher coordinator).
- A quick introduction of what literature and effective practices say about the best outreach practices, highlighting the importance of:
- Collaboration between schools and higher education institutions: the need for ambassadors to understand school context, school students and inclusive STEM pedagogies
- Experiential and active learning activities

- Longer term engagement (not one-off activities)
- The need to work with younger students especially in STEM for widening participation
- Ambassadors work along with younger students positioned as peer to peer and not as teachers and students
- Careers and real-world contexts are embedded in activities
- Training and guidance
- Resource training on *Power Up!* by the regional teacher coordinator from the RAEng
- Introducing Engineering Habits Of Mind (See section on Pedagogy below)
- Showcasing of two videos
 - What is Engineering? (Video link: <https://www.youtube.com/watch?v=bipTWWHya8A>)
 - Help the environment - This is Engineering (Video link: <https://www.youtube.com/watch?v=8xIJN6SmGXo>)
- Hands on activity which puts all the collaborators into the position of school students. This aims to support ambassadors and teachers in better understanding the experiences of students, and to plan the activity accordingly and support students better during activities.
- Discussions and considerations on
- Working in groups in whole class setting
- Links to the curriculum
- Links to careers
- Inclusive pedagogies

Follow up session by the researchers with the student ambassadors prior the actual activities, focussing on:

- Group work strategies
- Questioning techniques (e.g., inquiry questions- encouraging school students think about an observation/problem rather than answering the questions straightaway)
- Examples of engineering careers
- Suggestions for changing the perception of engineering
- Being able to point student ambassadors' own experience while interacting with school students
- Resources that ambassadors can sign post younger students to if they want to find out more about subject choices and careers

Main activities in each session to be used as self-experience in student ambassador training and in schools with young people:

Please see *Teacher* and *Student Guide* for the details of the activities: [https://stemresources.raeng.org.uk/resources/enrich-\(1\)/after-school-club-resources/powerup/](https://stemresources.raeng.org.uk/resources/enrich-(1)/after-school-club-resources/powerup/)

Each hand-on activity has been completed in groups of students (around 5 students each) and student ambassadors are expected to visit the groups, asking school students questions about their ways of working within the activity as well as their future education and career plans. Student ambassadors are also expected to answer students' questions about their own progression and access to university and their experiences at university.

Teachers are responsible for the flow of the session and classroom management and are expected to visit the groups and have interactions with the students using inclusive pedagogies.

Session 1 (1 hour):

- Selection of videos on engineering and engineering careers
- Recap on the topics of energy sources and energy transfers
- hands on activities to understand and identify different energy storages and energy transfers: **Create a circuit** to investigate energy transfers using different objects.
- links to the careers and Engineering Habits of Minds

Session 2 (1 hour):

- Build your own Rube Goldberg Energy machine
- Build a **Marble run**

Session 3 (1 hour):

- Build a mini **Wind Turbine** using recycled materials
- EHOM Quiz

Wrap up and reflect on- what they have learnt and developed.

People, places, careers and curricula

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| Collaboration | <p>STEM teachers work closely with student ambassadors, university academics, and a regional teacher coordinator to develop hands-on STEM activities for the entire year group. The school runs the activities after co-creation and co-development with the collaborators. All staff and school students are informed about the collaboration with the university. During the activity, student ambassadors are present in the classroom as older peers. They participate in the activities, alongside school students and engage school students in conversation about the activities and about school students' own interests and plans. Teachers are responsible for the classroom management and flow of the session.</p> <p>There have been several planning meetings liaising with</p> |
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| | <ul style="list-style-type: none"> • A local secondary school • Student Ambassadors • HEAT and Neaco • Sustainability Institute, University of Suffolk • A regional STEM teacher coordinator from Royal Academy of Engineering (RAEng) <p>Following the discussion with all the collaborators, a resource training was planned and then delivered by the regional teacher coordinator (RAEng) at the local school with the participation of student ambassadors and researchers from the university, and several teachers from the school. Student ambassadors, along with teachers, interact with school students through hands-on STEM activities and stimulating engineering contexts to support the development of enquiring minds, teamwork, reasoning skills, and career awareness through practical STEM application.</p> |
| <p>Pedagogy</p> | <p>This activity has Engineering Habits of Mind (EHOM) built in. Please see the student and teacher guide for more information. Engineering habits of teachers and students can be measured with the EHOM quiz link provided:</p> <p>https://stemresources.raeng.org.uk/stem-at-home/engineering-habits-quiz/</p> <p>The quiz is an effective way to show Engineering habits are diverse and not fixed and can be developed further.</p> <p>The activity is naturally an active experiential learning activity which can be adapted to a problem-based learning activity or a project-based learning where there are pedagogical elements of students' autonomy and agency with constructive explorations, collaboration and communication with team members within real-world contexts.</p> <p>An inclusive approach that embraces diverse social identities and positionalities is essential throughout the activities to create 'it is for me' attitudes and aspirations for students. This can be performed by welcoming various examples, ideas and questions from students. Example career case studies should also represent underrepresented and underserved groups in STEM area (e.g., female and some ethnic groups).</p> |
| <p>IAG</p> | <p><u>Student ambassadors</u> (around 3 to 4) are present in the classroom and share their areas of study and their route to the university.</p> <p><u>Career case studies</u> from a variety of backgrounds are available to share with the students with links to real-world contexts. Some examples are below with their short description and video links.</p> |

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| | <ul style="list-style-type: none"> • Electronics engineer: Glenn Ward, Senior Design Engineer, Cadac, Glenn designs, writes software, and tests mixing desks at Cadac for shows like The Lion King and The Rolling Stones' tours, Link to the video (3.29mins): https://www.stem.org.uk/resources/elibrary/resource/424776/electronics-engineer • Solar Energy Researcher: This eight-minute film from the Institute of Physics follows a PhD student's research into photovoltaic cells and her academic conference trip in Hawaii. It emphasizes collaboration and communication in a scientist's work and showcases efforts to increase the efficiency of photovoltaic cells for generating renewable energy, particularly in developing nations without a power grid. The video is part of a series showcasing physics' opportunities and applications., Link to the video (8.20 mins): https://www.stem.org.uk/resources/elibrary/resource/28108/career-clips-solar-energy-researcher • Design engineer: Lee, a Senior Design Engineer, strives to maximize buildings' energy efficiency and environmental sustainability. Starting as an apprentice at NG Bailey, he applied and learned engineering skills on the job. He is now in his final year of studying for a degree in building services engineering. Link to the video (2.23mins): https://www.stem.org.uk/resources/elibrary/resource/424781/design-engineer-building-services • More on Electrical Careers Case Studies: https://www.electricalcareers.co.uk/case-studies/ • STEM in Action Research Talks by Dr Eisner Link to the video (24mins): first 3mins 'my science journey'- (e.g., selection of GCSE subjects): https://www.youtube.com/watch?v=ls7ZRwAjM0s | | |
| <p>Gatsby Benchmarks</p> | <p>The “Baker Clause” was introduced in 2017 in an attempt to ensure schools provide students with access to information from training providers and colleges. Since 2020 the government has required schools to work towards all of the eight Gatsby benchmarks (https://www.goodcareerguidance.org.uk/case-study/a-stable-careers-programme).</p> <p>This activity meets the Gatsby benchmarks in these particular ways:</p> <table border="1"> <tr> <td>A stable career programme</td> <td>The Neaco team work closely with schools on co-developing careers programmes for all students that are directly connected to</td> </tr> </table> | A stable career programme | The Neaco team work closely with schools on co-developing careers programmes for all students that are directly connected to |
| A stable career programme | The Neaco team work closely with schools on co-developing careers programmes for all students that are directly connected to | | |

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| | | the school curricula and university programmes |
| | Learning from career and labour market information | Using career case studies mentioned in the IAG section above |
| | Addressing the needs of each pupil | Having student ambassadors as co-facilitators of the session allows an individualised approach to meeting all students' needs. |
| | Linking curriculum learning to careers | Mentioned in Links to Curricula section |
| | Encounters with employers and employees | Working alongside the student ambassadors as representatives and role models from the field |
| | Experiences of workplaces | The project-based learning pedagogy means that the activity has got a real-life meaning |
| | Encounters with further and higher education | The activity is co-created by schools, university lecturers and student ambassadors. |
| | Personal guidance | Individual conversations happen informally during the sessions and can be followed up. |
| Local Context | <p>Advice for subject selection for different careers: What GCSEs should I take to become a... https://www.bbc.co.uk/bitesize/articles/zmskpg8</p> <p>Links to energy related careers: Charlotte Wilkes, Energy Revolutionary and Apprentice Mechanical Engineer at UKAEA. https://www.thisisengineering.org.uk/meet-the-engineers/charlotte/</p> <p>To see more career cases, please visit the page Meet the engineers by This is Engineering: https://www.thisisengineering.org.uk/meet-the-engineers/</p> | |
| Links to Curricula | <p>This STEM resource looks at different types of energy, energy in engineering, the importance of electricity and how this is generated. It investigates different types of renewable energy through a number of hands-on and practical activities.</p> | |

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| | <p>Science: Energy stores and transfers. Generating electricity. Maths: Problem solving using percentages. Area and perimeter. Design technology: Identify, solve and reformulate given design problems.</p> |
| Possible Adaptations | <p>This activity ideally can be completed during a lesson time with a whole class.</p> <p>Alternatively, this can be adapted for STEM clubs for some groups with lunchtime and after-school options.</p> |

Resources and references

- Link for *Power up!* Resource: [https://stemresources.raeng.org.uk/resources/enrich-\(1\)/after-school-club-resources/powerup/](https://stemresources.raeng.org.uk/resources/enrich-(1)/after-school-club-resources/powerup/)
- Video guide: Power Up! - Royal Academy of Engineering - YouTube
- Student Guide: <https://stemresources.raeng.org.uk/NetC.RAE/media/Resources/After%20School%20Club%20Resources/PowerUp-Student-Guide.pdf>
- Teacher Guide: <https://stemresources.raeng.org.uk/NetC.RAE/media/Resources/After%20School%20Club%20Resources/PowerUp-TeacherGuide.pdf>
- Resource link for *Power Up!*: [https://stemresources.raeng.org.uk/resources/enrich-\(1\)/after-school-club-resources/powerup/](https://stemresources.raeng.org.uk/resources/enrich-(1)/after-school-club-resources/powerup/)

Career case studies:

- Senior Design Engineer, Cadac <https://www.stem.org.uk/resources/elibrary/resource/424776/electronics-engineer>
- Solar Energy Researcher: <https://www.stem.org.uk/resources/elibrary/resource/28108/career-clips-solar-energy-researcher>
- Senior Design Engineer <https://www.stem.org.uk/resources/elibrary/resource/424781/design-engineer-building-services>
- Electrical Careers Case Studies: <https://www.electricalcareers.co.uk/case-studies/>
- STEM in Action Research Talks - Dr Eisner - YouTube video: 24mins, first 3mins 'my science journey' (e.g., selection of GCSE subjects): <https://www.youtube.com/watch?v=ls7ZRwAjM0s>
- Advice for subject selection for different careers: <https://www.bbc.co.uk/bitesize/articles/zmskpg8>

Biomimicry

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|------------------|---|-----------------|--|
| Country | France | Duration | Three 1-hour sessions, two weeks apart |
| Age group | 11-14 years | Careers | Designer |
| Summary | <p>This scientific activity is related to the profession of biomimicry engineer. This activity is an autonomous learning experience, in which student ambassadors explore a life and earth science-based activity that they will then implement in local schools.</p> <p>This activity introduces the biomimicry approach, as an empathetic practice to interpret how life on the planet works and what is the place of the human being. Its primary objective is to create products, processes and systems that help to solve contemporary problems in harmony with nature and in a sustainable way, in accordance with the goal of sustainable development to ensure sustainable consumption and production patterns.</p> <p>This activity includes three main phases:</p> <ul style="list-style-type: none"> • In order to stimulate the students' interest, a brief presentation of the history of biomimicry is started, discussing the importance of the role of the biomimicry approach for humanity. • University student ambassadors ask the group about their knowledge of what biomimicry is through the application of a quiz. • The student ambassador presents the work that will follow: the design of a technical object using biomimicry. For this, students are in groups of 3-4. They choose the working groups. Once the groups are formed, they distribute the accompanying document. | | |

Aims of the activity

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| <p style="text-align: center;">For Student Ambassadors</p> <p>Through the interaction of student ambassadors preparing to join the French education system and students from different basic education institutions. The aims in the training course are as follows:</p> <ul style="list-style-type: none"> • To engage student ambassadors as co-facilitators of the sessions, sharing their university experiences as practical examples of professions that | <p style="text-align: center;">For Young People in Schools</p> <p>The expected outcomes of the activities in the school and their impact include:</p> <ul style="list-style-type: none"> • To realise that engineering is based on nature. • To increase students' knowledge and understanding of STEM using inclusive pedagogies in order to improve the quality of education. • To develop a better understanding of the need to <i>"ensure sustainable</i> |
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| <p>represent the discipline in practice.</p> <ul style="list-style-type: none"> • To stimulate creativity. • To initiate the study of nature. • To develop competencies for understanding the sustainable development goals (SDGs) mainly focused on ensuring sustainable consumption and production patterns. • To develop valuable work experience for the student ambassadors and contribute to their future employability (confidence, self-esteem, motivation, collaborative work). | <p><i>consumption and production patterns" SDG 12.</i></p> <ul style="list-style-type: none"> • To create links with the national curriculum and the UN Sustainable Development Goals (SDG), which are relevant on a global scale. • To improve students' awareness and understanding of ways of access and career progression in STEM. Based on the experiences and academic exchanges carried out with the student ambassadors as role models. <p>The sessions aim to increase students' motivation, engagement and achievement in sciences education subjects. Enhancing self-confidence and academic autonomy, developing interest in enrolling in higher STEM studies in the long term.</p> |
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Outline of the activity

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| <p>According to the French Ministry of Education, Youth, Sport and the Olympic and Paralympic Games - Dgescola, the challenges of environment and sustainable development are at the heart of teaching from the first to the last year. STEM training aims to support the teaching of education for sustainable development and ecological transition by providing thematic reflections and specific resources for teachers and eco-delegates.</p> <p><u>Content of the resource training of university student ambassadors and co-development of activities:</u></p> <ul style="list-style-type: none"> • Greetings and introductions of each collaborator (researchers, student ambassadors, teachers and the teacher coordinator). • A quick introduction of what literature and effective practices say about the best outreach practices, highlighting the importance of: • Collaboration between schools and higher education institutions: <ul style="list-style-type: none"> • the need for ambassadors to understand school context, school students and inclusive STEM pedagogies. • Experiential, project-based and active learning activities. • Longer term engagement (not one-off activities). • The need to work with younger students especially in STEM for widening participation. • University student ambassadors work along with younger students positioned as peer to peer and not as teachers and students. |
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- Careers and real-world contexts are embedded in activities.
- Training and guidance.
- Resource training on **Biomimicry (Biomimétisme)** by the STEM teacher coordinator from the secondary school.
- Training and guidance.
- Introduction to history of biomimicry.
- Analysis of different related websites
- [What is Biomimicry?](#)
- [Mimétisme et biomimétisme. Quiz.](#)
- [Éducation au développement durable.](#)
- Hands on activity which puts all the collaborators into the position of school students. This aims to support ambassadors and teachers in better understanding the experiences of students, and to plan the activity accordingly and support students better during activities. Discussions and considerations on:
 - Working in groups in the whole class setting.
 - Links to the curriculum.
 - Links to careers.
 - Inclusive pedagogies.

Follow up session by the researchers with the student ambassadors prior the actual activities, focussing on:

- Group work strategies.
- Questioning techniques (e.g., inquiry questions- encouraging school students to think about an observation/problem rather than answering the questions straightaway).
- Examples of STEM careers.
- Suggestions for changing the perception of STEM.
- Being able to point out student ambassadors' own experience while interacting with school students.
- Resources that ambassadors can sign post younger students to if they want to find out more about subject choices and careers.

Main activities in each session:

In each practical activity, student ambassadors are expected to question the school students about their approach to the activity, as well as their expectations and future career plans. Student ambassadors are expected to answer students' questions about their own progression and access to university and their experiences at university level.

Teachers are responsible for the flow of the session and classroom management and are expected to visit the groups and have interactions with the students using inclusive pedagogies.

Session 1 (1 hour):

- To begin, students must discover or rediscover what biomimicry is. University student ambassadors present a [video on biomimicry](#) and its relation to contemporary challenges. Debate on the following topic: the profession of biomimicry engineer (past, present and long-term challenges).
- Then the group carries out the [mimétisme et biomimétisme. Quiz](#). The objective is to arouse students' interest in the subject.
- The student ambassadors present the work that will follow: the design of a technical object using biomimicry. For this, students are in groups of 3-4. They choose the working groups.

Session 2 (1 hour):

- Conception: the school students need to research a useful animal or plant feature to work. For this, they can use computers, books and magazines. Students must work together to come up with an idea. This may take different amounts of time for different students. They produce a drawing of their technical object with biomimicry on the poster and detail materials, colours and textures.

Session 3 (1 hour):

- Design of the model: the student ambassadors present the materials available to the students to produce a model of their project. Independently, with possible assistance, students produce a basic model of their object.

Each group presents its model or poster. The other students evaluate the production as a group.

People, places, careers and curricula

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| Collaboration in leading the activity | <p>STEM teachers work closely with university ambassador students, university academics and a regional teacher coordinator to develop practical activities for the whole group. The school coordinates the activities after they have been proposed and developed jointly with the partners. All school staff and students are informed about the collaboration with the university. During the activity, the ambassador students are present in the classroom as supporters. They participate in the activities together with the students and engage in discussions with them about the activities in STEM and about their own interests and future plans. The lead teachers are responsible for classroom management and the development of the session.</p> <p>There have been several planning meetings liaising with</p> <ul style="list-style-type: none">• A local secondary school• Student Ambassadors, UCO.• A regional Arts teacher coordinator.• Academics from Catholic University of the West UCO. |
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| | <p>After discussion with all partners, a resource training was planned and delivered at the local school with the participation of student ambassadors and researchers from the university.</p> <p>The teacher can help the students, always from an observer's perspective, because they will learn more about their students, about what they like and dislike.</p> <p>Student ambassadors, working together with lecturers, interact with school students through practical and stimulating activities to support the development of critical thinking, teamwork, reasoning skills and professional awareness through practical application.</p> |
| Pedagogy | <p>These active experiential learning activities can help teachers to create more innovative learning activities and emphasise procedures in students. This results in more innovative learning sessions, focusing on students' procedural knowledge and helping them to actively participate in the learning process and become their own centres of learning.</p> <p>The experiential learning process of the students can be increased by applying the review of Bloom's Taxonomy in the learning activities. In this approach, the use of Bloom's Taxonomy is oriented to analyse the verbs corresponding to each stage in each of the proposed learning activities. Using Bloom's Taxonomy implies a change in the behaviour of students in the learning process and allows students to take an active part in the learning process (Emda, 2018; Lubis, 2011; Suharni & Purwanti, 2018).</p> |
| IAG | <p>Information, advice and guidance:</p> <p><u>Student ambassadors</u> (around 3 to 4) are present in the classroom and share their areas of study and their route to the university.</p> <p><u>Career case studies</u> propose the work of biomimicry engineers as examples of real-life professional cases from the field of STEM.</p> <p>Case study of Veronika using biomimicry.</p> <p>During the beginning of the activity, when the student ambassador shows the work of biomimicry engineers, it is important to explain the purpose of these projects. Then, during the planning of the models, the students should give a meaning to their designs.</p> |
| Local context | <p>Advice for subject selection for different careers:</p> <p>parcoursup: des conseils pour chercher une formation</p> <p>Onisep: la fabrique de l'orientation</p> |
| Links to curricula | <p>Engineering is often judged as a complex profession detached from nature. However, it is an exciting profession</p> |

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| | <p>that has its basis in the laws that govern life on earth. Perhaps this activity will awaken in children a passion for the exact sciences.</p> <p>Biomimicry is a perspective that uses nature as the basis for designs in accordance with the SDGs. The wide range of approaches it offers allows teachers to get their students to reflect on the importance of such processes in our society, while creating links with disciplines such as mathematics, physics, technology, chemistry and others.</p> |
| Possible adaptations | <p>These activities ideally can be completed during lesson time with a whole class.</p> <p>Alternatively, this can be adapted as one year-long project. For example, by setting up a STEM club in the establishment.</p> |

Resources and References

- Brief presentation of the history of biomimicry: <https://www.youtube.com/watch?v=wRdlleKwT9Q>
- Emda, A. (2018). The position of student learning motivation in learning. Lantanida Journal, 5(2), 172-182. <https://doi.org/10.22373/lj.v5i2.2838>
- French Ministry of Education, Youth, Sport and the Olympic and Paralympic Games - Dgescola
- Lubis, K. M. (2011). Improving hydrosphere learning activities and its impact on life through innovative teacher actions in class x at sma negeri 1 semarang. Jurnal Geografi: Media Informasi Pengembangan dan Profesi Kegeografian, 8(1), 21-32. <https://bit.ly/3RwNNSU>
- Quiz about biomimicry: [Mimétisme et biomimétisme. Quiz.](#)
- Suharni, & Purwanti. (2018). Upaya meningkatkan motivasi belajar siswa [Efforts to increase student motivation]. GCouns: Jurnal Bimbingan Dan Konseling, 3(1), 131–145. <https://doi.org/10.31316/g.couns.v3i1.89>
- Teacher Guide/Pedagogical guides: [Éducation au développement durable.](#)
- [UN Sustainable Development Goals \(SDG\)](#)
- Video guide: [What is Biomimicry?](#)
- [Work of biomimicry engineers](#)

Welcome future

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| Country | Romania | Duration | Three 1-hour sessions, one week apart |
| Age group | 11-14 years | Careers | IT specialist, nutritionist, architect |
| Summary | <p>Adapting to the future through ingenious solutions</p> <p>This STEM activity provides a discussion of why STEM is important for the future and how we can adapt to future changes using</p> | | |

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| | <p>technology. The activity offers fun and ingenious ideas for adapting to various future scenarios. The activities are easy-to-run, short, and useful tasks that can be done in the classroom, outside, or at home. These activities are accessible to school students of all skill levels because they do not assume any prior knowledge of STEM fields.</p> <p>The outreach activity involves three main activities:</p> <ul style="list-style-type: none"> • Apocalyptic meals. Students make their own meals based on foods that would be easier to grow and farm after a meteorite hit the Earth because there would be less sunshine. • Micro flats. Students learn about the effects of waste on the environment. Students talk about and design a micro flat, which is a small, flexible living place where things can be used for different things (multipurpose objects). • Should we go super. Students come up with and share ideas about how STEM could give them superpowers or animal-like abilities, such as super strength (robotic/prosthetic limbs), super healing skills (nanomedicine), or super linguistic abilities (instant translators). |
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Aims of the activity

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| <p>For Student Ambassadors</p> <ul style="list-style-type: none"> • Building valuable teamwork experiences for and contributing to student ambassadors' employability skills. • Become aware of the importance of sustainable development goals and make connections between them and the information presented in the national curriculum. | <p>For Young People in Schools</p> <ul style="list-style-type: none"> • An increase in students' knowledge and understanding of STEM topics using inclusive pedagogies that build creativity, visual and spatial imagination, and critical thinking. • A better understanding of the STEM careers and their impact on future of work: computer science, biotechnology, civil engineering, information systems, etc. STEM is necessary for growing the economy and staying globally competitive. Most STEM jobs are in high demand but suffer from a lack of qualified candidates. • An increase in students' awareness and understanding of STEM career progression routes. • The sessions aim to raise students' motivation, engagement, and attainment in STEM topics, increase self-concept and self-efficacy, and support students' interest in enrolling on STEM courses at university in longer term. |
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Outline of the activity

Welcome Future is an activity for school students that encourage exploration and curiosity in kids, as well as teach them about the world around them in a fun, hands-on manner. STEM is different from other subjects because it can change how students think about failure. STEM is a naturally exploratory area, so school students can try many different ways to solve problems. This helps them develop their creativity and ability to solve problems. The activity aims at transmitting information between school students in order to increase their level of receptiveness.

Preparation and training for the activity and sessions aimed to co-create and prepare relevant, high quality hands-on STEM activities, relevant for the students in the school where activities were taking place. Student ambassadors worked collaboratively with academics, the STEM teacher coordinator, and other schoolteachers in STEM areas (chemistry, physics, mathematics).

Content of the Resource Training and Co-development of the activities:

- Greetings and introductions of each collaborator (researchers, student ambassadors, teachers and the teacher coordinator).
- A quick introduction of what literature and effective practices say about the best outreach practices, highlighting the importance of:
 - collaboration between schools and higher education institutions:
 - the need for ambassadors to understand school context, school students and inclusive STEM pedagogies
 - experiential and active learning activities
 - longer term engagement (not one-off activities)
 - the need to work with younger students especially in STEM for widening participation
 - that ambassadors work along with younger students positioned as peer to peer and not as teachers and students
 - careers and real-world contexts are embedded in activities
 - training and guidance

Resource training on Welcome Future by the STEM teacher coordinator from the secondary school

- Introduction about reasons for working in STEM field
- Showcasing of two videos
 - Innovation through STEM education
<https://www.youtube.com/watch?v=VYm2CTrH2cc>
 - How to make a career in STEM
<https://www.youtube.com/watch?v=b5BNb8CvYa4>

- Hands on activity which puts all the collaborators into the position of school students. This aims to support ambassadors and teachers in better understanding the experiences of students, and to plan the activity accordingly and support students better during activities.
 - Discussions and considerations on
 - working in groups in whole class setting
 - links to the curriculum
 - links to careers
 - inclusive pedagogies

Follow up session by the researchers with the student ambassadors prior the actual activities, focusing on:

- group work strategies
- questioning techniques (e.g., inquiry questions- encouraging school students think about an observation/problem rather than answering the questions straightaway)
- examples of STEM careers (e.g. IT specialist, engineer etc.)
- suggestions for changing the perception of STEM careers (e.g., STEM related jobs are not for girls)
- being able to point student ambassadors' own experience while interacting with school students
- resources that ambassadors can sign post younger students to if they want to find out more about subject choices and careers

Main activities in each session:

Teachers are responsible for the flow of the session and classroom management and are expected to visit the groups and have interactions with the students using innovative pedagogies.

Session 1 (1 hour):

- Brainstorming activity with students from the locally secondary school about the benefits of the STEM careers: high-paying jobs, travel opportunities, 21st-century skills.
- Apocalyptic meals activity. Students make their own meals based on foods that would be easier to grow and farm after a meteorite hit the Earth because there would be less sunshine.

Session 2 (1 hour):

- Discussion with students about academic routes to follow in STEM area.
- Micro flats game. Students learn about the effects of waste on the environment. Students talk about and design a micro flat, which is a small, flexible living place where things can be used for different things (multipurpose objects).

Session 3 (1 hour):

- A question-and-answer session will be organized with a special guest speaker – an IT specialist, so school students can satisfy their curiosity about STEM careers.
- End of the session with Should we go super activity. Students come up with and share ideas about how STEM could give them superpowers or animal-like abilities, such as super strength (robotic/prosthetic limbs), super healing skills (nanomedicine), or super linguistic abilities (instant translators).

People, places, careers and curricula

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| <p>Collaboration</p> | <p>STEM teachers work closely with student ambassadors, academic staff, and a regional teacher coordinator to come up with hands-on STEM tasks for the whole year group. All staff and school students are informed about the collaboration with the university. During the activity, student ambassadors are present in the classroom as older peers. Students ambassadors will attend the activities alongside the school students and talk with them about the activities and the school students' own plans and hobbies. Teachers are responsible for the classroom management and flow of the session.</p> <p>There have been several planning meetings liaising with</p> <ul style="list-style-type: none"> • A local secondary school • Student Ambassadors from ANOSR and University of Bucharest • Academics from University of Bucharest • Experts in IAG from Proedus • A STEM teacher coordinator from the local secondary school <p>Following the discussion with all the collaborators, a resource training was planned and then delivered by the STEM teacher coordinator at the local school with the participation of student ambassadors and researchers from the university, and several teachers from the school. Student ambassadors, along with teachers, interact with school students through hands-on STEM activities to support the development of critical thinking and innovation, resilience and career awareness.</p> |
| <p>Pedagogy</p> | <p>Action learning includes learning by doing, learning through reflection, and learning together with other people. Learning by doing says that you can't learn without doing something, and you can't do something without learning. Through the activities developed in the three sessions students will learn to find solutions to various problems that may arise in the future.</p> <p>Learning through wonder. A pedagogy of wonder is similar to guided discovery learning, in which the teacher helps students</p> |

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| | figure out how to solve a problem or understand a concept by letting them try things out for themselves. |
| IAG | <p>Student ambassadors (around 3 to 4) are present in the classroom and share their areas of study and their route to the university.</p> <p>Successful goal setting and achievement is the result of planning, thinking and doing. Student ambassadors and Proedus experts will help school students develop goal setting skills related to their future according to the following criteria:</p> <p>Goals for my future career:</p> <ul style="list-style-type: none"> • It is achievable. I have the necessary skills, strengths, abilities or resources. • It is believable and realistic for me. I believe I can achieve it. Given my knowledge of myself, the goal is realistic. My mental attitude is positive and optimistic. • I want to do it. I” want” means I get satisfaction and pleasure. It is my own goal. • It is worth setting because it fits into my personal value system. • I am motivated to achieve the goal. • I have set a target date for completing my goal. |
| Local Context | <p>Advice for subject selection for different careers: Innovation through STEM education https://www.youtube.com/watch?v=VYm2CTrH2cc</p> <p>How to start a Career in IT from zero? https://www.youtube.com/watch?v=-Wb1pnKYFP8</p> |
| Links to Curricula | <p>STEM can be used in a lot of different ways. It can be used as a cross-disciplinary curriculum because skills and lessons from one STEM topic can be used in many others. Lessons and talks on technology and engineering often start with math and science, so students have to remember and use what they've learned.</p> <p>To make STEAM, many schools add art to their STEM classes. Students in school make connections between what they have learned in STEM and other subjects. This helps them understand and appreciate the lessons more. For example, students might learn about electricity and build circuits in their science and technology classes and then learn about the discovery and invention of electricity in history lessons. This cross-disciplinary link between STEM topics shows how common and useful</p> |

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| | lessons are outside of school and how students can interact with STEM in many different ways. |
| Possible Adaptations | This activity ideally can be completed during a lesson time with a whole class. Alternatively, this can be adapted as one year-long project on an interdisciplinary STEM-related topic. |

Resources and references

Resources for teachers:

- <https://www.miracle-recreation.com/blog/benefits-of-stem-education/?lang=can>
- <https://www.stem.org.uk/system/files/elibrary-resources/2020/09/50%2B%20STEM%20activities%20for%20any%20classroom%20-%20Secondary.pdf>

Video guide: <https://www.youtube.com/watch?v=VYm2CTrH2cc>

Student Guide: <https://www.youtube.com/watch?v=b5BNb8CvYa4>

Career case studies:

- Innovation through STEM education
<https://www.youtube.com/watch?v=VYm2CTrH2cc>
- How to start a Career in IT from zero? <https://www.youtube.com/watch?v=-Wb1pnKYFP8>

Mc.Holland, J.D. (1976). *Human Potential Seminar. A positive-approach to self-development*. Basic Guide-Handbook. National Center for Human Potential.

Trim trim trigonometry

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| Country | Turkey | Duration | 1.5 months / 6 lesson period |
| Age group | 11-14 years | Careers | Architect |
| Summary | <p>The project aims to make children love mathematics by using shapes, games, and concrete terms. In the first step students are taught about mathematical shapes (triangle, quadrilateral, square, etc.), concrete examples in the classroom environment.</p> <p>Students are expected to make them out of cardboard. Then their properties are explained in a fair atmosphere. In the second step, shapes are drawn on the board or the ground with chalk. With these games, students who have difficulties with socializing and getting an education will support together.</p> | | |

Aims of the activity

| For Student Ambassadors | For Young People in Schools |
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| <ul style="list-style-type: none">• To empower student ambassadors in leading activities with younger pupils and to motivate them to engage in mathematics and geometry through real-world examples of using mathematical skills.• To exercise their ability to serve as role models in overcoming resistance to study mathematics as something distant from everyday life. | <ul style="list-style-type: none">• The aim of this activity is to help students who do not like mathematics and geometry from all over the world learn mathematics in a concrete way and make them feel that mathematics is useful in their life.• It will help to develop social and skilful skills in the applied games.• It leads young people to realise how the knowledge of shapes is used in everyday life and possible future careers. |

Outline of the activity

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| <p>Activity 1: Children are given information and education about which mathematical shapes to use. These shapes will be square, triangle, rectangle and lines. This stage is planned as two weeks and two lesson periods.</p> <p>Activity 2: Children are expected to apply at home and prepare the figures. The class is divided into 4 groups for the given four figures and lines. Each student in all groups makes the given shape himself. This activity is planned as a one-week, one-week lesson from a single stage.</p> <p>Activity 3: In the classroom environment, students explain how they made these shapes and their properties to their friends. The class, which is divided into 4, comes to the board and first explains how everyone made their own shape. Then the information is given to the class about the topic studied by the group. This activity is planned as 3rd and 4th activities, 1 week and 1 lesson hour.</p> <p>Activity 4: By using chalk, shapes are drawn on the blackboard or on the ground in the school garden.</p> <p>Activity 5: Students are asked to plan a game about the shapes they draw.</p> <p>Activity 6: The teacher gives an assignment to research the places where geometry is used in daily life. Students share the information to be researched for the group firstly and then start studying. When the preparation is finished, they present it to their teachers and friends. This activity is also planned as one hour per week.</p> <p>Activity 7: The teacher prepares oral and written exams for students and test their knowledge.</p> |
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People, places, careers and curricula

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| <p>Collaboration</p> | <p>Teacher's Role:</p> <ul style="list-style-type: none"> • The teacher gives the mathematical instruction and shows the activities. • Trying to lessen students' fear of math with fun lessons • Teaching how to make shapes. • The teacher becomes a role model for his students. • Applying shapes practically in class. • Encouraging children who have difficulty in socializing to work together. • The teacher shows how to work in groups to the children. • Teaching them what leadership is. • At the end of the activity, testing students' skills and knowledge. • Completing their missing points and guides them. <p>The Role of Student Ambassadors:</p> <ul style="list-style-type: none"> • The student ambassador informs the teacher which student has a problem in which department. • Guiding the students in the absence of the teacher. • Helping the students in difficult parts of the activities. • Encouraging peers and assisting in their search for resources. • Helping the handcraft activities. • Managing and organizing groups. • In the research of information, if necessary, transferring the information to the students. • Being a bridge for the gap between teacher and student. |
| <p>Pedagogy</p> | <p>Kolb's Experiential Learning Theory.</p> <p>This theory is based on 4 stage learning cycles and 4 different learning styles.</p> <p>4-Stage Learning Cycle:</p> <p>1. Concrete Experience</p> <p>People with tangible experience learn best when they receive feedback on their learning and participate in discussions in their learning environment. In activities 3 and 4, students create shapes with their own personal skills and make concrete observations.</p> <p>2. Reflective Observation</p> <p>People with high reflective observation learn best using the trial-and-error method when they have opportunity to work actively in clearly defined tasks. During the activity, the child finds himself in</p> |

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| | <p>constant work with questions such as which shape has how many sides and how many corners, how do I combine them, how can I make it on cardboard, and in this way they grasp the subject.</p> <p>3. Abstract Conceptualization</p> <p>Children are more inclined towards objects and symbols. Children cannot learn well when learning approaches are used such as simulation, exercise and activity.</p> <p>During this activity, children are open to learn who show the purpose, shapes and symbols (angle, edge) drawn on the board with chalk and explain to the class,</p> <p>and distribute them. The groups at the beginning of the activity talk about the concepts they have experienced while they are being taught about shapes,</p> <p>and the children are expected to develop discrete thoughts in their minds before they deal with shapes.</p> <p>4. Active Experience</p> <p>People with active experience learn best in situations such as projects, hands-on assignments, and small group discussions. The tasks during the first and seventh activity and all of the exercises are beneficial to the children who turn one step to active experience.</p> <p>Students share all the knowledge they know to the class and the teacher at the end of the activity, using geometry while playing games at school and associating the knowledge they know with daily life will provide active experiences throughout life. All people learn in different ways. The fact that the methods used in the learning-teaching process and educational technology did not create a positive development in all students started the process of concentrating on learning styles. Not the only factor in learning to take place at different levels, learning styles are also one of the most important components of the learning-teaching process.</p> |
| IAG | <ul style="list-style-type: none"> • Through this activity, it is believed that children do mathematics with pleasure, especially in their future education career. • They may develop hand skills by making shapes with cardboard. • They can realize that mathematics is used everywhere in the world. • How important mathematics is in the past and in the future is expressed. It is believed that this will shed light on both education and professional careers. |
| Local Context | <p>Even though there is a change over the generations, mathematics, which is always objective, does not change much due to its nature. Geometric objects used in land shapes, building structures, trees, fruits and motifs used in mosques will help us in this regard.</p> |

Resources and references

- MEB Math textbook in Turkey
- “Geometri” book written by Mustafa Kemal ATATÜRK
- AZİZ NESİN - MATEMATİK KÖYÜ

Chapter 5: Arts activities

Exhibit your photographs

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| Country | France | Duration | Three 1-hour sessions, two weeks apart |
| Age group | 11-14 years (Cycle 3-4) | Careers | Artists, Journalists, Photographers |
| Summary | <p>The art of photography as a mode of communication and interpretation of the Anthropocene and its relationship to the Sustainable Development Goals</p> <p>The activity focuses on the interpretation of reality through the taking of photographs, in line with the French national curriculum regarding the practice of visual arts as a fundamental dimension of students' intellectual and personal education.</p> <p>Situating the activity within these important themes provides young students with ways to think about the contemporary social and environmental reality and challenges. Photography and journalism are important in the area because they offer potential career opportunities in arts schools.</p> <p>Arts teachers work closely with university ambassador students, university academics and a regional teacher coordinator to develop practical arts activities for the whole group. The school coordinates the activities after they have been proposed and developed jointly with the partners. All school staff and students are informed about the collaboration with the university. During the activity, the ambassador students are present in the classroom as supporters. They participate in the activities together with the students and engage in discussions with them about the activities in arts and about their own interests and future plans. The lead teachers are responsible for classroom management and the development of the session.</p> <p>This activity includes three main phases:</p> <ul style="list-style-type: none"> • In order to stimulate the students' interest, a brief presentation of the history of photography is started, discussing the importance of the role of the art of images for humanity (e.g., pictograms found in ancient cultures). • University student ambassadors ask the group about their knowledge of the work of photographers (contemporary or not) and show the students the work of different photographers (e.g. Steve McCurry© for portrait photography, Vincent Munier© for animal photography, JR, Eric Aupol© for art photography). <p>The student ambassadors establish a theme with each student, which is then developed and finalised with the selection of a photograph</p> | | |

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| related to themes such as minimalism, nature, animals, freedom, everyday objects, portraits. |
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Aims of the activity

| For Student Ambassadors | For Young People in Schools |
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| <p>This activity is a tool for autonomous learning through experience in a real context as a complement to the training of university student ambassadors. The aims in the training course are as follows:</p> <ul style="list-style-type: none">• To engage student ambassadors as co-facilitators of the sessions, sharing their university experiences as practical examples of professions that represent the discipline in practice.• To empower student ambassadors to develop and enhance their competences through self-experience activities.• To develop valuable work experience for the student ambassadors and contribute to their future employability (confidence, self-esteem, motivation). | <ul style="list-style-type: none">• The expected outcomes of the activities in the school and their impact include:• To realise that we can make art with everyday objects.• To increase students' knowledge and understanding of the visual arts using inclusive pedagogies in order to improve the quality of education.• To develop a better understanding of the need to "<i>protect, restore and promote sustainable use of terrestrial ecosystems, sustainably manage forests, combat desertification, and halt and reverse land degradation and halt biodiversity loss</i>" <i>SDG 15</i>.• To create links with the national curriculum and the UN Sustainable Development Goals (SDG), which are relevant on a global scale.• To improve students' awareness and understanding of ways of access and career progression in Arts. Based on the experiences and academic exchanges carried out with the student ambassadors as role models.• The sessions aim to increase students' motivation, engagement and achievement in arts and cultural education subjects. Enhancing self-confidence and academic autonomy, developing interest in enrolling in higher arts studies in the long term. |

Outline of the activity

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| According to the French Ministry of Education, Youth, Sport and the Olympic and Paralympic Games - Dgescola , education through works of art is central, including visits to museums and exhibition venues. Visual arts play an essential role in the |
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intellectual, sensitive and personal development of students. The aim is to offer projects designed in collaboration with a variety of stakeholders.

Content of the resource training of university student ambassadors and co-development of activities:

- Greetings and introductions of each collaborator (researchers, student ambassadors, teachers and the teacher coordinator)
 - A quick introduction of what literature and effective practices say about the best outreach practices, highlighting the importance of:
 - Collaboration between schools and higher education institutions
- The need for ambassadors to understand school context, school students and inclusive arts pedagogies
- Experiential, project-based and active learning activities
- Longer term engagement (not one-off activities)
- The need to work with younger students especially in visual arts for widening participation
- University student ambassadors work along with younger students positioned as peer to peer and not as teachers and students
- Careers and real-world contexts are embedded in activities
- Resource training on Exhibit your photographs by the arts teacher coordinator from the secondary school
- Introduction to history of photography
- Analysis of different related websites
- [French Museum of Photography](#)
- [Nicéphore Niépce museum](#)
- [Une Rentrée en Images](#)
- Hands on activity which puts all the collaborators into the position of school students. This aims to support ambassadors and teachers in better understanding the experiences of students, and to plan the activity accordingly and support students better during activities. Discussions and considerations on:
 - Working in groups in the whole class setting

Follow up session by the researchers with the student ambassadors prior the actual activities, focussing on:

- Group work strategies
- Questioning techniques (e.g., inquiry questions- encouraging school students to think about an observation/problem rather than answering the questions straightaway).
- Examples of visual arts careers (e.g., photographer, journalist, artist, painter).
- Suggestions for changing the perception of visual arts

- Being able to point out student ambassadors' own experience while interacting with school students
- Resources that ambassadors can sign post younger students to if they want to find out more about subject choices and careers

Main activities in each session:

In each practical activity, student ambassadors are expected to question the school students about their approach to the activity, as well as their expectations and future career plans. Student ambassadors are expected to answer students' questions about their own progression and access to university and their experiences at university level.

Teachers are responsible for the flow of the session and classroom management and are expected to visit the groups and have interactions with the students using inclusive pedagogies.

Session 1 (1 hour):

- The student ambassadors show to students different existing photographer's work. ([Steve McCurry](#)© for portrait photography, [Vincent Munier](#)© for animal photography, JR, [Eric Aupol](#)© for art photography).
- Debate on the following topic: photography throughout history (past, present and long-term challenges).

Session 2 (1 hour):

- The student ambassador gives a theme and each student with his phone or camera will take a photograph related to this theme. Themes can be minimalist, nature, animal, free, everyday objects, portraits. Themes can be more abstract like escape, happiness, pollution, revolt... (The students can give themselves themes).
- Each student's photo must have been printed. Students write words of intent for their photos. They don't have to do this for all the photos. It can be a sentence, a word, a poem, or an explanation of the photo.

Session 3 (1 hour):

- The students agree to create an exhibition (a classroom or a place in the school must be made available for this). They choose together the layout of their photo. They can decide to put all the photos of the same theme together or not. They are free in the layout of their exhibition.

If the school does not have a camera and not all students have a phone, groups should be formed.

People, places, careers and curricula

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| Collaboration | <p>This activity was planned in close collaboration with a local secondary school.</p> <p>There have been several planning meetings liaising with</p> <ul style="list-style-type: none"> • A local secondary school |
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| | <ul style="list-style-type: none"> • Student Ambassadors, UCO • A regional Arts teacher coordinator • Academics from Catholic University of the West UCO <p>After discussion with all partners, a resource training was planned and delivered at the local school with the participation of student ambassadors and researchers from the university.</p> <p>The teacher can help the students, always from an observer's perspective, because they will learn more about their students, about what they like and dislike.</p> <p>The student ambassador should make it clear that if a student finds something to photograph (within the legal framework), it is legitimate to do so. It is important not to give too personal an opinion. The beauty of things is subjective. It may help some students if they have technical problems with the camera.</p> |
| Pedagogy | <p>These active experiential learning activities can help teachers to create more innovative learning activities and emphasise procedures in students. This results in more innovative learning sessions, focusing on students' procedural knowledge and helping them to actively participate in the learning process and become their own centres of learning.</p> <p>Furthermore, as mentioned by (Trocmé-Fabre, 1999) it is clear that no living organism is able to survive in isolation from the physical and social environment that surrounds it, and its construction takes place through interaction with that environment. Learners need an appropriate space, working most of the time in cooperation with others, in rich contextual learning environments that represent, in the moment, a ground-breaking experience (Karoff et al., 2017).</p> <p>In this way, students use their personal and social skills to work cooperatively with others in learning activities, to identify their own and their peers' strengths and abilities, and to develop a range of interpersonal skills such as communication, negotiation, teamwork, leadership and appreciation of diverse perspectives (Senthamarai, 2018). In addition, the activities aim to promote the knowledge and application of the SDGs in each study area.</p> |
| IAG | <p>Information, advice and guidance:</p> <p><u>Student ambassadors</u> (around 3 to 4) are present in the classroom and share their areas of study and their route to the university.</p> <p><u>Career case studies</u> propose the cases of three professional photographers and the Gacilly photography exhibition as examples of real-life professional cases from the field of photography.</p> <p>During the beginning of the activity, when the student ambassador shows the work of a professional photographer, it is</p> |

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| | important to explain the purpose of these photographs. Then, during the planning of the exhibition, the students should give a meaning to their photographs. |
| Local Context | Advice for subject selection for different careers: parcoursup: des conseils pour chercher une formation Onisep: la fabrique de l'orientation |
| Links to Curricula | Art is often judged as a non-craft. However, it is a profession of passion and few students know that it can be a real profession, the photographer (artistic as well as journalistic) includes several types of visual reflexes. This can be learnt but some people have a natural ability to do it. This activity will perhaps awaken a passion in children, or an innate skill in them. Photography is a technique that uses light and chemicals to fix the image of an object, person or landscape. The wide range of approaches offered by artistic, documentary and scientific photography allows teachers to make their students reflect on the importance of this process in our society, while also creating links with disciplines such as science, technology, physics, chemistry and others. |
| Possible Adaptations | These activities ideally can be completed during lesson time with a whole class. Alternatively, this can be adapted as one year-long project. For example, by setting up a photography club or a permanent exhibition in the establishment. |

Resources and references

- [Festival des Rencontres internationales de la photographie d'Arles.](#)
- [Festival photo la Gacilly](#)
- Teacher Guide/Pedagogical guide: [La photographie, reflet d'une vision du monde](#)
- Video guide: [La première photographie de l'histoire](#)
- Brief presentation of the history of photography:
- [French Museum of Photography](#)
- [Nicéphore Niépce museum](#)
- [Une Rentrée en Images](#)
- Video guide : [La première photographie de l'histoire](#)
- Teacher Guide/Pedagogical guide: [La photographie, reflet d'une vision du monde](#)
- Existing photographer's work:
- [Steve McCurry©](#)
- [Vincent Munier©](#)
- [Eric Aupol©](#)
- [Festival des Rencontres internationales de la photographie d'Arles.](#)

- [Festival photo la Gacilly](#)
- French Ministry of Education, Youth, Sport and the Olympic and Paralympic Games - Dgescola
- Karoff, M., Tucker, A. R., Alvarez, T., & Kovacs, P. (2017). Infusing a peer-to-peer support program with adventure therapy for adolescent students with autism spectrum disorder. *Journal of Experiential Education*, 40(4), 394-408. <https://doi.org/10.1177/1053825917727551>
- Senthamarai, S. (2018). Interactive teaching strategies. *Journal of Applied and Advanced Research*, 2018: 3(Suppl. 1) S36S38 <https://dx.doi.org/10.21839/jaar.2018.v3S1.166>
- [UN Sustainable Development Goals \(SDG\)](#)
- Trocmé-Fabre, H. (1999). Réinventer le métier d'apprendre. Éditions d'organisation.

Addicted to fashion

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| Country | Romania | Duration | Three 1-hour sessions, one week apart |
| Age group | 11-14 years (Year 5-8) | Careers | Make-up artist, Illustrator and Technical Illustrator, Cake Decorator, Fashion Designer, Graphic Designer |
| Summary | <p>Arts and Fashion with links to Sustainable Fashion, Recycling, Reconditioning and Innovation and related careers</p> <p>The aim of the activity is to understand the role of art in society and personal life. Starting from basic information about fine taste, kitch, fake, extravagant, classic, pret-a-proter, children will identify what style they like or suits them. Fashion has a positive impact on a personal level, but it also has a negative impact on the climate and the environment. Children will learn why fashion is considered one of the most polluting industries and what can be done to reduce the negative consequences of excessive fashion consumption. The activity will take place in collaboration with the secondary school.</p> <p>The activity involves three main activities:</p> <ul style="list-style-type: none"> • Old is fashion! / Modern Vintage. Classics are always on trend, in some cases becoming increasingly valuable. Reconditioning and valuing them is a solution for sustainable fashion, saving money and enhancing quality and originality. Children will be shown pictures of old but classic interior decoration and clothing items that have gained value over time. There will be an introduction to kintsugi art. Student ambassadors will come to the session with old clothes, old jewellery, games, objects that can be reupdated. During the session students will work in groups of 5 and will brainstorm ways to reupdate the clothes/ games/ toys. • How to look a billionaire with money of a millionaire! The activity will help students discover their own style beyond fashion, | | |

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| | <p>and how to choose quality cloths. Together with the student ambassadors they will discuss the differences between designer/brands vs. cheap/fake, or the concept of fast fashion. In groups of 5 students will cut out from magazines pictures of clothes made by designers or brands, expensive clothes vs cheap clothes, original clothes vs fake clothes, clothes representing fast fashion. Each group will present their choices to the whole class.</p> <ul style="list-style-type: none"> • Fashion board = what is my style of dress? Students' ambassadors and teachers will initiate a brainstorming on: Who am I in terms of my clothes/clothing? What clothing choices define me? What is circular fashion/recycling/reconditioning clothes? |
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Aims of the activity

| For Student Ambassadors | For Young People in Schools |
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| <ul style="list-style-type: none"> • Building valuable teamwork experiences for and contributing to student ambassadors' employability skills. • Become aware of the importance of sustainable development goals and make connections between them and the information presented in the national curriculum. | <ul style="list-style-type: none"> • An increase in students' knowledge and understanding of Arts with related fields – fashion, design, interior design, architecture topics using inclusive pedagogies that build self-awareness and self-esteem. • A better understanding of the fact that the Arts contribute to improving well-being and developing an aesthetic sense. • An increase in students' motivation for Arts career progression routes (e.g. singing, drama, visual art, photography, clowning and puppetry etc.). • The sessions aim to raise students' motivation, engagement, and attainment in Arts subjects, increase self-concept and self-efficacy, and support students' interest in enrolling on Arts courses at university in longer term. |

Outline of the activity

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| <p>Addicted to Fashion! is an activity through which students learn how to use art to their advantage, but also for the benefit of the community. Art helps to form a positive self-image, build self-confidence, develop an aesthetic sense and orientation towards beauty and culture. The activity aims at transmitting</p> |
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information between students in order to increase their level of receptiveness for Arts.

Preparation and training for the activity and sessions aimed to co-create and prepare relevant, high quality hands-on arts activities, relevant for the students in the school where activities were taking place. Student ambassadors worked collaboratively with academics, the Art and design teacher coordinator, and schoolteachers in Arts related subject areas.

Resource training on **Addicted to Fashion!** by the Arts and design teacher coordinator from the secondary school

- Introduction to the history of fashion
- Pictures of reconditioned objects or clothes – presentation of kintsugi art: <https://www.youtube.com/watch?app=desktop&v=4qTmHKFQIBo>
- Hands-on activity which puts all the collaborators into the position of school students. This aims to support ambassadors and teachers in better understanding the experiences of students, and to plan the activity accordingly and support students better during activities.
- Discussions and considerations on
 - working in groups in whole class setting
 - links to the curriculum
 - links to careers
 - inclusive pedagogies

Follow up session by the researchers with the student ambassadors prior the actual activities, focusing on:

- Group work strategies
- Questioning techniques (e.g., inquiry questions- encouraging school students think about an observation/problem rather than answering the questions straightaway)
- Examples of current art -related careers (e.g., make-up artist, illustrator and technical illustrator, cake decorator, fashion designer, graphic designer)
- Suggestions for changing the perception of arts studies (e.g., most of these jobs are based on a hobby, which is why they are considered enjoyable, relaxing and inspiring)
- Being able to point student ambassadors' own experience while interacting with school students
- Resources that ambassadors can sign post younger students to if they want to find out more about subject choices and careers

Main activities in each session:

Teachers are responsible for the flow of the session and classroom management and are expected to visit the groups and have interactions with the students using inclusive pedagogies.

Session 1 (1 hour):

- A group discussion about reconditioning, recycling and their positive impact on the environment and personal image. Concepts such as classic, modern, vintage, extravagant, kitsch, fake etc. will be explored.
- Children will be shown pictures of old but classic interior decoration and clothing items that have gained value over time. There will be an introduction to kintsugi art.
- Student ambassadors will come to the session with old clothes, old jewellery, games, objects that can be reupdated. During the session students will work in groups of 5 and will brainstorm ways to reupdate the clothes/ games/ toys.

Session 2 (1 hour):

- A group discussion about style and personal style, quality vs. quantity, designer/brands vs. cheap/fake, or the concept of fast fashion.
- In groups of 5 students will cut out from magazines pictures of clothes made by designers or brands, expensive clothes vs cheap clothes, original clothes vs fake clothes, clothes representing fast fashion. Each group will present their choices to the whole class.

Session 3 (1 hour):

- A group discussion about how we choose our clothes, if the choice of clothes and accessories depends on our personality or our body shape.
- The activity will end with a short review of the concepts learned: reconditioning, recycling, modern vintage, kitsch, extravagance, pret-a-porter, etc.

People, places, careers and curricula

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| <p>Collaboration</p> | <p>Arts and design teachers work closely with student ambassadors, and university academics to develop hands-on Arts activities for the entire year group. The school runs the activities after co-creation and co-development with the collaborators. All staff and school students are informed about the collaboration with the university. During the activity, student ambassadors are present in the classroom as older peers. They participate in the activities, alongside school students and engage school students in conversation about the activities and about school students' own interests and plans. Teachers are responsible for the classroom management and flow of the session.</p> <p>There have been several planning meetings liaising with</p> <ul style="list-style-type: none"> • A local secondary school |
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| | <ul style="list-style-type: none"> • Student Ambassadors from ANOSR and University of Bucharest • Academics from University of Bucharest • Experts in IAG from Proedus • An Arts and design teacher coordinator from the local secondary school <p>Following the discussion with all the collaborators, a resource training was planned and then delivered by the Arts and design teacher coordinator at the local school with the participation of student ambassadors and researchers from the university, and several teachers from the school. Student ambassadors, along with teachers, interact with school students through hands-on Arts and design activities to support the development of enquiring minds, teamwork, reasoning skills, aesthetic sense and career awareness.</p> |
| <p>Pedagogy</p> | <p>Photovoice is a method that provides a way of culturally and contextually informed reflection on visual images, associated meanings and social actions. It can be used in art lessons and students can be involved in various projects involving images photographed by them with their phones.</p> <p>Student co-created teaching and learning. When students and teachers work together to make lessons and materials, they are more involved and feel like they have more control over their learning. This makes a much higher level of engagement. Trying kintsugi art, school students will create new objects working together with teachers and student ambassadors, becoming co-designers.</p> <p>Influencer-led education (Learning from education influencers on social media platforms). Influencers get a lot of people to follow them because of how they talk to their audiences. Influencers reduce barriers to access and participation and can build up audiences of millions.</p> <p>At the end of the activity, they will think about what they have learned and how well the methods they used worked. Teachers and student ambassadors act to facilitate the learning process rather than to provide knowledge.</p> <p>Student ambassadors will try to motivate students, develop aspirations for the social sciences and humanities fields. They will give examples and analyse the biography of some personalities who have successfully overcome periods of economic, social and personal crisis.</p> |
| <p>IAG</p> | <p><u>Student ambassadors</u> (around 3 to 4) are present in the classroom and share their areas of study and their route to the university.</p> |

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| | <p>Successful goal setting and achievement is the result of planning, thinking and doing. Student ambassadors and Proedus experts will help school students develop goal setting skills related to their future according to the following criteria:</p> <p>Goals for my future career:</p> <ul style="list-style-type: none"> • It is achievable. I have the necessary skills, strengths, abilities or resources. • It is believable and realistic for me. I believe I can achieve it. Given my knowledge of myself, the goal is realistic. My mental attitude is positive and optimistic. • I want to do it. I” want” means I get satisfaction and pleasure. It is my own goal. • It is worth setting because it fits into my personal value system. • I am motivated to achieve the goal. • I have set a target date for completing my goal. |
| Local Context | <p>Advice for subject selection for different careers: Who should become an artist? https://www.youtube.com/watch?v=Rx8tCEsSOws</p> <p>Does art college make you a better photographer? https://www.youtube.com/watch?v=wqzpqgH6rM</p> |
| Links to Curricula | <p>The work related to arts focuses on the idea of recycling, redesigning, valorisation of authentic things. The session teaches children about art, style, and how clothes can influence self-image. The topic is interdisciplinary, bringing together information from several fields:</p> <p>Arts: students will receive information about what is art, authentic, original, style, fake etc.</p> <p>Psychology: the way we look influences our confidence and self-esteem, fashion can make victims - anorexia, bulimia etc.</p> |
| Possible Adaptations | <p>This activity ideally can be completed during a lesson time with a whole class.</p> <p>Alternatively, this can be adapted as one year-long project or as a debate competition about the role of fashion in contemporary society.</p> |

Resources and REFEREnCES

- Teacher Guide: <https://www.topuniversities.com/student-info/careers-advice/what-can-you-do-art-degree>
- Video guide: <https://www.youtube.com/watch?v=RaG5TUk1Bs4>
- Student Guide: <https://www.youtube.com/watch?v=p5uaPozgy90>

Career case studies:

- Who should become an artist?
<https://www.youtube.com/watch?v=Rx8tCEsSOws>
- Does art college make you a better photographer?
<https://www.youtube.com/watch?v=woqzpqgH6rM>
- Mc.Holland, J.D. (1976). Human Potential Seminar. A positive-approach to self-development. Basic Guide-Handbook. National Center for Human Potential.

Becoming ecoart-makers

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| Country | United Kingdom | Duration | Five 2-hour sessions |
| Age group | 11-13 years (Year 7-8) | Careers | Artists, Engineers |
| Summary | <p>The project activity involves inducting 11-13 years (hereon called students) into a community of practicing eco-artists, constituted by HE (art and environmental) student ambassadors (hereon called ambassadors) to undertake a commission. As members of this community, students learn art-making practices, including environmentally sensitive practices, to articulate ideas about an ecological issue. Working alongside and stimulated by activities that the ambassadors set up, students observe, practice and discuss art-making and ecological issues. In so doing, they acquire skills and knowledge about how eco-artists behave and think.</p> <p>An ecological problem, identified by the ambassadors, forms the basis of a commission to create a 'public' visual provocation to raise awareness of / inform about the issue. This plan focuses on the global issue of biodiversity loss. One response to this problem is re-wilding, defined as 'the large-scale restoration of ecosystems' to reverse biodiversity loss and reinstate natural processes so that endangered plant and animal species survive and thrive. We chose this example due to a rewilding project local to our students at Martlesham in Suffolk, UK. In each of the sessions, students experience a particular art-making activity as a means of investigating the ecological issue. In the final session, in groups, they negotiate what elements from their collective portfolio of work from previous weeks they will assemble to propose an artwork that communicates the ideas they consider important for others in society to know.</p> <p>The project is designed using a particular, evidence based and tested educational model and approach, the TAME (Trowsdale art-making model for education). This was developed from an 8-year research project, and is discussed further below under 'description' and 'pedagogy'. The project involves the following stages:</p> <ul style="list-style-type: none"> • Ambassadors from HE currently studying arts and ecology share their existing interests in art and ecology with each and form a particular community of practicing eco-artists. | | |

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| | <ul style="list-style-type: none"> • This community of practicing eco-artists identify an issue that draws their art and ecological interests together. Ideally this has some local relevance that the local community, e.g., a local rewilding project to address biodiversity loss in plant, insect, birds, and animals. • Using these plans and suggestions, the ambassadorial eco-artists identify the art-making practices they are to model, and which will facilitate exploration of this issue. • They also identify the ecological knowledge that they consider important and helpful for eco-artists in investigating this issue. • The ambassadorial eco-artists liaise with the teachers in the partner school to negotiate possible resources, spaces and time for the project; as well as the scale and scope of the final sharing / communication event. • The ambassadorial eco-artists meet and welcome students as young eco-artists, inducting them to the ambassadors' practice and set the commission. This first meeting demonstrates the eco-artists as artists and activists and must enable students to get a taste of their practice. • The newly expanded community of eco-artists (ambassadors, students and teachers) engage in a sequence of four or five 2-2.5-hour sessions involving active research through observational drawing and wider mark-making / technological media (using media that teachers, ambassadors and locally identified partners can provide). • The student eco-artists assemble an event / happening / exhibition for others to encounter... |
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Aims of the activity

| For Student Ambassadors | For Young People in Schools |
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| <ul style="list-style-type: none"> • Empower ambassadors as leaders in the community of practice working with more experienced professional artists, teachers, university staff and less experienced young artists in schools • Allow student ambassadors to trial various roles in facilitating art-making processes and support young people's learning • Provide a self-experiential opportunity in training of student ambassadors drawing on their | <ul style="list-style-type: none"> • Provide a manageable model for ambassadors and tutors to design an experience of learning as social, personal and pleasurable experience • Develop students' interest in 'art-making' practices • Develop students' interest in biodiversity/ environmental issues • Build a sense of commitment and belonging to this eco-arts group • Develop students' art-making skills and readiness to express through art-making |

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| <p>existing experience and skills in art-making as students of art</p> <ul style="list-style-type: none"> • Empower student ambassadors as representatives of their fields and role models in art as a career that is applied and related to real-world problems such as sustainability | <ul style="list-style-type: none"> • Develop students' awareness and understanding of environmental issues • Develop students' collaborative and negotiating skills • Build students' self-efficacy • Similar projects such as the Imagineerium (Trowsdale et al., 2021) were successfully delivered in areas of high deprivation and diverse classrooms. The project had positive impacts in various aspects for example creativity, enjoyment of learning, self-esteem, hard work and collaboration. |
| <p>On the level of community engagement, the project will:</p> <ul style="list-style-type: none"> • Raise awareness of eco issues that are locally and globally relevant • Emphasise that sustainability matters to the community which is represented by a community of practitioners with various backgrounds sharing expertise • Provide opportunities for creating communities of practice, create connections between artists, teachers, pupils, student ambassadors and lecturers – local organisations, schools and universities – based on respect of each other's contribution to the community with a focus on sustainability | |

Outline of the activity

The project is designed using an evidence-based and tested educational model, the TAME (Trowsdale art-making model for education). It is a project/inquiry-like model. The characteristics of this model are discussed more fully below under *Pedagogy* but the structuring principles are useful to understand to follow this description of the project. Firstly, the act of making, particularly using forms and materials considered as art, is a creative activity, inherent in and thereby affirmative of being human. It is a constructive context for being and learning. Secondly the concept of a community of practice (Lave and Wenger, 1991) emphasizes learning as a social practice, best developed through exchanges between diverse people who have an interest and some experience in the domain, the area (here eco-art-making). It emphasises the value of horizontal, peer-to peer learning, punctuated by moments of expert modelling, demonstration, information sharing. During these moments, members of the community might simply witness, question, or get involved with and add to. Thirdly the idea of a commission draws members together to complete a set task, that they are ideally positioned to undertake.

Ambassadors, who are experienced in or studying art, working with fellow HE students studying / interested in environmental (ecological/ biodiversity issues) constitute a community of practicing eco-artists. They identify an ecological issue, ideally connected in some way to their locality. (In Suffolk a rewilding project led by the wildlife trust at Martlesham is our real-world example). Biodiversity is an at once a local and a global issue – an important duality in this project design.

As a natural, and real-world connected practice, art-activism requires the ambassadors to attract fellow young eco-artists (the students) to increase their visibility and extend their influence in society. The project is designed to expose these young eco-artists to the kinds of practices of art students that use or connect with the environment, informed by the knowledge of the environment that environmental ambassadors and their contacts bring. Activity is structured but exploratory and is directed towards a sharing of the work and experiences, in a form manageable and comfortable for the young people and the school.

In stages:

Planning

- Ambassadors currently studying arts and ecology in HE are invited, if interested, to share their existing interests in art and ecology to form an eco-art group. The emphasis at this stage is on their own practices and interests as artists and environmentalists- 'who I am and what I do'.
- As a community of practicing eco-artists, ambassadors identify an issue that draws their art and ecological interests together. Ideally this has some local manifestation that the local community e.g. a local rewilding project to address biodiversity loss in plant, insect, bird and animals. This may immediately also identify potential partners in the locality, or staff in the HE community who could support planning, resourcing or delivery.
- Art-making ambassadors identify the art-making practices they are able to model and which will facilitate exploring this issue. These are informed by and connected with the planning of the environmental ambassadors (see 4. below). Suggestions of these practices and how they might be sequenced are detailed below, but alternative or preferred activities may be identified by the community.
- Alongside and informing above, environmental ambassadors identify the ecological knowledge that is important and helpful to young eco-artists investigating this issue. The sequence, resourcing and roles need to be planned for each of these sessions.
- The ambassadorial eco-artists (possibly supported by HE lecturers) liaise with the teachers in the partner school to negotiate
 - a group of potential young (11-13 year old) eco-artists where HE, and particularly studying art in HE is underdeveloped.
 - dates, times, spaces and resources, spaces and time for the project
 - the scale and scope of the final sharing / communication event
 - how the project will be launched, and any prior information students might receive (see below). This will include plans for time to set up the space in which you will meet the students, for arranging ambassadors' art-work and setting up technology.

Process

Before the project launch you might like to set a teaser to stimulate student curiosity about the project in a popular media form. This could be:

- A TikTok-like video of the issue and your work as activists as an invitation to get involved to improve awareness of the issue through art.
- An email to the students, via the teacher, about the issue and your work as activists, likewise as an invitation.
- An invitation in any media following a local arts / environmental activity that may be known to the young people from the school or the teacher.

SESSION 1

This session is primarily concerned with inducting students into the community of practicing artists: whetting the appetite / setting the commission; modelling and establishing expectations of the brief and the ways of being /behaving; beginning work as eco-art-makers.

A 20-min project launch. Here ambassadors (eco-artists) meet and welcome students as young eco-artists to their practice and set the commission.

This first meeting must present the **eco-artists as artists, scientists and activists** keen to expand their **community** and enable students to get a taste of their practice. The ambassadors are not teachers although they will educate the students. To give an insight into the kinds of work that these ambassadorial eco-artists do:

Create a 5-8-minute media presentation of the issue supported by examples of work (ideally bringing some into school) to inform the setting of the commission. You may also wish to draw on other eco-artists practice so that you locate your practice and the commission in a wider / global context (see resources below for some ideas). You may also wish your eco-artist group to have a name / identity so that the students are 'young x' and are referred to as such rather than as students.

OR, if practicable, you could

Invite students to the HE art studio where your work is on display and facilitate an informal tour where ambassadors can show and explain materials, purposes and what about the environmental issue inspired them (this could be other eco-artists / artists work). The advantage of a visit is that art-making studios, as spaces, signal open, exploratory, possibility thinking, with and through materials. It also clearly positions the ambassadors as artists and introduces students to art-making in an HEI.

This should be a lively, inspirational and imaginative experience which invites students to ask questions about the ambassadors' work and being an eco-artist.

Within this launch students are shown the **journals** of art ambassadors as evidence of art-making processes. They are also given their own, to record anything they want related to the project however they want.

Students are invited to consider what they now think eco-artists do and what **'behaving like an eco-artist'** looks like.

This segues into revisiting / introducing the commission.

The **commission** should be written, spoken and may be supported by visuals to communicate clearly. There should be some build up to the commission. Perhaps

a countdown, drum-roll, or simply a dramatic reading from a text taken from a special envelope. It may say something like:

'You have met us and found out a little bit about the eco-arts work we do. But we haven't really said why we are here yet. We have a challenge for you, to join us in an eco-arts commission. You are invited, as young eco-artists (or group name), to join us in creating art that communicates the challenge of (a particular aspects of) biodiversity loss, which is both a global and local / recognized problem (e.g. you may have heard in the media of the Re-Wilding Project at Martlesham, close to our school which seeks to redress biodiversity ...). To do so you will need to work in groups to investigate and understand the biodiversity in different parts of your school site and vicinity, using art-making and some scientific approaches....'

There may be other constraints that you want to add related to the sharing event such as who the commission is for. Will the work students do with the ambassadors be to peers within the class, another class in the school, or a group of 'friends' of the school? There must be a 'public', but the teachers will advise who would be supportive of very early work of this kind. Teachers can be primed to ask naive questions to encourage students to clarify the commission. (10 minutes)

Biodiversity issue game/activity. (20 minutes)

It is often useful to have a quick activity to help the transition from one section of a session to another. Here the purposes are to introduce some ideas and terms about biodiversity and introduce some playfulness to energise and stimulate creativity for the art-making activity.

e.g. **Biomes:** temperature, soil, light and water. Students sit in a circle. An ambassador walks round identifying each student in sequence as temperature, soil, light and water, so in a class of 28, there would be 7 of each type. If the ambassador calls, either 'temperature', 'soil', 'light' or 'water' all relevant students must swap seats as swiftly as is safe but crossing the circle in some way (not just moving 4 along). If the ambassador calls 'biome' all students move.

The activity can be punctuated with questions and possibly the odd visual with details about the levels of temperature, quality of soil, and combinations of these, water and light that students anticipate might characterise different biomes, so that students become aware of these as necessary conditions that are differently combined in different biomes.

As a further stage, the ambassador could 'test' this understanding with terms like 'desert biome' where 'water' students should not move (although if one or two did that might accurately reflect water from condensation), or if the temperature students were further divided into warm and cold and the ambassador called 'tundra biome' warm temperature students should not move, or 'tropical rainforest biome' where cold temperature students should not move. The game should be played playfully, encouraging students to see 'mistakes' as natural to learning.

*After this activity students may be asked what kind of biome they and their school is in and what kind of advantages or disadvantages this might have for biodiversity. As an extension, a grid-map of the areas of the school grounds that groups will investigate in the next session can be shown, with the opportunity to predict more

and less biodiversity. This will lead on to a investigating the notion of 'stable' biomes and the challenges to 'stability'.

An alternative to focus a lively class, foster collaboration and focus, and attune students to the idea of biodiversity as a network is the creation of biodiversity network maps. This requires students to have mobile devices and internet access for research. Ambassadors identify a half class size (e.g.15) sample of endangered plants or animals and ask students, in pairs, to draw a network map of the needs and connections of that animal / plant.

* After this activity students may be asked why they think the needs of these plants and animals are no longer being met.

A first, unlearning drawing / art with nature, art-making activity:

Blind drawing (15 mins)

This activity is a way of discovering how apparent 'mistakes' can stimulate creative re-interpretation or realising an idea differently. Ambassadors invite students to take a blindfold (strips of a dark material) and individually to select an item from a collection of plants, leaves, stones, sticks that the ambassadors have assembled. Students work at large table (standing or sitting) or squat on the floor using large paper journals, pencils and other familiar mark-making tools (charcoal, graphite, chinks, etc.). Students spend 2 minutes closely observing the shape, texture and tones of their item, and another 2 practising drawing its shape and texture in the air several times – referring back to the shape. Next they put on blindfolds and for a further 3-5 minutes draw the item with their chosen tool. Once the allocated drawing time is up, they remove the blindfold and look closely at their drawing to see what the work suggests (not how well it replicates but what ideas it communicates and resonates with). They then share these thoughts in pairs.

Reflections towards the commission

To conclude the session students return to their **journals** and reflect on what they experienced: what they enjoyed, learnt and found challenging in the last activity particularly but also any other part of the session. (10 mins)

Each of the subsequent sessions involving active research through observational drawing and wider mark-making, as well as using technologies that teachers, ambassadors and locally identified partners can provide. These will explore themes of 'unlearning drawing', 'recording / drawing in and with nature', 'science as art' and 'expanding possibility thinking' as ongoing strands.

SESSION 2

This focus of the next 2/3 sessions is to resource students to respond to the commission. Each session will have a mix of investigative activity in the particular site they are exploring students research the biodiversity of their school grounds to highlight the importance of re-wilding, exploration of particular art-making practices and techniques and some collaborative reflection within groups, with a small amount of group to group/ whole interaction to share insights of the biodiversity of the whole site and practice discussing how art-making practices have investigated and revealed, what techniques and effects have been valued and liked.

Investigating biodiversity (40 mins)

(The exact starting point for this activity will be defined by where you finished in the previous session)

Ambassadors share the grid map they have drawn up of the whole school ground / site, identifying 10-15 different areas as ones to be investigated. Reflecting back on the biome game, what do students expect will be the most biodiverse sections of this grid? What might they expect to find when they go and investigate?

Student responses may naturally identify areas of light and shade, overly wet/dry areas, and witnessed effect on or of trees and plant-life. They may also be aware of or predict issues like human traffic and other forms of 'pollution' which have a negative impact on biodiversity because they disrupt the 'stability' of the biome.

Setting up the commission groups. Students will undertake their work sometimes in groups of 3-5, sometimes as solo makers, but even here reflecting back to their group. Teachers should advise as to whether this can be done randomly through a warm-up activity led by the ambassadors or whether they advise planning this themselves. If the latter, the group lists should be given to the ambassadors so that they are still the ones that manage this. This could be done by each ambassador calling the names of students in a group to them to begin an activity. Each group is supported by the presence of their dedicated ambassador throughout the project to ensure that they have a reference point, but this person is NOT the leader; this responsibility belongs to the students. The ambassador is there as a resource: if invited in suggesting techniques, is affirming practice, is probing investigative habits and reflections towards the commissio .

Recording In / with arts (60 mins)

- Drawing with wire, sticks, with plants in situ if possible
- With liquid in studio

Reflections towards the commission

Students return to their **journals** and add photos, samples, reflections on what they experienced: what they enjoyed, learnt and want to pursue / think has potential for the purpose of the commission.

Additionally in this session they share with peers in their small group of 3/3+ the discoveries they think should be shared and why. (20 mins)

SESSION 3

Ambassadors explain the focus for the session:

This session adds another dimension to art-making's relationship with nature and nature as science, to ways in which using nature in art can communicate some of its science and beauty. (If some microscopes can be accessed for the session this will allow students to work directly from their own observations of onion/ cheek / plant cells)

Part of the session will focus on the commission and first sharing of group ideas in relation to the whole site to encourage students to see their area investigations in the context of the whole.

Recording In / with arts Part 1 (30 mins)

Drawing onion and cheek cells

Investigating biodiversity Part 2 (30 mins)

FOCUS FOR GATHERING DATA FOR CLOSE OBSERVATION DRAWING NEEDED

Recording In / with arts Part 2 (40 mins)

As for Part 1 using sources from own site

- Drawing plant cells from microscope*
- Printing leaf veins as a way to understand the science of how they live and grow*

Reflections towards the commission

Students return to their journals and add photos, samples, reflections on what they experienced: what they enjoyed, learnt and want to pursue / think has potential for the purpose of the commission.

Additionally in this session they share with peers in their small group of 3/3+ the discoveries they think should be shared and why. (20 mins)

SESSION 4 Nature's colours

Ambassadors explain the focus for the session:

This session focuses on a different aspect of art's relationship with nature: ways in which using art uses the science and beauty of nature's colours. (Some dyes will need to have been prepared and materials for dye making assembled)

The final part of the session will focus on the commission.

Investigating biodiversity (30 mins)

Focus for gathering data which can inform mark-making that captures students impressions about the biodiversity issues of their site area.

Drawing materials will need to be assembled for the first records / and or photos

Recording nature through nature and art (75 mins)

Making inks from plants, fruits and vegetables

Reflections towards the commission (15 mins)

Students return to their **journals** and add photos, samples, reflections on what they experienced: what they enjoyed, learnt and want to pursue / think has potential for the purpose of the commission.

In this session small groups should identify the key ideas and material and they wish to use. (20 mins)

SESSION 5

The student eco-artists assemble an event / happening / exhibition for others to encounter. Each group is supported by their dedicated ambassador in this process.

Briefing (5 mins)

Curating the exhibition (60 mins)

Presenting and sharing work (40 mins)

Reflections and feedback (15 mins)

People, places, careers and curricula

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| <p>Collaboration</p> | <p>The teacher is responsible for liaising with the ambassadors regarding the project so that local adjustments can be made to best align it with the priorities of the school, curriculum and culture. Such liaison will also be necessary for identifying practical elements such as resources, spaces, timings, visitor permits and checks for ambassadors coming into school. They remain responsible for student safeguarding and exceptional behaviour which might prevent the project from progressing. During the project they become a member of the community, witnessing, supporting and taking part in activities as fellow eco-artists, so that students see them as invested and interested in the commission, learning from the ambassadors and students.</p> <p>The particular roles taken by ambassadors will be dependent upon the expertise of the ambassadorial, teacher, HE staff and local community team who form the adult members of the Eco-Arts CoP. Where HE staff and local community team are engaged, they must be made aware of the CoP structure and of their role as members, with some particular expertise, rather than as experts per se. Most significantly roles will change throughout the project. What is essential is that the community of eco-artists are seen as a 'cooperative' and the leadership of the project does not rest with one person. The ambassadors will need to have planned the sequence of activities so that they can individually know when they are to lead or facilitate a section, and whether their role at any moment is to model a practice, demonstrate a resource, set community members up with an activity and circulate to witness and encourage. All ambassadors will play all of these roles at some point in the project. Further indication of the kind of dispositions and practices that will be helpful for ambassadors in developing the project are detailed under pedagogy.</p> |
| <p>Pedagogy</p> | <p>This proposal is modelled on the TAME art-making model for education developed by Dr Jo Trowsdale in the UK. Here school students join an eco-art-making community of practice formed by HE student ambassadors from art and ecology studies.</p> <p>It is a pragmatic manageable form project-based learning, incorporating an inquiry-based habit. It fosters particular creative learning habits of mind, notably collaboration, persistence and inquisitiveness of Ambassadors and adults forming the Community of Practice.</p> <p>Ambassadors and adults form a community of practice that experiences art-making focused on a specifically commission art product/production. This a pedagogical practice model similar to project-based learning, where students focus on finding solutions and apply their knowledge and skill to a specific project. Learning</p> |

is not generic, but rather related to the project that everyone contributes to. What makes it different from project-based learning is the extension from student-focused work to a community of practice including the students, professional artists, teachers and student ambassadors working together. The pedagogical model has been formulated as the TAME – Trowsdale Art-Making Model of Education.

“A Community of Practice (CoP) is composed of three interrelated elements. (i) The specific domain, the area of shared interest and competence. (ii) The relationships between members of the community built through discussion, activities and learning together. (iii) Their practice, the repertoire of methods, knowledge, stories, tools that they share. Art-making CoPs take on particular tasks for particular purposes, usually completed in a specific time period. This is a commission. It draws members of the community together. The commission offers learning opportunities and can be designed to require particular skills and knowledge. Art-making uses the whole person: body and emotions as well as the brain. This is true for all art-making; for example, drama or making with the hands. This is what we mean by embodied learning. Children problem solve in active ways, imagining, exploring and testing options as they work with materials.

Each commission requires us to use particular skills, knowledge and practices of the community. This is what we mean by situated knowledge. Skills or concepts are often taught, but significantly children explore, apply and test these in relation to their work on the commission. Knowledge is enriched by connecting different subjects. There are many maker-educators, from across arts and industry, interested in working to help teachers. Working in partnership with teachers they can enrich learning, both in the classroom, where children witness and experience working alongside such maker-educators, and as professional development support for teachers, co-designing new approaches to teaching and learning.

Different spaces, both physical spaces and the social, emotional and imaginative environment are highly significant for learning. Professional maker spaces can model how more open, adaptive, messy and resource rich environments can offer a sense of freedom and possibility that inspire

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| | <p><i>children.” (https://jotrowsdale.wordpress.com/trowsdale-art-making-model-for-education/)</i></p> <p>This proposal is modelled on the TAME art-making model for education developed by Dr Jo Trowsdale in the UK.</p> <p>It is a pragmatic, manageable form of project-based learning, incorporating an inquiry-based habit that fosters particular educationally valuable habits of mind, notably creativity, collaboration, persistence and inquisitiveness. It is essentially an experiential learning model that emphasizes learning as an embodied practice, often using the whole body, but certainly always body and mind. It directs teachers to think about the space/s in which learning takes place.</p> <p>To facilitate the positive learning behaviours of collaboration, persistence and engagement (sustained curiosity) we advise</p> <ul style="list-style-type: none"> • the value of starting an activity with pupils in a circle so that everyone can see everyone and all are on the same level. This is an experiential reminder that we live and learn as part of a larger group, with whom we collaborate, negotiating social rules. <p>To emphasise that students are young artists in this project we advise</p> <p>the use of journals - a sketchbook to record ideas during group activities and personal reflections, recorded in whatever way a student wishes: drawing, collage, annotated diagrams, notes. Because journals belong to the individual student, ambassadors should ask if its okay for them to look at and discuss them, or potentially invite the student to share ideas. They should not be assessed. The aims is to foster a sense of independence, self-expression and are evidence of ‘behaving like an art-maker’. Personal investment in a journal can be a sign of and trigger for deepening engagement, and represent pupils’ as independent art-making journey.</p> |
| <p>IAG</p> | <p>The TAME is rooted in real-world contexts, so ambassadors and students will necessarily be making contact with scientific, environmental and arts-based organisations and charities to inform, resource and support the project. This will enable students to see connections between what they are experiencing and learning in the project and the professional lives of artists, environmentalists, activists. Where possible members of external organisations may be enlisted as commissioners or as experts in the project. Given the informal, practice-based and social nature of the community of practice model, there will be many opportunities for such professionals to show how they work and answer students’ questions about their working lives and routes into their careers.</p> <p>The project is positioned in a real-world context through the commission that the group of eco-artists enters and is contracted</p> |

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| | <p>to deliver in the local community. The commission is negotiated with a key stakeholder – commissioner – and thus fully relevant to the needs of the local community while addressing global issues as well. Pupils will have the opportunity to meet professional artists and student ambassadors studying art. They will be working alongside them with their art teachers. The involvement in the community of practice will allow them to envisage careers using art skills and applying in them in various contexts, for example in raising sustainability awareness. The artist career progression is modelled through the presence of student ambassadors and professional artists. Informal atmosphere during art-making creates space for conversations about the paths of individuals in art-making and art as a career. The contribution of eco-artists will be highlighted and celebrated by the exhibited commission acknowledging the value artists bring to the society and pointing out the impact they can have on the public and addressing societal issues. Conversations can also evolve around comparing the work of other professionals. How would different professions tackle the issue that is represented in the commission? For example, discuss, what would lawyers do, what would biologists do, etc. bringing it back to the specific contribution of artists – explicitly formulating the aims of the commission and its envisaged impact.</p> | | | | |
| <p>Gatsby Benchmarks</p> | <p>The “Baker Clause” was introduced in 2017 in an attempt to ensure schools provide students with access to information from training providers and colleges. Since 2020 the government has required schools to work towards all of the eight Gatsby benchmarks (https://www.goodcareerguidance.org.uk/case-study/a-stable-careers-programme).</p> <p>This activity meets the Gatsby benchmarks in these particular ways:</p> <table border="1"> <tr> <td>A stable career programme</td> <td>Sustainability is a highly regarded career area in the local context. The arts department at the university has got strong connections with local organisations and businesses and is extending these networks to local schools. Involvement in the programme will help schools develop an integrated STEAM career guidance provision that is inclusive of students with a variety of different skills.</td> </tr> <tr> <td>Learning from career and labour market information</td> <td>Professional artists, university lecturers, student ambassadors, art teachers all represent career artists showcasing how their skills can be applied to addressing real-world issues such as sustainability.</td> </tr> </table> | A stable career programme | Sustainability is a highly regarded career area in the local context. The arts department at the university has got strong connections with local organisations and businesses and is extending these networks to local schools. Involvement in the programme will help schools develop an integrated STEAM career guidance provision that is inclusive of students with a variety of different skills. | Learning from career and labour market information | Professional artists, university lecturers, student ambassadors, art teachers all represent career artists showcasing how their skills can be applied to addressing real-world issues such as sustainability. |
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| Learning from career and labour market information | Professional artists, university lecturers, student ambassadors, art teachers all represent career artists showcasing how their skills can be applied to addressing real-world issues such as sustainability. | | | | |

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| | Addressing the needs of each pupil | The TAME model and the community of practice that it creates is inclusive in its nature. Every member of the community is a member with legitimate role participating in learning in various levels of engagement. |
| | Linking curriculum learning to careers | In the project-based scenario of this project, pupils are not only preparing for careers in the future, by the commission being a real commission for the community, they are directly involved in working as artists and with artists, experiencing a real-life taster of such careers. The content has cross-curricular links between art, science, geography, history, citizenship, depending on the specific chosen commission. |
| | Encounters with employers and employees | By becoming part of the community of practice, pupils are enculturated into the field and create informal relationships with other more experienced representatives of the field. |
| | Experiences of workplaces | The project demonstrates that artists negotiate spaces and places with the commissioners, the community and the issues to be addressed. Student move out to explore sustainability issues in nature, work in art studios (art classrooms) and exhibition spaces. |
| | Encounters with further and higher education | University lecturers and student ambassadors are part of the community of practice, therefore providing ample opportunities for interactions with the pupils. The way the community operates, cherishes partnership communication on an equal level, appreciating the contribution of all its members in areas of their expertise. |
| | Personal guidance | Informal conversations between artists and pupil will be happening throughout the project and can be sustained beyond the of the community meetings. |
| Local context | Ambassadors will need to identify real-world contexts related to their commission. There are online global connections which may resonate with the local environment of the schools (see resources above), or local art exhibitions exploring environment, environmental workers and activists in the local area. The people in such organizations are often keen to engage with young people and willing to give time or provide resources. For example, in | |

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| | <p>Suffolk staff from the wildlife trust provide expert insight into the needs, habitus and habits of insects and animals both to ambassadors and to the students. HE environmental tutors and Fine Art tutors at the University have supported ambassadors in planning and delivering activities. In some examples of the TAME in action in Warwickshire, the wildlife trust have been involved in setting the commission and framing learners as young Attenborough activists. Each encounter articulates a possible career to students and provides a personable context in which to find out how the people they encounter have developed their careers.</p> <p>Examples are given for situating this in our locality of Suffolk in UK, with European and global examples plus recommendations for HE providers to use their local contexts if possible.</p> <p>The environmental issue is located in a local ‘problem’ which is not unique and has global parallels.</p> <p>Examples are given for situating this in our locality of Suffolk in UK, with European and global examples plus recommendations for HE providers to use their local contexts if possible.</p> <p>Through the commission being negotiated with local stakeholders, the selected issue will be locally relatable. As the project is impactful on various levels, the involvement of the local stakeholders in the projects creates opportunities for networking with local organisations for the student ambassadors as well as young people from schools – introducing them to the business needs of the local industries, or interests of the local council, etc., making the students connected with the area already as students.</p> |
| <p>Links to Curricula</p> | <p>The project addresses most of the UK requirements of National Curriculum for Art & Design Key Stage 3 (11-14 year olds) and some Science areas. These will need to be reviewed nationally but core practices such as observational drawing, mark-making, working in and with the environment are likely to be relevant internationally.</p> <p>The project also facilitates the practise and development of a number of transversal skills such as negotiation, collaboration, communication, research, connecting.</p> |
| <p>Possible Adaptations</p> | <p>The project frame is designed for local adaptation and attunement to maximise the strengths and interests of the particular ambassadors and the art, environmental and activist organizations in their context.</p> <p>Teachers / ambassadors to</p> <ul style="list-style-type: none"> • Identify professional / community artists who can contribute to the projects and lead commission setting • Environmental organization who have ‘commissioned’ artists to recruit young people collaborators to this commission |

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| Ecoarts exist in many manifestations globally and it is advised that each locality identifies a local biodiversity. |
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Resources and references

- For examples of other eco-arts groups, these links may be useful starting points
- <https://blog.artsper.com/en/lifestyle/8-ecological-artists-to-look-out-for/>
- <https://www.ecoartists.org>
- <https://ecoartsfoundation.org>
- <https://www.imagine-bamboo.co.uk>
- <https://www.theartstory.org/movement/environmental-art/>

Environmental organisations, some with educational resources such as these may be helpful in informing your project:

- <https://www.nature.com/scitable/knowledge/library/biodiversity-and-ecosystem-stability-17059965/>
- <https://www.fauna-flora.org/issues/habitat-loss/>
- <https://www.worldlandtrust.org/get-involved/educational-resources/>
- <https://rewildingeurope.com>
- https://www.geog.ox.ac.uk/staff/Schepers_Jepson_Aug2016IJW.pdf (re-wilding in Europe publication)
- <https://www.iucn.org/news/species/201909/over-half-europes-endemic-trees-face-extinction>
- <https://www.theguardian.com/environment/2020/sep/30/world-plant-species-risk-extinction-fungi-earth>
- <https://www.kew.org/sites/default/files/2020-09/Kew%20State%20of%20the%20Worlds%20Plants%20and%20Fungi.pdf>
- <https://www.iucn.org/news/species/201909/over-half-europes-endemic-trees-face-extinction>
- <https://www.theguardian.com/environment/2020/sep/30/world-plant-species-risk-extinction-fungi-earth>
- <https://www.kew.org/sites/default/files/2020-09/Kew%20State%20of%20the%20Worlds%20Plants%20and%20Fungi.pdf>
- <https://www.suffolkwildlifetrust.org/martlesham-wilds>
- Biodiversity activities
- Biome definition:
- A biome is an area classified according to the species that live in that location. Temperature range, soil type, and the amount of light and water are unique to a particular place and form the niches for specific species allowing scientists to define the biome. For more detail on ‘What makes a biome?’ including distinctions between biomes, ecosystems and habitats, see <https://education.nationalgeographic.org/resource/what-makes-biome/#>
- An example of a biodiversity lesson which has ideas you might draw on.

- https://academics.lmu.edu/media/lmuacademics/cures/urbanecolab/module06/M6_L6_BiodiversityGame_RPcricle.pdf
- Lave, J. and Wenger, E. (1991) *Situated Learning*. Cambridge University Press.
- Trowsdale, J. and Davies, R. (forthcoming) How a particular STEAM model is developing primary education: lessons from the Teach-Make project (England). *Journal of Research in Innovative Teaching & Learning*. DOI:10.1108/JRIT-10-2022-0066
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Animated book activity

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| Country | Turkey | Duration | Two five-month phases of a year-long activity |
| Age group | 11-14 years | Careers | Script writers, actors, performers, costume makers, scenographers |
| Summary | The Animated Book Activity is a club activity that brings together both advantaged and disadvantaged students. Its aim is to help children adapt to their environment, build self-confidence, foster teamwork, use their imagination, develop empathy, and enhance their ability to provide commentary. In this activity, students read a selected book and then use their imagination to prepare a script and costumes. Subsequently, they portray the characters alternately. | | |

Aims of the activity

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| <p>For Student Ambassadors</p> <ul style="list-style-type: none"> • Enhance time management and long-term project skills. • Enhance commitment to long-term relationship building and responsibility for co-leading the project. • Apply their existing skills and support their self-esteem. | <p>For Young People in Schools</p> <ul style="list-style-type: none"> • The objectives of this activity are to promote reading and interest in literature, enhance empathy, build self-confidence, encourage self-expression, nurture imagination, strengthen communication skills, motivate students, improve self-efficacy, enhance subject knowledge, develop a sense of responsibility, improve manual dexterity, enhance work skills, and teach teamwork. |
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Outline of the activity

Phase 1: Activity Phase

First 2 months: "Start Reading the Selected Book"

The teacher selects the book to be read and enacted in collaboration with the students, explaining the steps and objectives of the activity.

Depending on the length of the book, it is divided into eight sections, and each week, students come prepared having finished the assigned section. A discussion takes place based on that week's section (e.g., What will happen in the next section? Who is your favourite character, and why? What was your favourite scene in this section? What would you do if you were in the character's shoes? etc.).

Next 1 month: "Script Preparation"

After finishing the book, students gather and discuss which scenes should be included in the script. Every student's input is considered.

Sample scripts are reviewed, and the teacher provides guidance during the writing process and assists with accessing resources.

Through teamwork, the script is completed, allowing students to enhance their literary skills.

Last 2 months: "Alternately Portraying Characters"

Each student portrays the characters from the script at least once. Continuously changing and embodying different characters enables students to understand different emotions and thoughts, enhancing their empathy. Viewing the same character from different angles provides students with a broader perspective.

Phase 2: Activity Phase

First 5 months: "End-of-Year Event"

Students are grouped based on their abilities and preferences into teams for decorations, costume preparation, and the cast.

Decoration team: Designs the stage using their imagination.

Costume team: Prepares costumes in collaboration with the actors.

Cast: Memorizes their lines from the script and rehearses together.

Students are encouraged to be active throughout the activity stages.

People, places, careers and curricula

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| Collaboration | Teacher's Responsibilities: <ul style="list-style-type: none">• Understand and observe the positive and negative qualities of disadvantaged students.• Plan and organize the activity.• Assist students during the research process.• Provide guidance during presentations. |
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| | <ul style="list-style-type: none"> • Encourage and motivate students. • Ensure the procurement of necessary materials for the activity stages. • Evaluate the activity stages. <p>Student Ambassadors' Responsibilities:</p> <ul style="list-style-type: none"> • Ensure students work harmoniously together. • Assist in crafting costumes and decorations. • Offer solutions to issues arising during the activity and respond to students' questions. • Provide feedback to students after evaluating the activity. |
| <p>Pedagogy</p> | <p>This activity plans to utilize Kolb's Experiential Learning Theory. According to Kolb, individuals learn from their own experiences. Additionally, in experiential learning, the process is more important than the outcome. Thus, each stage of this activity is significant for the students.</p> <p>Kolb's Experiential Learning Theory consists of a 4-stage learning cycle:</p> <p>Concrete Experience: Learning through feeling and experiencing.</p> <p>In the first stage of the activity, "Start Reading the Selected Book," students learn best when they regularly read the book and engage in discussions in a learning environment.</p> <p>Reflective Observation: Learning through observing and analysing.</p> <p>In the "Alternately Portraying Characters" stage, students learn best when they have the opportunity to brainstorm actively, using trial and error to enhance their learning.</p> <p>Abstract Conceptualization: Learning through thinking and relating to real-life.</p> <p>In the "Script Preparation" stage, students show a greater inclination toward objects and symbols.</p> <p>Active Experimentation: Learning through applying in real life and gaining new experiences.</p> <p>In the second phase of the activity, "End-of-Year Event," students learn best during practical stage preparations, practical enactments, small group discussions, etc.</p> |
| <p>IAG</p> | <p>Career-focused information, advice, and guidance can be provided in various ways, including:</p> <ul style="list-style-type: none"> • Encouraging interest in literary sections through script preparation and book reading. • Promoting university departments related to acting, stage decoration, and costume design. |

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| | <ul style="list-style-type: none"> • Introducing students to professionals such as actors and writers, inviting guest speakers. • Providing information and guidance on how this activity can contribute to future career opportunities. |
| Local Context | The activity can be adapted to the local context. For example, community education courses or theatre venues can be used. Additionally, instructors from community education and theatre departments can provide support and contributions throughout the activity, strengthening the local context. |

Resources and references

- Procurement of books based on the club's availability
- Unisex wigs and clothing materials for costumes, materials required for stage decoration, club room or conference hall
- <https://www.tugbacansali.com/2015/01/david-kolbun-denyimsel-ogrenme-teorisi.html>

Chapter 6: Humanities and social sciences activities

Vision of the perfect school

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| Country | France | Duration | Three 1-hour sessions two weeks apart |
| Age group | 11-14 years old (Cycle 3 and 4) | Careers | Policy Maker, Teacher, Historian, Lawyer, Rights Activist |
| Summary | <p>The education system varies considerably from one European country to another. It is the product of its own historical context, social history and political culture, all of which combine to create a diversity that is still very much in evidence.</p> <p>This is a social sciences and humanities activity aimed at improving students' engagement and performance during the crucial decision-making years in “cycles 3 and 4” (secondary school, between 11 and 14 years old in France). The activity focuses on comparison and interpretation of different European school systems, in line with the French national curriculum regarding history and geography as a fundamental dimension of students' intellectual and personal education. It is planned in close collaboration with a local secondary school.</p> <p>This activity includes three main phases:</p> <ul style="list-style-type: none"> • In order to stimulate the students' interest, a brief presentation of the Experience Europe's world-class education system was started, discussing the importance of the role of education for humanity. • University student ambassadors ask the group about their knowledge of the schools in Europe. • The student ambassadors set up the formation of the groups and the assignment of roles. During this activity, the children will create (as a group) a story about the vision of the perfect school, reaching agreements by simulating an assembly of the United Nations. | | |

Aims of the activity

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| <p>For Student Ambassadors</p> <p>This activity is a tool for autonomous learning through experience in a real context as a complement to the training of university student</p> | <p>For Young People in Schools</p> <p>The expected outcomes of the activities in the school and their impact include:</p> |
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ambassadors. The aims in the training course are as follows:

- To engage student ambassadors as co-facilitators of the sessions, sharing their university experiences as practical examples of professions that represent the discipline in practice.
- To empower student ambassadors to develop and enhance their competences through self-experience activities.

- To realise the importance of social sciences and humanities in everyday life.
- To increase students' knowledge and understanding of the social sciences and humanities using inclusive pedagogies in order to improve the quality of education.
- To develop a better understanding of the need to "reduce inequality within and among countries" *SDG 10*.
- To create links with the national curriculum and the [UN Sustainable Development Goals \(SDG\)](#), which are relevant on a global scale.
- To improve students' awareness and understanding of ways of access and career progression in social sciences and humanities. Based on the experiences and academic exchanges carried out with the student ambassadors as role models.

Outline of the activity

What are the strengths and weaknesses of the different European education systems, how do they work, what do the different countries have in common?

The aim is to answer these and other questions, using "Schools in Europe", [Réseau Canopé's new](#) platform, as a support. This activity has been designed in collaboration with various stakeholders.

Content of the resource training of university student ambassadors and co-development of activities:

- Greetings and introductions of each collaborator (researchers, student ambassadors, teachers and the teacher coordinator).
- A quick introduction of what literature and effective practices say about the best outreach practices, highlighting the importance of:
 - Collaboration between schools and higher education institutions
 - The need for ambassadors to understand school context, school students and inclusive arts pedagogies.
 - Experiential, project-based and active learning activities.
 - Longer term engagement (not one-off activities).
 - The need to work with younger students especially in social sciences and humanities for widening participation.

- University student ambassadors work along with younger students positioned as peer to peer and not as teachers and students.
- Careers and real-world contexts are embedded in activities.
- Training and guidance.
- Resource training on **Creating a story About the vision of the perfect school** by the social sciences and humanities teacher coordinator from the secondary school.
 - Brief presentation of the Experience Europe's world-class education system was started
- Analysis of different related websites:
 - [Éducation : quels systèmes chez nos voisins européens ?](#)
 - [European Education Area](#)
- Hands on activity which puts all the collaborators into the position of school students. This aims to support ambassadors and teachers in better understanding the experiences of students, and to plan the activity accordingly and support students better during activities. Discussions and considerations on:
 - Working in groups in the whole class setting.
 - Links to the curriculum.
 - Links to careers.
 - Inclusive pedagogies

Follow up session by the researchers with the student ambassadors prior the actual activities, focussing on:

- Group work strategies.
- Questioning techniques (e.g., inquiry questions- encouraging school students to think about an observation/problem rather than answering the questions straightaway).
- Examples in social sciences and humanities.
- Suggestions for changing the perception of social sciences and humanities.
- Being able to point out student ambassadors' own experience while interacting with school students.
- Resources that ambassadors can sign post younger students to if they want to find out more about subject choices and careers.

Main activities in each session:

In each practical activity, student ambassadors are expected to question the school students about their approach to the activity, as well as their expectations and future career plans. Student ambassadors are expected to answer students' questions about their own progression and access to university and their experiences at university level.

Teachers are responsible for the flow of the session and classroom management and are expected to visit the groups and have interactions with the students using inclusive pedagogies.

Session 1 (1 hour):

- Group formation, assignment of group leaders roles. Reflexion of the perfect school, table creation. Character profile, place, actions... choosing the body of the story writing time, 6 paragraphs, each group works on 1 paragraph. Group size: 6 groups of 5 students (to 30 students per class).

Session 2 (1 hour):

- In group: between 4 to 5 persons Brainstorming: Creating a mind map around the following question: In your point of view, what is your perfect school? Each group will have one spokesperson who will interact/exchange ideas with the other group.
- Sharing ideas from each group (all together). Important: There must be a secretary who writes everyone's answers.

Session 3 (1 hour):

- Tips for carrying out the activity. Questions that can be asked: What is the role of the teacher? What do you imagine? (example: a cup of coffee in hand, punishment, homework...). What would you like to see change in your school? Be careful: Ideas must be rational (because this project also aims to contribute to the evolution of the school system) e.g., 1 hour per school day without explanation it's not good. Each idea must be justified.
- Each group, in front of the class Pooling/sharing ideas from each group. At the end of the activity. Divide the story into 6 paragraphs (1 Paragraph per group) with:
 - Introduction (character presentation, place, a plot...).
 - The courses of actions.
 - Conclusions.

People, places, careers and curricula

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| <p>Collaboration</p> | <p>Social sciences and humanities teachers work closely with university ambassador students, university academics and a regional teacher coordinator to develop practical activities for the whole group. The school coordinates the activities after they have been proposed and developed jointly with the partners. All school staff and students are informed about the collaboration with the university. During the activity, the ambassador students are present in the classroom as supporters. They participate in the activities together with the students and engage in discussions with them about the activities in social sciences and humanities and about their own interests and future plans. The lead teachers are responsible for classroom management and the development of the session.</p> |
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| | <p>There have been several planning meetings liaising with:</p> <ul style="list-style-type: none"> • A local secondary school • Student Ambassadors, UCO. • A regional Arts teacher coordinator. • Academics from Catholic University of the West UCO. <p>After discussion with all partners, a resource training was planned and delivered at the local school with the participation of student ambassadors and researchers from the university. The teacher can help the students, always from an observer's perspective, because they will learn more about their students, about what they like and dislike.</p> |
| Pedagogy | <p>These active experiential learning activities can help teachers to create more innovative learning activities and emphasise procedures in students. This results in more innovative learning sessions, focusing on students' procedural knowledge and helping them to actively participate in the learning process and become their own centres of learning.</p> <p>Furthermore, as mentioned by (Trocmé-Fabre, 1999) it is clear that no living organism is able to survive in isolation from the physical and social environment that surrounds it, and its construction takes place through interaction with that environment. Learners need an appropriate space, working most of the time in cooperation with others, in rich contextual learning environments that represent, in the moment, a groundbreaking experience (Karoff et al, 2017).</p> <p>In this way, students use their personal and social skills to work cooperatively with others in learning activities, to identify their own and their peers' strengths and abilities, and to develop a range of interpersonal skills such as communication, negotiation, teamwork, leadership and appreciation of diverse perspectives (Senthamarai, 2018). In addition, the activities aim to promote the knowledge and application of the SDGs in each study area.</p> |
| IAG | <p>Information, advice and guidance:</p> <p><u>Student ambassadors</u> (around 3 to 4) are present in the classroom and share their areas of study and their route to the university.</p> <p><u>Career case studies</u> the activity propose the example of a United Nations meeting as a real case from the field of social sciences and humanities.</p> <p>During the beginning of the activity, the student ambassador shows the brief presentation of the Experience Europe's world-class education system.</p> |
| Local Context | <p>Advice for subject selection for different careers:</p> |

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| | <p>parcoursup: des conseils pour chercher une formation</p> <p>Onisep: la fabrique de l'orientation</p> |
| Links to Curricula | <p>Connect with other parts of the curriculum - How has the European education system evolved?</p> <p>Teachers of complementary subjects could collaborate, e.g. the document obtained can be worked on in a different language. For example in Spanish, English or German, thus practising creative writing on the topic.</p> <p>One or several timelines could be created to see the evolution of the different education systems and the historical milestones that defined it.</p> |
| Possible Adaptations | <p>These activities ideally can be completed during lesson time with a whole class.</p> <p>Alternatively, this can be adapted as one year-long project. For example, by setting up and realising an innovative educational project from the school students' perspective in the establishment.</p> |

Resources and references

- Links for Creating a story About the vision of the perfect school resources:
- [European Education Area](#)
- Teacher Guide/Pedagogical guide: [Éducation: quels systèmes chez nos voisins européens ?](#)
- Video guide: Brief presentation of the Experience Europe's world-class education system was started
- [European Education Area](#)
- Video guide: Brief presentation of the Experience Europe's world-class education system was started
- French Ministry of Education, Youth, Sport and the Olympic and Paralympic Games - Dgescola
- Karoff, M., Tucker, A. R., Alvarez, T., & Kovacs, P. (2017). Infusing a peer-to-peer support program with adventure therapy for adolescent students with autism spectrum disorder. *Journal of Experiential Education*, 40(4), 394-408. <https://doi.org/10.1177/1053825917727551>
- Senthamarai, S. (2018). Interactive teaching strategies. *Journal of Applied and Advanced Research*, 2018: 3(Suppl. 1) S36S38 <https://dx.doi.org/10.21839/jaar.2018.v3S1.166>
- [UN Sustainable Development Goals \(SDG\)](#)
- Trocmé-Fabre, H. (1999). Réinventer le métier d'apprendre. Éditions d'organisation.
- Teacher Guide/Pedagogical guide: [Éducation: quels systèmes chez nos voisins européens ?](#)

Get ready for the next crisis!

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| Country | Romania | Duration | Three 1-hour sessions, one week apart |
| Age group | 11-14 years (Year 5-8 in Romania) | Careers | |
| Summary | <p>Interdisciplinary information on crises with links to Economics, Sociology, History, Public Policies and related careers.</p> <p>This is a Social Sciences and Humanities student ambassador outreach activity that aims to improve school students' engagement and outcomes in Social Sciences and Humanities subjects during their crucial decision-making years in secondary level (ages 11-14 years old in Romania). The activity focuses on understanding crisis situations throughout history, starting from an analysis of the current situation (COVID-19 pandemic and wars in various parts of the world: Ukraine, Syria, etc.). The activity has been planned in close collaboration with a local secondary school. Crises are events that have marked the history of the world and the destinies of many people, being moments that have proved to be cyclical. Understanding and being aware of them helps to develop resilience and adaptive behaviours, preventing stress and other psychological issues. Crises affect economies, communities, social and political systems, but crises can also occur at a personal level (lack of employment, homelessness, poor health, etc.).</p> <p>The activity involves three main activities:</p> <ul style="list-style-type: none"> • Debate on the following topic: crises throughout history. Together with the history teacher, student ambassadors work with the whole class. They will discuss contemporary crises, past crises, how to deal with a crisis situation (war, pandemic, overdigitisation-Artificial Intelligence). • Timeline of the crises of the last two centuries. Students will be given cards with different years and crisis events and will be asked to match the years with the crisis events in chronological order. For this activity they can document using the internet, the school handbook or other resources accepted at school level. • Success Stories. The teacher and student ambassadors will provide children with information about the life stories of famous personalities who survived existential crises (Holocaust, autoimmune diseases, slavery). Based on the stories exemplified, children will be encouraged to tell about personal experiences or experiences they have heard about (e.g. how they survived the COVID-19 pandemic). | | |

Aims of the activity

| For Student Ambassadors | For Young People in Schools |
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| <ul style="list-style-type: none">• Building valuable teamwork experiences for and contributing to student ambassadors' employability skills. | <ul style="list-style-type: none">• An increase in students' knowledge and understanding of Social Sciences and Humanities topics using inclusive pedagogies that build self-awareness, adaptive behaviours for crisis situations, empathy for people in crisis.• A better understanding of crises and their cyclical nature, their impact on people's quality of life (800 million people suffer from hunger and malnutrition worldwide in 2021, according to the United Nations).• An increase in students' awareness and understanding of Social Sciences and Humanities career progression routes.• The sessions aim to raise students' motivation, engagement, and attainment in Social Sciences and Humanities subjects, increase self-concept and self-efficacy, and support students' interest in enrolling on Social Sciences and Humanities courses at university in longer term. |

Outline of the activity

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| <p>Get ready for the next crisis! is an activity that aims to increase awareness of crisis situations that may arise in society or at a personal level. The activity presents different types of crises (economic, financial, health, political, social, climate) and the solutions people have used to adapt. The activity aims at transmitting information between students in order to increase their level of receptiveness.</p> <p>Preparation and training for the activity and sessions aimed to co-create and prepare relevant, high quality hands-on Social Sciences and Humanities activities, relevant for the students in the school where activities were taking place. Student ambassadors worked collaboratively with academics, the history teacher coordinator, and schoolteachers in Social Sciences subject areas.</p> <p><u>Content of the Resource Training and Co-development of the activities:</u></p> <ul style="list-style-type: none">• Greetings and introductions of each collaborator (researchers, student ambassadors, teachers and the teacher coordinator).• A quick introduction of what literature and effective practices say about the best outreach practices, highlighting the importance of:<ul style="list-style-type: none">○ Collaboration between schools and higher education institutions○ The need for ambassadors to understand school context, school students and inclusive Social Sciences and Humanities pedagogies |
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- Experiential and active learning activities
- Longer term engagement (not one-off activities)
- The need to work with younger students especially in Social Sciences for widening participation
- That ambassadors work along with younger students positioned as peer to peer and not as teachers and students
- Careers and real-world contexts are embedded in activities
- Training and guidance

Resource training on **Get ready for the next crisis!** by the history teacher coordinator from the secondary school

- Introduction to the crises of humanity throughout history
- Showcasing of two videos
- The crisis generated by the First World War (Video link: <https://vm.tiktok.com/ZGJGtoM74/>)
- Humanitarian crisis -The Holocaust (Video link: <https://eduboom.ro/video/351/istoria-annei-frank>)
- Hands on activity which puts all the collaborators into the position of school students. This aims to support ambassadors and teachers in better understanding the experiences of students, and to plan the activity accordingly and support students better during activities.
- Discussions and considerations on:
 - Working in groups in whole class setting
 - Links to the curriculum
 - Links to careers
 - Inclusive pedagogies

Follow up session by the researchers with the student ambassadors prior the actual activities, focussing on:

- Group work strategies
- Questioning techniques (e.g., inquiry questions- encouraging school students think about an observation/problem rather than answering the questions straightaway)
- Examples of social sciences and humanities careers (e.g., Psychologist, economist, sociologist, lawyer, professor)
- Suggestions for changing the perception of social sciences and humanities (e.g., These are careers that are in great demand during times of crisis, providing community support)
- Being able to point student ambassadors' own experience while interacting with school students
- resources that ambassadors can sign post younger students to if they want to find out more about subject choices and careers

Main activities in each session:

Teachers are responsible for the flow of the session and classroom management and are expected to visit the groups and have interactions with the students using inclusive pedagogies.

Session 1 (1 hour):

- Children will be given cards with pictures representing different crises: famine, war, climate change - drought, floods, epidemics, disasters. In group of 5 students, they will describe the imagine on the card and answer the following questions: what they think is happening in the picture, what caused the event, what they think are the consequences, what solutions are possible to solve the situation, what the picture conveys to them.
- Debate on the following topic: crises throughout history. They will discuss contemporary crises, past crises, how to deal with a crisis situation (war, pandemic, over-digitisation- Artificial Intelligence).

Session 2 (1 hour):

- Timeline of the crises of the last two centuries. Students will be given cards with different years and crisis events and will be asked to match the years with the crisis events in chronological order. They will work in groups of five. For this activity they can document using the internet, the school handbook or other resources accepted at school level.
- In groups of five, each group of students will design a message of support for the victims of one of the crises discussed. They will be provided with large white sheets, charcoals, scissors.

Session 3 (1 hour):

- Selection of videos on crisis generated by the First World War and Humanitarian crisis -The Holocaust.
- Success Stories. The teacher and student ambassadors will provide children with information about the life stories of famous personalities who survived existential crises (Holocaust, autoimmune diseases, slavery). Based on the stories exemplified, children will be encouraged to share personal experiences or experiences they have heard about (e.g., how they survived the COVID-19 pandemic).

People, places, careers and curricula

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| Collaboration | Social Sciences and Humanities teachers work closely with student ambassadors, university academics, and a regional teacher coordinator to develop hands-on Social Sciences and Humanities activities for the entire year group. The school runs the activities after co-creation and co-development with the collaborators. All staff and school students are informed about the collaboration with the university. During the activity, student ambassadors are present in the classroom as older peers. They participate in the activities, alongside school students and engage school students in conversation about the activities and |
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| | <p>about school students' own interests and plans. Teachers are responsible for the classroom management and flow of the session.</p> <p>There have been several planning meetings liaising with</p> <ul style="list-style-type: none"> • A local secondary school • Student Ambassadors from ANOSR and University of Bucharest • Academics from University of Bucharest • Experts in IAG from Proedus • A history teacher coordinator from the local secondary school <p>Following the discussion with all the collaborators, a resource training was planned and then delivered by the history teacher coordinator at the local school with the participation of student ambassadors and researchers from the university, and several teachers from the school. Student ambassadors, along with teachers, interact with school students through hands-on Social Sciences and Humanities activities to support the development of enquiring minds, teamwork, reasoning skills, empathy and career awareness. Details of the guidance for the student ambassadors and teachers can be found in the section above, <i>Description</i>.</p> |
| <p>Pedagogy</p> | <p>The methodology is centred on inquiry- and problem-based learning combined with action learning.</p> <p>During the activity students will focus on the impact and role of crises in history. Students will work in collaborative groups to identify what they need to learn in order to solve a problem generated by a crisis of any kind. They will be engaged in self-directed learning (SDL), then apply what they've learned to the problem. Learning from animations with historical figures who experienced crisis situations: https://vm.tiktok.com/ZGJGtoM74/</p> <p>At the end of the activity, they will think about what they've learned and how well the methods they used worked. Teachers and student ambassadors acts to facilitate the learning process rather than to provide knowledge.</p> <p>Student ambassadors will try to motivate students, develop aspirations for the social sciences and humanities fields. They will give examples and analyze the biography of some personalities who have successfully overcome periods of economic, social and personal crisis.</p> |
| <p>IAG</p> | <p><u>Student ambassadors</u> (around 3 to 4) are present in the classroom and share their areas of study and their route to the university.</p> <p>Successful goal setting and achievement is the result of planning, thinking and doing. Student ambassadors and Proedus experts</p> |

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| | <p>will help school students develop goal setting skills related to their future according to the following criteria:</p> <p>Goals for my future career:</p> <ul style="list-style-type: none"> • It is achievable. I have the necessary skills, strengths, abilities or resources. • It is believable and realistic for me. I believe I can achieve it. Given my knowledge of myself, the goal is realistic. My mental attitude is positive and optimistic. • I want to do it. I “want” means I get satisfaction and pleasure. It is my own goal. • It is worth setting because it fits into my personal value system. • I am motivated to achieve the goal. • I have set a target date for completing my goal. |
| Local Context | <p>Advice for subject selection for different careers:</p> <p>How to become a law student?: https://www.youtube.com/watch?v=vgem_HT53Wg</p> <p>How to become a successful person? Tips from an economist https://www.youtube.com/watch?v=N8me9tWfV5w</p> |
| Links to Curricula | <p>This social science activity focuses on the theme of crises, starting with the latest contemporary crises. The sessions look at different types of crises, the solutions that have been found at the time and the types of personalities who have managed to overcome them. The topic is interdisciplinary, bringing together information from several fields:</p> <p>History: The impact of crises on the unfolding of events in the past. The cyclical nature of crises.</p> <p>Economy: Most crises have had a major economic and financial impact.</p> <p>Sociology: Humanitarian crises.</p> <p>Politics: Most crises have been solved by public policy.</p> |
| Possible Adaptations | <p>These activities ideally can be completed during lessons time with a whole class.</p> <p>Alternatively, this can be adapted as one year-long project or as a debate competition on crises.</p> |

Resources and references

- Teacher Guide: <https://www.thenewhumanitarian.org/Rethinking-humanitarianism-25-crises-shaped-history>
- Video Guide: <https://www.youtube.com/watch?v=SwaCg7Gwtzw>
- Student Guide: <https://www.youtube.com/watch?v=62DxELjuRec>

- The crisis generated by the First World War (Video link: <https://vm.tiktok.com/ZGJGtoM74/>)
- Humanitarian crisis -The Holocaust (Video link: <https://eduboom.ro/video/351/istoria-annei-frank>)
- How to become a law student? https://www.youtube.com/watch?v=vgem_HT53Wg
- How to become a successful person? Tips from an economist <https://www.youtube.com/watch?v=N8me9tWfV5w>
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The world of people who think in numbers and percentages

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| Country | Romania | Duration | Three 1-hour sessions |
| Age group | 11-14 years (Years 5-8 in Romania) | Careers | Accountant, Auditor, Bank Worker, Economist, Business Analyst, Manager, Marketing Specialist |
| Summary | <p>This is an Economics and business student ambassador outreach activity that aims to improve school students' engagement and outcomes in Economics and business subjects during their crucial decision-making years in secondary level (ages 11-14 years old in Romania).</p> <p>The activity is intended to generate curiosity and aspiration towards the Economics and business field, through the lens of their importance for the economic stability and avoiding financial crisis. Using pedagogical methods or from the psychology of education based on problematization, the activity takes on the character of a workshop, inviting students to learn through discovery what occupations in the field of economics and business entail. Students will learn about what are the most famous professions in the economic field, what qualities must an entrepreneur have to be successful.</p> <p>The outreach activity involves three main activities:</p> <ul style="list-style-type: none"> • Who takes care of our money? Student ambassadors and the math teacher, even with the social education teacher, will start an activity using <i>The Starbursting</i> method, involving six groups of five students each, from the local secondary school. • Circular economy – the ideal solution for economic development and pollution reduction? This activity will entail the participation of all students in a creative exercise by the small groups of students from the local secondary school about the links between circular economy and other concepts like production, consumption, reuse and repair, recycling, from an economic perspective. | | |

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| | <ul style="list-style-type: none"> • What qualities do you need to build an empire? In this activity, there will be discovered and presented strengths which every entrepreneur should have to succeed. The social education teacher, together with the student ambassadors, will engage the students in a dynamic action, using the Frisco method. Also, there will be discussion about the success stories of some famous entrepreneurs. |
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Aims of the activity

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| <p>For Student Ambassadors</p> <ul style="list-style-type: none"> • Building valuable teamwork experiences for and contributing to student ambassadors' employability skills. | <p>For Young People in Schools</p> <ul style="list-style-type: none"> • An increase in students' knowledge and understanding of Economics and business fields and it is also important the students' learning of what professions such as business analyst, auditor, accountant entail. • A better understanding of what happens to the taxes we pay. • An increase in students' awareness and understanding of Economics and business career progression routes and future prospects. • The sessions aim to raise students' motivation, engagement, and attainment in Economics and business subjects, increase self-concept and self-efficacy, and support students' interest in enrolling on Economics and business courses at university in longer term. |
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Outline of the activity

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| <p>The activity aims at a better understanding of the similarities and differences between professions in the economic and business fields. A specialist who is trained at an Academy of economic studies, at a study program in the financial field can have knowledge and skills related to: business administration, economic cybernetics, economic informatics, statistics and economic forecasting, accounting and management informatics, economic communication in business, Agricultural and environmental economics, Finance and banking, Management, Marketing, International economic relations, Public administration, Human resources.</p> <p>Nowadays, more and more teenagers or young people want to be on their own. They see with positive eyes all those who managed to set up a business and use their strengths, but also the skills formed in the professional training to make a profit. Many young people want to be active online, to be content creators, but this requires, in addition to talent, creativity and originality, the ability to be a freelancer. For many students of their age, the difference between a freelancer and an</p> |
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entrepreneur is still uncertain. This is where student ambassadors intervene, assisted by the coordinating teacher, and help the children to find out in a dedicated activity, using interactive methods.

Content of the Resource Training and Co-development of the activities:

- Greetings and introductions of each collaborator (researchers, student ambassadors, teachers and the teacher coordinator).
- A quick introduction of what literature and effective practices say about the best outreach practices, highlighting the importance of:
 - Collaboration between schools and higher education institutions:
 - The need for ambassadors to understand school context, school students and how it is the best way to explain what the professions in the economic field entail, what are the differences between the jobs in this field, but also what skills they should have for each of them
 - Experiential and active learning activities
 - Longer term engagement (not one-off activities)
 - The need to work with younger students that ambassadors work along with younger students positioned as peer to peer and not as teachers and students
 - Careers and real-world contexts are embedded in activities
 - Training and guidance
 - Hands on activity which puts all the collaborators into the position of school students.

This aims to support ambassadors and teachers in better understanding the experiences of students, and to plan the activity accordingly and support students better during activities.

- Discussions and considerations on
 - working in groups in whole class setting
 - links to the curriculum
 - links to careers
 - inclusive pedagogies

Follow up session by the researchers with the student ambassadors prior the actual activities, focussing on:

- Group work strategies
- Questioning techniques (e.g., inquiry questions- encouraging school students think about an observation/problem rather than answering the questions straightaway)
- Examples of economics and business careers (e.g., accountant, auditor, bank worker, economist, business analyst, manager, marketing specialist)

- Suggestions for changing the perception of economics and business (e.g., a lot of people think that these professions are boring, they don't involve creativity, you only work with numbers, which is not true)
- Being able to point student ambassadors' own experience while interacting with school students
- Resources that ambassadors can sign post younger students to if they want to find out more about subject choices and careers.

Main activities in each session:

Teachers are responsible for the flow of the session and classroom management and are expected to visit the groups and have interactions with the students using inclusive pedagogies.

Session 1 (1 hour):

Who takes care of our money?

In the activity entitled *Who takes care of our money?* The star explosion method will be used, which aims to understand some concepts, ideas, from a creative perspective, similar to brainstorming. This involves writing the idea in the centre of the sheet framed by a stylized star. From each corner of the star starts a question that will lead to the clarification of the central subject.

In the centre, there will be a profession from the economic field, and from this the following questions will derive:

- Where does this person work?
- What does her activity consist of?
- What studies did he follow?
- Why did he choose this profession?
- When/after how long did he become a very good professional?

There will be six groups of children, and the targeted professions are: auditor, accountant, banking worker, anti-fraud inspector, marketing specialist, manager.

Session 2 (1 hour):

Circular economy – the ideal solution for economic development and pollution reduction?

The second session will bring the concept of circular economy to the students' attention. The circular economy is a model of production and consumption that involves sharing, renting, reusing, repairing, refurbishing and recycling existing materials and products for as long as possible. Thus, the life cycle of the products is extended, and the costs related to the production of new goods, their transport to the consumer, and the logistics involved in their commercialization, or the enormous costs involved in the collection and destruction of prematurely discarded waste will disappear. The students will learn this new direction from the economic field, observing the links with environmental protection, but also with the dedicated

activities in the Arts field, previously brought to the attention of the children by the student ambassadors.

Professions such as economist, very general, but also more specific ones related to business administration in trade, tourism, services, merchandising and quality management will be highlighted.

The lotus blossom technique involves deducing connections between ideas, concepts, starting from a central theme. The central problem or theme determines the eight secondary ideas that build around the main one, like the petals of the lotus flower. Thus, starting from a central theme, new study themes are generated for which they must develop new connections and new concepts. The Lotus Blossom Diagram is a mind-mapping tool that allows to organize ideas and visualize them in sub-categories of each idea. It presents a more organized form of mind maps.

The students will receive sheets of paper and coloured pencils and will be asked to draw a Lotus flower, starting from the central theme *Circular economy*. There will be eight teams, made up of three or four students, depending on the size of the group.

This approach allows them to highlight the links between the concepts related to the main theme. In the second session they can document themselves on the internet, ask their teacher or consult any other resources agreed by the school.

The eight themes from which they will start are: production, consumption, distribution, repair and maintenance, refurbish, recycle, repurpose, reduce.

In the end, the diagram will be drawn on the board to provide an overview of the topic.

Session 3 (1 hour):

What qualities do you need to build an empire?

What is the FRISCO method?

The FRISCO method is based on the interpretation of a role by the participants specific, covering a certain dimension of the personality, addressing a problem from several perspectives. Thus, the members of the group will have to play, each, in turn, the conservative role, the exuberant role, the pessimistic role and the optimist role. It is based on directed and demanding brainstorming on the part of students' empathic abilities, critical spirit, emphasizing on stimulation of thinking, imagination and creativity.

The steps of the Frisco method:

- The stage of posing the problem: the teacher notices a problem situation and proposes it for analysis; in this case, the proposed problem is discovering the qualities of an entrepreneur.
- The collective organization stage: The class will be divided into four teams, each corresponding to one of the roles.
- The stage of the collective debate: everyone interprets the chosen role and supports their point view in accordance with it.

So, the one who is conservative has the role of appreciating the merits of old solutions, speaking in favour of their maintenance, without excluding the possibility of eventual improvements. The exuberant looks to the future and emits ideas seemingly impossible to apply in practice, thus ensuring an imaginative-creative, innovative framework and stimulating them as well the other participants to look at things this way. The pessimist is the one who does not have a good opinion about what is being discussed, censoring the initial ideas and solutions proposed. He reveals the bad aspects of any improvements. For example, it is well known that every entrepreneur assumes risks, and from the pessimistic approach, this is a sure way to failure, when the optimist sees opportunities. The optimist illuminates the shadow left by the pessimist, encouraging the participants to look at things from a real, concrete and achievable perspective. He finds realistic foundations and the possibilities of realizing the solutions proposed by the exuberant, stimulating the participants to think positively.

- The stage of systematizing the ideas issued and concluding on the solutions found.

In the remaining time, the similarities and differences between freelancers and entrepreneurs will be discussed freely, from an empirical perspective, after they found out what qualities an entrepreneur has.

People, places, careers and curricula

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| <p>Collaboration</p> | <p>Economics and business students work closely with student ambassadors, university academics, and a regional teacher coordinator to develop hands-on Economics and business activities for the entire year group. The school runs the activities after co-creation and co-development with the collaborators. All staff and school students are informed about the collaboration with the university. During the activity, student ambassadors are present in the classroom as older peers. They participate in the activities, alongside school students and engage school students in conversation about the activities and about school students' own interests and plans. Teachers are responsible for the classroom management and flow of the session.</p> <p>There have been several planning meetings liaising with</p> <ul style="list-style-type: none"> • A local secondary school • Student Ambassadors from ANOSR and University of Bucharest • Academics from University of Bucharest • Experts in IAG from Proedus • A teacher of economics or coordinator from the local secondary school <p>Following the discussion with all the collaborators, a resource training was planned and then delivered by the social education teacher coordinator at the local school with the participation of</p> |
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| | <p>student ambassadors and researchers from the university, and several teachers from the school. Student ambassadors, along with teachers, interact with school students through hands-on Economics and business activities to support the development of enquiring minds, teamwork, reasoning skills, empathy and career awareness. Details of the guidance for the student ambassadors and teachers can be found in the section above, Description.</p> |
| <p>Pedagogy</p> | <p>The methodology is centered on inquiry- and problem-based learning combined with action learning.</p> <p>This economics and business activity focuses on how important occupations in the economic field are. How much there is a need for people to work in public institutions like ANAF (National Agency for Fiscal Administration, how bank workers help us to get a loan, how every business needs an accountant or a business analyst.</p> <p>They will be engaged in self-directed learning (SDL), then apply what they've learned to the problem.</p> <p>At the end of the activity, they will think about what they've learned and how well the methods they used worked. Teachers and student ambassadors act to facilitate the learning process rather than to provide knowledge.</p> <p>Student ambassadors will try to motivate students, develop aspirations for the economics and business fields. They will give examples and analyze the biography of some personalities who managed to have a very profitable business.</p> |
| <p>IAG</p> | <p>Student ambassadors (around 3 to 4) are present in the classroom and share their areas of study and their route to the university.</p> <p>Successful goal setting and achievement is the result of planning, thinking and doing. Student ambassadors and Proedus experts will help school students develop goal setting skills related to their future according to the following criteria:</p> <p>Goals for my future career:</p> <ul style="list-style-type: none"> • It is achievable. I have the necessary skills, strengths, abilities or resources. • It is believable and realistic for me. I believe I can achieve it. Given my knowledge of myself, the goal is realistic. My mental attitude is positive and optimistic. • I want to do it. I “want” means I get satisfaction and pleasure. It is my own goal. |

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| | <ul style="list-style-type: none"> • It is worth setting because it fits into my personal value system. • I am motivated to achieve the goal. • I have set a target date for completing my goal. |
| Local Context | <p>Advice for subject selection for different careers:</p> <p>What does an auditor do? https://www.youtube.com/watch?v=nJalOuj-r2w</p> <p>What does an accountant do and why is it so important? https://www.youtube.com/watch?v=WR2oftl_urg</p> <p>Data Analyst vs Business Analyst Which is Right for You? https://www.youtube.com/watch?v=BCL2vXGluZ8</p> <p>Study programs from ASE- The academy of economic studies in Bucharest https://mefc.ase.ro/programe-de-studii/programe-de-licenta/</p> |
| Links to Curricula | <p>Social education: It is very important for the general dynamics of a state, for the development of the infrastructure, for the functioning of the health and education systems, for all citizens to be good taxpayers, to pay their taxes on time.</p> |
| Possible Adaptations | <p>This activity ideally can be completed during a lesson time with a whole class.</p> <p>Alternatively, this can be adapted as one year-long project or as a debate competition about <i>business ideas with potential success</i>.</p> |

Resources and references

- Teacher Guide: <https://viatadefreelancer.ro/freelance-versus-antreprenoriat-asemanari-si-diferente/>
- Video Guide: <https://www.youtube.com/watch?v=RYa9dR1PpwU>
- Student Guide: https://www.youtube.com/watch?v=z8_e40h3Q3I
- <https://www.business-education.ro/fara-categorie/10-calitati-ale-unui-antreprenor-de-succes>
- Life is a transaction, how can you make it successful? (Video link: <https://www.youtube.com/watch?v=IAhVqvebuTE>)
- Dan Şucu - How I Made My First Million Dollars? (Video link: <https://www.youtube.com/watch?v=bCtq7ys6-k0>)
- Mc.Holland, J.D. (1976). Human Potential Seminar. A positive-approach to self-development. Basic Guide-Handbook. National Center for Human Potential.

Junior chefs

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| Country | Turkey | Duration | 3-hour weekly sessions for one or two months |
| Age group | 11-14 years | Careers | Chef, Caterer, Dietician |
| Summary | Social science students visiting the Gastronomy department, gaining knowledge about the department, and engaging in practical activities. | | |

Aims of the activity

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| <p>For Student Ambassadors</p> <ul style="list-style-type: none"> • To empower student ambassadors as role models in their professions related to the food industry. • To enhance leadership, presentation, and time-management skills of student ambassadors. | <p>For Young People in Schools</p> <ul style="list-style-type: none"> • To enhance students' knowledge of the social sciences department, motivate them for their future, provide preliminary information for choosing the department, and improve their working skills. |
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Outline of the activity

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| <p>1. Activity: Introduction and presentation of the environment. (1st Week)</p> <p>A student representative picks up the students from school and takes them to the institution where the activity will be held (university/culinary program). They introduce the environment and individuals the children will be working with. The children learn about the Culinary program from the people they meet, share their own ideas, engage in discussions, and discuss identified issues. Later, the student representative takes the students back to school.</p> <p>2. Activity: Choosing a meal and preparing it.</p> <p>When selecting the meal to be prepared, attention is paid to choosing a recipe that the children can easily understand and prepare. The chosen meal is explained to the children, and they are taught how to make it. The selected meal is prepared together by the "culinary program" students and the participating children. This allows the children to gain experience through trial and application.</p> <p>3. Activity: How to prepare a picnic basket?</p> <p>The teacher explains in class how to prepare a picnic basket and what should be in it.</p> <p>4. Activity: Preparing a picnic basket.</p> <p>Students are divided into groups of 2-3 and are assigned the task of preparing a picnic basket at their homes. Students who have prepared them and the individuals</p> |
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participating in the activity have a picnic together. This aims to create a positive attitude among students towards this department.

5. Activity: Presentation of the experiences of the participating students to their classes.

6. Activity: Evaluation of the activity by the teacher, student representative, and students.

People, Places, Careers and Curricula

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| Collaboration | <p>The teacher will support the gathering of 11-14-year-old students interested in social sciences and will accompany them to meet with gastronomy students, ensuring that the students feel more confident and secure.</p> <p>The student ambassador will provide guidance on the objectives, information to be acquired, and achievements of the activity, introduce the culinary program students, and provide instructions on how the activities will be carried out. Videos about social science departments and the gastronomy department will be shown.</p> |
| Pedagogy | <p>Pedagogy Kolb's Experiential Learning Theory:</p> <p>Concrete Experience: Individuals who learn through concrete experiences learn best when they receive feedback about their learning. In the first stage of the activity, "Introduction and presentation of the environment," students learn best when they get to know the place and participate in discussions in the learning environment.</p> <p>Reflective Observation: Individuals with a high level of reflective observation learn best when they have the opportunity to actively work through trial and error, such as in the "Choosing a meal and preparing it" step where they prepare a meal through trial and error.</p> <p>Abstract Conceptualization: Individuals with a high level of abstract conceptualization tend to be more inclined towards objects and symbols. In the "How to prepare a picnic basket" step, they learn best by listening to their teachers and gaining the necessary information.</p> <p>Active Experimentation: Individuals with a high level of active experimentation perform best in situations that involve active assignments, projects, group discussions, etc. In the "Preparing a picnic basket" step, they gain experience by actively completing the task assigned to them.</p> |
| IAG | <p>Guidance for 11-14-year-olds to understand themselves and their needs, develop new perspectives, and think ahead for their future.</p> <p>Planning for their future in the context of real-world careers.</p> |

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| Local Context | <ul style="list-style-type: none"> • Disadvantaged groups or underrepresented groups in the local context. • Nomadic lifestyles (They go to the eastern provinces in the spring and the southeastern provinces in the fall, causing disruptions in their education). • Livelihood through livestock farming. • Lack of electricity and schools in the highlands and plains where they go for livestock farming purposes. • Lack of family support for education. • As a result, children from nomadic families are in a disadvantaged situation compared to their peers in the city. |
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Resources and references

<https://www.tugbacansali.com/2015/01/david-kolbun-denyimsel-ogrenme-teorisi.html>

Suffragettes – rights activists or criminals?

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| Country | United Kingdom | Duration | Three 1-hour sessions |
| Age group | 13-14 years (Year 9 in the UK) | Careers | Historian, Museum Curator, Writer, Teacher |
| Summary | <p>This is a self-experiential activity where student ambassadors explore a history-based activity that they will then co-facilitate in local schools.</p> <p>This activity introduces the topic of the suffragette movement in the UK, and specifically in the local history of Suffolk.</p> <p>The aim of the activity is to introduce local history to the students, making connections between their town, the subject area and their potential careers applying history knowledge. Student ambassadors serve as role models and advocates of possible career paths and create a connection between the university, the subject and the students.</p> <p>It consists of a series of three sessions including a town tour. The activity also highlights the place of the university in the town – physically/geographically and as a space for exploration and learning about the local history, making an impact on the development of the local community.</p> <p>Students will be exploring the suffragette movement through engaging with primary sources such as historical documents, letters, newspaper articles, diaries. Students will then apply their understanding in a role play or express their reflections in poems or art products. The third session includes a tour of the town.</p> | | |

Aims of the activity

| For Student Ambassadors | For Young People in Schools |
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| <p>With regards to the student ambassadors, this activity will be used in training of ambassadors through self-experience. Student ambassadors will therefore first participate in this activity with more experienced student ambassadors leading it. They will then contribute to its further development, adjusting the content or coming up with new ways of engaging with the activity. They will then co-facilitate the activity in collaboration with teachers from local schools and offer it to younger pupils. With this process in mind, the goal of the activity is to:</p> <ul style="list-style-type: none">• Increase student ambassador confidence in facilitating outreach sessions.• Increase ambassador subject content pedagogical knowledge – to have confidence in subject knowledge as well as understanding and skills of facilitating the activity as an educational opportunity.• Provide ambassadors with knowledge and skills on how to talk about history-related careers, possible applications of history-knowledge relevant to the local contexts of their communities. | <ul style="list-style-type: none">• Increase knowledge on the suffragette movement which is part of the curriculum• Gain experience in analysing primary sources• Gain confidence in presenting opinions and debating• Learn about local history, connecting with local cultural resources (the Hold, The History Trail by the Ipswich Women’s Festival Group)• Inspire pupils’ interest in history as a subject of study, with potential for studying it in higher education and leading to meaningful careers• Provide students with the opportunity to talk to student ambassadors as role models who attend university |

Outline of the activity

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| <p>Session 1 Introduction to the suffragette movement</p> <ul style="list-style-type: none">• Warm-up: What do you already know about the suffragettes?• True/False: Slido – myths about the suffragettes <p>https://blog.nationalarchives.gov.uk/myth-busting-womens-suffrage-movement/ - Content delivered through a PowerPoint presentation, mentioning the three groups of the movement, including people who represented it or were against it</p> <p>The Suffrage Campaign ppt:</p> <p>https://ccucsac.sharepoint.com/:p:/s/DIPLOMA-StudentAmbassadorArea/EYE_QhH_HshIrBdvwDtudIBz4WbQSHUK2AR07dgvIMNXQ</p> |
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The Suffrage Movement KS3 A3 Slide:

<https://ccucsac.sharepoint.com/:p:/s/DIPLOMA-StudentAmbassadorArea/EW5bEjk6Z0tMvukwKxXXo8kBUxjF0btnVmk5NjRuyiz17Q>

Were the Suffragists and Suffragettes fighting for the same things? Ppt:

<https://ccucsac.sharepoint.com/:p:/s/DIPLOMA-StudentAmbassadorArea/EXQajRN3XNRBq3NziiValvsBrCycz9A4f9ySRw68TNTGqq>

How do different sources complicate the story of how women won the vote? Ppt:

<https://ccucsac.sharepoint.com/:p:/s/DIPLOMA-StudentAmbassadorArea/EXICMsM6DVJGqqBWeKoVKCEBEtwmWHmP2vP58UcL8wcqkg>

How did women win the vote? Ppt:

https://ccucsac.sharepoint.com/:p:/s/DIPLOMA-StudentAmbassadorArea/EalMRJGuaYIPnLPE8kX1zC4BluoUloAk0aK_vHWXf8117A

Why did women get the vote in 1918 in Britain? Ppt:

<https://ccucsac.sharepoint.com/:p:/s/DIPLOMA-StudentAmbassadorArea/EfHUDYr6yGRlu-8w4cH4qnYBkOgnHtiQk1ytUaM2IIKyFA>

Suffolk Archives – the campaign for woman's Suffrage in Suffolk Ppt:

<https://ccucsac.sharepoint.com/:p:/s/DIPLOMA-StudentAmbassadorArea/EUwTXHqrtCpBmVB3pj7LFBcBgyxsUE9rX0vXHH9KhwIMHA>

Links to WW1 and the military perception of the Suffrage Movement:

https://ccucsac.sharepoint.com/:p:/s/DIPLOMA-StudentAmbassadorArea/EfshF_3ZNaRMjIqnwpp87c8BpP72OwYpx6MUk6H8ka3ROQ

- Rebuild the timeline – timeline is printed and cut up into cards

Link for timeline pp. 10-16.

[The campaign for women's suffrage In Suffolk A ...](#)

<https://www.suffolkarchives.co.uk > 2021/11>

Different timeline on the Suffrage Movement:
<file:///Users/daisyellis/Downloads/Spirited%20learning%20resources%20KS3%20FINAL%20web.pdf>

- Write a poem about the suffragette movement or create an image, create a meme

Session 2 Group debate

- Cards with individuals: Name, Photo, Years, most important facts, what they were well known for

<https://ccucsac.sharepoint.com/:w:/s/DIPLOMA-StudentAmbassadorArea/EUrFjXCdd49DtNnmfgQNHVoBOEHDEnesITjpgfP8qpV8pA>

- Activity: Students are handed out cards, find your group
- Group work: discuss what your group was about – what are the strategies of the group to achieve their goals => present to other groups
- Pair work: Get to the pairs with the 'same' person. The pair is given **primary resources**, they can read, discuss, prepare for a debate, how would they answer as the person [The campaign for women's suffrage In Suffolk A ...](#)

<https://www.suffolkarchives.co.uk > 2021/11>

<https://www.nationalarchives.gov.uk/education/resources/suffragettes-on-file/?show=all#more>

<https://www.archives.gov/education/lessons/woman-suffrage>

<https://digital.library.lse.ac.uk/collections/suffrage>

- Reconvene as a small group and set up a strategy for the debate, get ready for the debate + prepare questions and potential criticisms for other groups + they will get a cheat sheet with possible questions to ask
- Whole class: Debate between groups, speak in character, use wording
- (State what your group is and what your strategies were)
- A winner to the debate is announced – guide for student judges is provided – how to decide which group is the winner and justify their decision

Historical interpretations activity

Use the link provided, includes the historiography resource:

<https://www.suffrageresources.org.uk/activity/3211/why-do-historians-have-different-views-of-the-suffrage->

- Students would have to read through the extracts from each historian's views on the Suffrage movement, identify and highlight key words/phrases that are being used to describe the different Suffrage groups that have previously been discussed in the debate e.g. the Suffragists, Suffragettes or Anti-Suffrage League.
- They would then have to try and sum up the argument of each historian in a couple of sentences.
- Then add in their own knowledge of the Suffrage movement e.g. different events that they would have previously learnt about from the debate.
- Students would then use their own knowledge to identify pieces of evidence that they think support the argument being made by a historian.
- Students would then present their findings to the class and argue how the pieces of evidence they have selected support a chosen historian's argument.

Session 3 History Trail

- Prep – look through the leaflet together, plan the walking according to the map – these people from session were most important, but when you look at it at the local scale, this is what it was like
- Identify links to the three groups
- Go for the walk

Link for the leaflet:

<http://www.ipswichwomensfestivalgroup.co.uk/assets/Uploads/PDFs/IpswichWomensTrail2022.pdf>

- Talking to ambassadors about Sylvia and Helen Pankhurst, and potential careers

People, places, careers and curricula

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| <p>Collaboration</p> | <ul style="list-style-type: none"> • The teacher is delivering the PowerPoint and supports group work, the teachers can encourage follow-up, extended answers. • The ambassadors can be the debate moderators/facilitators. • During the walk, ambassadors have informal talks with the students about careers. <p>The activity uses a mixture of whole class, small group work and pair work. A consultation with a local school revealed that the school may prefer to select a group of students who would engage with the series of activities led by the ambassadors. Research shows, however, that for widening participation, engaging with whole classes is more effective as it can reach the 'hard-to-reach' students. The format is thus to be consulted and co-designed with the school to find the most suitable organisation of sessions.</p> |
| <p>Pedagogy</p> | <p>Feminist pedagogies to tackle inequalities in education</p> <p>This activity follows feminist pedagogical principles, seeing education as a method of empowerment as well as a tool for social change (Manicom, 1992), empowering girls and women in raising their educational and career aspirations. In addition, feminist perspective encourages a bottom-up constructivist learning and teaching approaching, valuing the voice and knowledges of all participating learners. This is especially important in widening participation efforts when students may be coming from backgrounds that have not been given space for expression of individual and collective histories and experiences.</p> <p>Another principle of feminist pedagogies is to connect to the personal stories and to communities outside of academic boundaries (Howard, 2023).</p> <p>Experiential learning through role play</p> |

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| | <p>In terms of the methods of learning and teaching, the students will be using primary sources, real-life materials, as historians do in their jobs. The activity thus provides a real-life taster of the possible career. Analysis of primary sources encourages students to apply higher-level thinking and apply critical analysis to the information they work with (Grossman et al., 2019). Role-play and debates allow the students to “step into the shoes” of the historical figures and analyse situations from their point of view, which requires understanding and applying the knowledge gained about these personalities and the historical era they lived in. Playfulness of the role play allows for creating a safe distance through the character when students can explore various opinions and their impacts without necessarily presenting them as their own.</p> <p>Role play is an experiential learning method that increases student engagement and collaborative learning, and specifically working in history allows for interpretation and critical analysis of primary resources with a pre-existing textbook interpretation. For students to be able to use role play effectively as a learning mechanism, they need sufficient knowledge to contextualise it and be able to engage with the content at the level of critical thinking (Stevens, 2015).</p> |
| <p>IAG</p> | <p>The activities mention suffragettes that were locally relevant to the region and the university. Students can also follow-up by reading the stories in a book titled <i>Deeds Not Words</i>.</p> <p>The History Trail takes students around sightseeing posts of interest that were created by historians. The tour also includes visiting the local historical archives in <i>The Hold</i>, which is located on the university campus.</p> <p>Student ambassadors will be encouraging conversations during the walk of how are engaged with using the resources from the archives and how the locally relevant history relates to their studies.</p> <p>Pupils will have a chance to talk to student ambassadors as their role models in becoming historians that can make great changes to the development of the region in similar ways that the suffragettes impacted the local history despite having to fight for their voice in the society.</p> <p>Reflective session can be added after the tour of the town, thinking about situations when students felt their voices were not listened to. What are the issues that they are passionate about? What could we learn from the suffragettes in planning how to achieve social change? How could university education (and studying history) help us achieve this?</p> |
| <p>Gatsby Benchmarks</p> | <p>The “Baker Clause” was introduced in 2017 in an attempt to ensure schools provide students with access to information from training providers and colleges. Since 2020 the government has</p> |

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| | <p>required schools to work towards all of the eight Gatsby benchmarks (https://www.goodcareerguidance.org.uk/case-study/a-stable-careers-programme).</p> <p>This activity meets the Gatsby benchmarks in these particular ways:</p> | |
| <p>A stable career programme</p> | <p>Consultations with schools in creating the activity led to stronger connections between the schools and the university, sharing expertise in creating opportunities for exploring careers in history for the local students that tie in with their region</p> | |
| <p>Learning from career and labour market information</p> | <p>Student ambassadors represent role models, creating a bridge between the pupils, the university and the archives as a potential employer</p> | |
| <p>Addressing the needs of each pupil</p> | <p>Feminist inclusive pedagogies are applied throughout the activity (more in the Pedagogies section)</p> | |
| <p>Linking curriculum learning to careers</p> | <p>The activity introduces the work of a historian using real world primary sources. In addition, it invites reflection on the topic and how the skills suffragettes had could be used in achieving social change.</p> | |
| <p>Encounters with employers and employees</p> | <p>Student ambassadors represent young professionals that are relatable and have the expertise needed for the career in history-related fields. The tour of town shows evidence of various spaces where a historian's work has impact and is publicly visible.</p> | |
| <p>Experiences of workplaces</p> | <p>The tour of the town / historical trail includes a visit to The Hold – local archives.</p> | |
| <p>Encounters with further and higher education</p> | <p>Student ambassadors represent the field and the provide opportunities to discuss informally, how it is to study History at university</p> | |
| <p>Personal guidance</p> | <p>Student ambassadors talk to pupils individually, allowing for specific questions and possibilities to be discussed. It is not a formal presentation of a career but rather an immersive experience of a day in a historian's life.</p> | |

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| <p>Local Context</p> | <p>The University of Suffolk is closely connected to the local community and advocates civic responsibility and connectedness to the region. The activity uses materials developed by The Suffolk Archives and the Suffolk County Council, pointing out the potential for career options as a history-graduate in these local institutions.</p> <p>The content of the activity is about women in the local history, empowering girls to follow their career dreams of open possibilities to think about potential careers. Moreover, Sylvia Pankhurst, one of the suffragettes mentioned in the activity was the grandmother of Prof Helen Pankhurst, also a women’s rights activists and the Chancellor of the University of Suffolk.</p> |
| <p>Links to Curricula</p> | <p>GCSE</p> <p>OCR – GCSE History B (Schools History Project) (J411)</p> <ul style="list-style-type: none"> • British Depth Studies option: Britain in Peace and War, 1900–1918 – this option includes a study of the nature and extent of support for women’s suffrage <p>AQA – GCSE History (8145)</p> <ul style="list-style-type: none"> • Thematic Study option: Britain: Power and the people, c.1170 to the present day – includes the campaign for women’s suffrage <p>Eduqas – GCSE History</p> <ul style="list-style-type: none"> • Component 1: Studies in Depth; Option 1C: Empire, Reform and War: Britain, 1890-1918 – includes the campaign for women’s suffrage <p>Also, the analysis of primary sources is relevant to GCSE history exams.</p> <p>Connect to other parts of the curriculum – How did the suffragette movement impact the WWII.</p> <p>Subject teachers could collaborate – e.g., the history session could be followed by English – e.g., creative writing about the topic.</p> <p>History Trail could be connected with geography, navigating the map.</p> |
| <p>Possible Adaptations</p> | <p>Traumatic topics</p> <p>Considering trauma-informed pedagogies for teaching in teaching traumatic content in history subjects (Harrison et al., 2023) can be seen as part of inclusive pedagogies informed by ethics of care (Nind et al., 2013) especially when working with students from various socio-economic and cultural backgrounds. With student ambassador activities contributing to supporting access and success of students in higher education, considering the emotional impact of various topics in the curricula can be detrimental in positioning oneself as a professional in the field.</p> |

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| | <p>Harrison et al. (2023) found that the most important in teaching traumatic historical content was creating opportunities for reflection.</p> <p>Project-based learning</p> <p>Further project-based learning ideas could be inspired by Grossman et al. (2019).</p> <p>Groups of students work together on developing a proposal for the mayor of the town / director a school to erect a new monument to a local suffragette, using primary sources in the justification of their proposal. Project-based learning thus cultivates disciplinary thinking, creates a connection to the discipline, allows for creation of relevant experiences and is collaborative and iterative in its nature, going through production, feedback, reflection and revision as a continuous cycle.</p> |
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Resources and references

- Links to materials and handouts are included in the respective sections.
- The format of the delivery of the activity needs to be negotiated with the school – for example, the number of groups taking part in the activity.
- Feminist Pedagogy for Teaching Online: A Digital Guide <https://feminists-teach-online.tulane.edu/>
- Grossman, P., Dean, C. G. P., Kavanagh, S. S., & Herrmann, Z. (2019). Preparing teachers for project-based teaching. *Phi Delta Kappan*, 100(7), 43-48. <https://doi.org/10.1177/0031721719841338>
- Harrison, N., Burke, J., & Clarke, I. (2023). Risky teaching: Developing a trauma-informed pedagogy for higher education. *Teaching in Higher Education*, 28(1), 180-194.
- Howard, J. T. (2023). Feminist Pedagogy for Teaching History Online. In *136th Annual Meeting (January 5-8, 2023)*. AHA. <https://aha.confex.com/aha/2023/meetingapp.cgi/Paper/34498>
- Manicom, A. (1992). Feminist pedagogy: Transformations, standpoints, and politics. *Canadian Journal of Education/Revue Canadienne de L'éducation*, 17(3), 365–389.
- Nind, M., Rix, J., Sheehy, K., & Simmons, K. (Eds.). (2013). *Curriculum and pedagogy in inclusive education: Values into practice*. Routledge.
- Stevens, R. (2015). Role-play and student engagement: reflections from the classroom. *Teaching in Higher Education*, 20(5), 481-492.

Chapter 7. Health activities

Healthy Movement, Healthy Living

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| Country | Turkey | Duration | A series of activities lasting 9 days |
| Age group | 11-14 years | Careers | Sports Teacher, Physiotherapist, Nutritionist, Sleep Specialist |
| Summary | The activity aims to instil the importance of a healthy lifestyle in children, promote physical activity, and encourage healthy eating habits. Students conduct research, prepare presentations, participate in physical activities, and acquire knowledge about healthy eating. Through this activity, students develop awareness of a healthy lifestyle, strengthen leadership and teamwork skills, and adopt healthy living habits. | | |

Aims of the activity

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| <p style="text-align: center;">For Student Ambassadors</p> <ul style="list-style-type: none"> • Supporting self-esteem as a role model of healthy lifestyles and careers in health • Opportunity to showcase areas of special interest or skill such as different types of sports, dance and movement • Increasing student ambassadors' group facilitation and presentation skills | <p style="text-align: center;">For Young People in Schools</p> <ul style="list-style-type: none"> • To raise awareness of healthy lifestyle • To motivate students to move more • To raise awareness about health- and movement-related careers. |
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Outline of the activity

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| <p>Step 1: "The Importance of Healthy Living" (1 day)</p> <ul style="list-style-type: none"> • The teacher explains the importance of a healthy lifestyle to the students and emphasizes why physical activity and healthy eating are necessary. • A discussion on healthy living is held with the students, where ideas are shared. • The teacher explains the steps and objectives to be followed throughout the activity. <p>Step 2: "Research and Presentation Preparation" (2 days)</p> <ul style="list-style-type: none"> • Students are divided into random groups. • Each group selects a topic related to healthy living (e.g., sports, nutrition, sleep). • Each group conducts research on their chosen topic and prepares findings for presentation. |
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- The teacher provides guidance during the research process and assists with access to resources.

Step 3: "Presentations and Discussions" (2 days)

- Each group prepares a presentation based on their research.
- A session is organized for presentations, where other group members listen to and ask questions about the presentations.
- The teacher provides feedback during the presentations and guides the discussions.

Step 4: "Physical Activity and Sports" (2 days)

- The teacher introduces various physical activities and sports to the students.
- Students participate in these activities in groups, using leadership skills to guide their peers.
- Activities may include running races, team games, dance, or yoga.
- Students are encouraged to stay active and energized during the activities.

Step 5: "Healthy Eating" (1 day)

- Students engage in a study on healthy eating.
- They learn about the importance of fruits and vegetables and make healthy food choices.
- Students work together to create recipes for healthy snacks.

Step 6: "Activity Evaluation and Feedback" (1 day)

- The teacher provides feedback to evaluate whether the activity's objectives were achieved.
- Students are congratulated for completing the activity, and overall feedback is provided by the teacher.
- The skills acquired by students during the activity and their awareness of a healthy lifestyle are assessed.
- At the end of the activity, students are given advice on how to integrate healthy living habits into their daily lives.

People, places, careers and curricula

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| Collaboration | <p>Teacher's Role:</p> <ul style="list-style-type: none"> • Planning and organizing the activity. • Explaining the importance of a healthy lifestyle to students and setting objectives. • Guiding students during the research process and providing access to resources. • Providing guidance and support to students during presentation preparation and presentations. |
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| | <ul style="list-style-type: none"> • Directing physical activity and sports activities and encouraging students. • Providing information on healthy eating and guiding students during recipe creation. • Evaluating the activity and providing feedback. • Offering advice to students on integrating healthy living habits into their daily lives. <p>Student Ambassadors' Role:</p> <ul style="list-style-type: none"> • Managing and organizing groups. • Ensuring that group members collaborate during the research process. • Providing guidance to group members during presentation preparation. • Taking on leadership roles during physical activity and sports activities and motivating other students. • Creating healthy recipes and assisting group members. • Answering questions and providing support to group members throughout the activity. <p>Guidance for Student Ambassadors:</p> <p>Group Management:</p> <ul style="list-style-type: none"> • Facilitate the selection of a group leader and define their responsibilities. • Organize regular meetings to ensure group collaboration. • Assign roles and responsibilities to each member. <p>Research Process:</p> <ul style="list-style-type: none"> • Ensure that group members conduct research on the chosen topic. • Encourage sharing of resources and gathering of information. • Evaluate research results together and identify key points for presentations. <p>Presentation Preparation:</p> <ul style="list-style-type: none"> • Determine the format and content of the group's presentation. • Encourage the creation of visual aids (slides, posters) for presentations. • Help group members feel prepared by practicing their presentations. <p>Physical Activity and Sports:</p> <ul style="list-style-type: none"> • Provide training on how to lead and direct physical activities. |
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| | <ul style="list-style-type: none"> • Ensure that activities are safe and enjoyable, providing instructions. • Remind students to maintain high energy levels during the activities and prioritize safety. |
| <p>Pedagogy</p> | <p>Pedagogy: Kolb's Experiential Learning Theory:</p> <p>Concrete Experience (Feeling): Individuals with a high preference for concrete experience learn best when they receive feedback and engage in discussions in learning environments. In Activity 3, "Presentations and Discussions," individuals with a preference for concrete experience learn best as they engage in discussions and receive feedback related to presentations.</p> <p>Reflective Observation (Watching): Individuals with a high preference for reflective observation learn best when they have the opportunity to actively work on defined tasks and engage in trial-and-error methods. In Activity 4, "Physical Activity and Sports," a high preference individual can observe themselves actively engaging in sports. They discover the most effective sports, exercises, and movements through trial and error. They identify form errors by watching themselves and make improvements to enhance their performance.</p> <p>Abstract Conceptualization (Thinking): Individuals with a high preference for abstract conceptualization tend to gravitate towards objects and symbols. They are unable to learn when approached with learning methods such as simulations, applications, and exercises. Activity 2, "Research and Presentation Preparation," assigns students the task of conducting research and preparing presentations, requiring them to actively work. They strive to complete their tasks by thinking and reflecting on them.</p> <p>Active Experimentation (Doing): Individuals with a preference for active experimentation learn best in situations involving projects, practical assignments, small group discussions, and the like. Activity 4, "Physical Activity and Sports," allows participants to learn through active experience. This activity encourages physical activity and helps participants discover the importance of physical activity for a healthy lifestyle. Participants learn by experiencing different physical activities, engaging in sports, and performing exercises. In this way, they translate theoretical knowledge into practice, enhance their physical skills, and learn to stay active as part of a healthy lifestyle.</p> <p>Active Learning (Doing): Active learning is encouraged throughout the activity. Students are actively involved in research, presentations, physical activities, and creating healthy recipes. This approach enables them to learn by doing and actively engage with the material.</p> |

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| <p>IAG</p> | <p>In this activity, career-focused information, advice, and guidance can be included in the following ways:</p> <ul style="list-style-type: none"> • Providing examples of careers related to a healthy lifestyle (e.g., sports coach, nutritionist, yoga instructor). • Inviting guest speakers who are professionals in health-related fields to share their experiences with students. • Offering information and guidance on how a healthy lifestyle can contribute to future career opportunities. |
| <p>Local Context</p> | <p>The activity can be tailored to the local context by utilizing local parks or sports facilities. Additionally, involving local health experts or coaches can strengthen the local relevance. Collaborating with local health programs or campaigns can also extend the reach of the activity to a wider community.</p> |
| <p>Links to Curricula</p> | <p>This activity is aligned with various national curriculum areas such as health, physical education, and social skills. It supports students in improving their physical skills, acquiring knowledge about healthy eating, and utilizing teamwork skills, all in alignment with national curriculum objectives. The activity helps students understand, apply, and evaluate fundamental concepts related to healthy living.</p> |
| <p>Possible Adaptations</p> | <p>Adaptations can be made to accommodate different age groups, special needs, cultural contexts, or virtual/online environments:</p> <p>Adapting to Different Age Groups: The activity can be adapted for preschool, elementary, or middle school students by adjusting the language and content levels according to the age group. For example, with preschool students, you can focus on simpler physical activities and nutrition concepts.</p> <p>Adapting to Special Needs: The activity can be adapted to accommodate students with special needs. For example, physical activities can be modified to match individual abilities, and nutrition recommendations can be adjusted to meet specific dietary requirements.</p> <p>Adapting to Cultural and Local Context: The activity can be customized to align with local culture or traditional health practices. You can include local healthy food recipes or incorporate traditional dances or sports activities.</p> <p>Interdisciplinary Adaptation: The activity can serve as a bridge between different subjects or topics. For example, in mathematics class, you can calculate recommended intake amounts for healthy eating, or in science class, you can study the effects of physical movements.</p> <p>Virtual or Online Adaptations: The activity can be adapted to virtual or online environments by utilizing resources such as video lessons, online nutrition programs, or virtual fitness classes to facilitate remote learning.</p> |

Resources and references

- Healthy living brochures or posters.
- Internet access and resources for research.
- Suitable space and equipment for physical activities (e.g., sports hall, soccer ball, jump rope, yoga mats, etc.).
- Materials containing information on healthy recipes and nutrition.
- Projection equipment or computers for presentations.
- "Physical Activity Guidelines for Americans" - U.S. Department of Health and Human Services
- Contains recommended guidelines and resources for healthy living through physical activity: <https://health.gov/paguidelines/>
- "ChooseMyPlate" - U.S. Department of Agriculture
- Provides information, recipes, and resources on healthy eating: <https://www.choosemyplate.gov/>
- "Project-Based Learning Handbook" – Buck Institute for Education
- Offers a comprehensive guide on project-based learning methods and strategies:
https://www.bie.org/resources/publications/project_based_learning_handbook
- "The Role of Physical Activity in Health and Disease" – American College of Sports Medicine
- **An article explaining the effects of physical activity on health:**
<https://www.acsm.org/docs/default-source/files-for-resource-library/physical-activity-and-health.pdf>
- "Teaching Strategies for Health Education and Health Promotion" – Centers for Disease Control and Prevention
- Offers teaching strategies and resources for health education and health promotion: <https://www.cdc.gov/healthyschools/sher/teachingstrategies.htm>

Healthcare inside and outside the hospital

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| Country | United Kingdom | Duration | Three 1-hour sessions |
| Age group | 11-14 years (Year 8-9) | Careers | Accident and Emergency Doctor, Paramedic, Nurse, Radiographer, Occupational Therapist, Counsellor, Physiotherapist, Surgeon |
| Summary | This is a Health activity aimed to introduce students to health-based jobs. The activity makes use of the Jay Perez story activity and focuses on three points in a patient's life – straight after an accident, during the hospital stay, and after the hospital stay. Every stage is made to fit with the English national curriculum and has been developed with the help of a local secondary school. Providing students with knowledge of possible jobs within health allows them to explore their own opportunities among | | |

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| | <p>them and gives them a rough idea of what it is like to work in a health environment.</p> <p>The outreach activity involves two main exercises:</p> <ul style="list-style-type: none"> • Student ambassadors' visit a local secondary school and work with a whole class (ideally an entire year group) on a hands-on activity that is based on a real-world problem that can be examined and addressed by STEM subjects. • Student ambassadors link the activity with careers and share their own experiences and knowledge with school students to help to inform GCSE (General Certificate of Secondary Education, an academic qualification) options. |
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Aims of the activity

| For Student Ambassadors | For Young People in Schools |
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| <p>This activity is also a self-experiential activity for training of student ambassadors, therefore, the goals for student ambassadors are:</p> <ul style="list-style-type: none"> • Building valuable work experiences for and contributing to student ambassadors' employability skills. • Empowering student ambassadors as facilitators and role models representing their disciplines. | <p>The intended outcomes of the activities for young people in schools:</p> <ul style="list-style-type: none"> • Increasing the Year 8/9 students' knowledge about different health related areas and jobs. • A better understanding of all health jobs and their importance within a community and wider society. • The sessions aim to raise students' motivation, engagement, and attainment in health subjects, increase self-concept and self-efficacy, and support GCSE subject choices and develop Year 8/9 students' interest in enrolling on health courses at university in longer term. |

Outline of the activity

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| <p>The activities will be split into 3 sessions: The accident, The Hospital, Home care.</p> <p>Session 1: The accident scene</p> <ul style="list-style-type: none"> • Discussion in groups of three: What would you do if you saw an accident on the road? (Aims: Problem-solving, Applying existing skills) Make a list of things that you are confident about and things that you would not know what to do/need to learn more about. (Aim: Raising motivation to learn) • Play a video from THINK road safety campaign try to identify as many crash scene professionals as possible. |
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<https://www.youtube.com/watch?v=CERT0xNFGo4> (government screening approval, while graphic is age appropriate)

- Learning about measuring body systems: Have students create a list of things that can be measured or observed to determine a patient status. Heart rate, temperature, breathing rate, oxygen levels, eye contraction, speech, pushing and pulling strength, images of bones and bloods tests.
- Relate this against KS3 Body systems to be studied.
- Have students share their list of observations.
- Discuss against the NHS National Early Warning System [NEWS] Chart (RCP, 2020)
- Watch the Jay Perez video up to 6 mins where the patient is handed over to the Nurse in the Hospital <https://www.youtube.com/watch?v=lqW2zpl9wxs>
- What observations did they cover?
- Recreate the story (either role play or retell the story in a way that students can relate to saving lives although in a simulation with balloons).
- Water balloons can be filled with water to simulate bleeding in the body.
- The students can be given a variety of materials to reduce water escaping a puncture in their water balloon, but no adhesives can be stuck to the balloon itself.
- Work in groups to discuss a plan to prevent water loss from their balloon.
- The water balloons should be weighed.
- A square of adhesive tape should be applied to the water balloon and the balloon punctured inside this tape as not to pop the balloon.
- Students will have 10/20/30 seconds to stop the flow of water from the balloon, at which point it will be reweighed.
- The students with the least difference between starting weight and finishing weight will be deemed to have the best outcome.
- Wrap up by reporting on the stories of the patients – storytelling of outcomes.

Session 2: During hospital stay

- Students should discuss the different professionals they are aware of inside the hospital.
- Students should watch the next 10 mins of the Joe Perez video.
- Make a list of procedures that need to happen in order to help the car accident casualty. If students are not familiar with this, provide a list for them to choose from – on cards. They can put them in order of importance.
- Have a list of problems that students need to solve. Each group has a different type of casualty, e.g., bleeding, fracture, head injury, nothing obvious. Students need to decide on the best course of action.
- Students will also take the temperature of one of their peers.

- Students will also be asked to take the heart rate of a peer by using BlueTack and a toothpick and counting the number rise and falls in a minute.
- Students will be given bandages and asked to create arm slings from bandages and will then proceed to make one for one of their peers.
- Students could also access the Blood typing game (Nobel Prize, 2021)
- This activity links with the “Step into the NHS” annual competition run until April 30th annually. That could be run in this session with student resources on careers in the NHS. Structured to meet KS3 framework.
- Students share their ideas for solutions and give each other feedback.

Session 3: After hospital

- Discuss: Do people need care after they have been released from the hospital? What sort of problems might they need help with?
- Discuss Healthcare professionals who work outside the hospital and can visit patients in their homes.
- How many perform both in and out of hospital roles from last session list.
- Watch the last section of the Jay Perez video.
- Alternatively, you could watch Barbara Story (G&STT, 2014)
- This session will be all about post hospital care, including introduction to mental health related sectors of health.
- Scenarios: Each group will get a scenario that they need to solve by improving accessibility or tackle the impact of the car accident. Scenario 1: After a car accident the patient with broken leg cannot go upstairs to use the toilet. Scenario 2: The patient is suffering from panic attacks when they need to travel by car. Scenario 3: The patient with a broken arm is struggling to cook for themselves. They live alone. Scenario 4:
- Students will learn about occupational therapy and accessibility:
- Safety glasses with glue smeared on them to reduce vision and have them perform a spot the difference activity.
- Ear plugs and have the group to communicate a message like Chinese whispers.
- Weighted gloves to reduce touch and have them play Jenga.
- Activities in frailty: Frailty360 provide resources and there’s VR headset programs.
- University of Suffolk ran a Frailty day on campus and has a lot of these resources available.

People, places, careers and curricula

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| Collaboration | Health teachers work closely with student ambassadors, university academics, and a regional teacher coordinator to develop hands-on STEM activities for the entire year group. The school runs the activities after co-creation and co-development |
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| | <p>with the collaborators. All staff and school students are informed about the collaboration with the university. During the activity, student ambassadors are present in the classroom as older peers. They participate in the activities, alongside school students and engage school students in conversation about the activities and about school students' own interests and plans. Teachers are responsible for the classroom management and flow of the session.</p> <p>Teachers will be leading the activity and introduce the students to the activities. Student Ambassadors will be there to help guide students on the right track for the activities and to answer any questions students may have. In addition, Student Ambassadors should link the activities and the questions to higher education.</p> |
| <p>Pedagogy</p> | <p>Active experiential learning. Problem-based and project-based learning.</p> <p>Problem-based learning incorporates four principles of learning: constructive, self-directed, collaborative, and contextual (Dolmans et al., 2005), which has been applied in the proposed activity. Students need to come up with solutions for the patients, be creative, think of various ways of helping the casualties. They work in small groups, make decisions and are focused on specific scenarios – the learning is applied to specific contexts, making it more relatable and real. It is not just theoretical learning about partial skills or functions of the body. The learning is deconstructed 'from the end', asking a question – what do I need to know if I want to save this person's life?</p> <p>Problem-based learning has been proven a more effective method of learning for emergency medical services personnel compared to lecture-based learning, specifically increasing their confidence and the knowledge and skills they have (Falaki et al., 2019). A systematic review of the effects of problem-based learning during medical school and its effect on competencies after graduation showed that problem-based learning is especially effective in competencies of coping with uncertainty, appreciation of legal and ethical aspects of health care, communication skills and self-directed continuing learning (Koh et al., 2008).</p> <p>When planning problem-based learning activities, it is useful to think about behaviours that support this way of learning. Based on a scoping review by Ghani et al. (2021), these include: intrinsic empowerment achieved by proactive behaviour in analysing problems, which can be achieved integrating prior knowledge, for example in brainstorming session. This activity included small group discussions that elicit thinking about previous experience of the students. It also leads them identify gaps in knowledge, which they can actively seek from the student ambassadors or teachers in the activity. The scenarios allow for a hands-on approach in terms of thinking about real</p> |

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| | <p>patients. Provided equipment allows for a simulation of medical procedures in the classroom environment.</p> <p>The second element identified by Ghani et al. (2021) was self-organisation and organisation of roles in the team. It is therefore useful for the student ambassadors to help student groups in recognising roles in the teams. This provides learning of transferable skills of teamwork and leadership, but also assures inclusivity for all members of the team. If students are not used to teamwork, it can be useful to assign roles (for example by handing out cards with team roles such as chair, scribe, recorder, outside the box thinker). Roles help students to achieve further behaviours such as being diligent and being resourceful. We can encourage students to look for answers online or ask appropriate people in the room. In project-based pedagogies, students are seen as teachers (Ghani et al., 2021) thus providing peer feedback and support is important. In this activity, once students share results of their group work, teachers and student ambassadors should encourage the other groups to provide feedback, minimising the reliance on teachers as the ones owning knowledge. Students are given trust, which empowers them and leads to greater confidence in pursuing activities related to similar goals.</p> | | | | |
| <p>IAG</p> | <p>All the activities are linked to various paramedic and nursing jobs. In addition, we're linking post-hospital health care professions in the third week.</p> <p>Student can make a list of skills different professionals need for their jobs. What is the most difficult thing in this job? Each group can pick a profession from the ones mentioned in the videos. Groups can compare answers. Are all medical professions similar?</p> | | | | |
| <p>Gatsby Benchmarks</p> | <p>The "Baker Clause" was introduced in 2017 in an attempt to ensure schools provide students with access to information from training providers and colleges. Since 2020 the government has required schools to work towards all of the eight Gatsby benchmarks (https://www.goodcareerguidance.org.uk/case-study/a-stable-careers-programme).</p> <p>This activity meets the Gatsby benchmarks in these particular ways:</p> <table border="1"> <tr> <td> <p>A stable career programme</p> </td> <td> <p>The university has got a very strong health education/training provision, so creating connections with schools in collaborating on these activities will help schools establish a route to careers for their students.</p> </td> </tr> <tr> <td> <p>Learning from career and</p> </td> <td> <p>The videos used in the activities point out specific careers / professionals who work with patients when they experience an</p> </td> </tr> </table> | <p>A stable career programme</p> | <p>The university has got a very strong health education/training provision, so creating connections with schools in collaborating on these activities will help schools establish a route to careers for their students.</p> | <p>Learning from career and</p> | <p>The videos used in the activities point out specific careers / professionals who work with patients when they experience an</p> |
| <p>A stable career programme</p> | <p>The university has got a very strong health education/training provision, so creating connections with schools in collaborating on these activities will help schools establish a route to careers for their students.</p> | | | | |
| <p>Learning from career and</p> | <p>The videos used in the activities point out specific careers / professionals who work with patients when they experience an</p> | | | | |

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| | labour market information | accident. The problem-based learning allows for exploration of specific roles these professionals have and their contribution to the overall recovery of the patients. |
| | Addressing the needs of each pupil | Students may have varying levels of experience with addressing life-threatening situations and the work of medical professionals. Reflection and discussion time is built into the activities to provide enough space for individual students to engage with the activity that suits them. Having student ambassadors in the classroom means that a more individualised approach is possible even in working with whole classes. |
| | Linking curriculum learning to careers | See curriculum links section. |
| | Encounters with employers and employees | The NHS is the main provider of employment for medical professions in the UK, thus using NHS created resources makes this activity 'real' and relevant. The student ambassador act as liaisons between the professions showcased in the video resources, and the pupils thinking about engaging with medical careers. |
| | Experiences of workplaces | Videos showcase various situations when medical professionals would work outside and inside the hospital, in the street and the patients' homes. In addition, simulated exercises with various types of equipment allow for a hands-on self-experiential opportunity to exercise newly gained skills of saving lives and attending to the health of patients. |
| | Encounters with further and higher education | Student ambassadors represent study programmes that lead towards various careers in health-related disciplines. |
| | Personal guidance | Pupils will have the opportunity to interact with student ambassadors and ask questions in an informal atmosphere. |
| Local Context | Links to hospital and paramedic career options available in the NHS. This will help expand the career options for under- | |

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| | represented groups and should be accessible to disadvantaged students. |
| Links to Curricula | <p>Key Stage Curriculum criteria</p> <p>Working Scientifically: Scientific Attitudes, Experimental skills and Investigations, Analysis and Evaluation, Measurement</p> <p>Biology: The skeletal and muscular systems, Gas exchange systems</p> <p>Physics: Energy changes and Transfers, Motion and Forces; forces, pressures in fluids, Light waves.</p> <p>Matter: Physical changes</p> <p>(Department for Education, 2013)</p> |
| Possible Adaptations | <p>During the second session, if the school has access to blood pressure monitors and oxygen monitors, those could be incorporated into the session in order to give students more in-depth knowledge of the importance of blood within the body.</p> <p>In addition, if possible, the university could bring in various breathing tubes in order to demonstrate different equipment used in the hospital.</p> |

Resources and references

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- Patient Journey Simulation: The Jay Perez Story <https://www.youtube.com/watch?v=lqW2zpl9wxs>
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- THINK! Don't Drink Drive 50th Anniversary Advert <https://www.youtube.com/watch?v=CERT0xNFGo4>

Join a league of elite people – feel the pride

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| Country | Romania | Duration | Three 1-hour sessions |
| Age group | 11-14 years (Years 5-8 in Romania) | Careers | Medical Doctor |
| Summary | This is a Health student ambassador outreach activity that aims to improve school students' engagement and outcomes in Health subjects | | |

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| | <p>during their crucial decision-making years in secondary level (ages 11-14 years old in Romania).</p> <p>The aim of the activity is to highlight the role of health professionals in society, the risks and responsibilities to be taken, and the benefits offered by careers in the medical field. Being a doctor is a dream for millions. "I want to become a doctor" is a common goal, but there are many different reasons why people want to do that. Some want to help the poor with their health care, while others want to help people in underdeveloped and rural areas. Some want the respect that comes with being called a "doctor," while others just see it as a great way to make money and a sign of success.</p> <p>The outreach activity involves three main activities:</p> <ul style="list-style-type: none"> • Doctors Are Second Only to God. Students ambassadors and the biology teacher will start a group discussion with students from the locally secondary school about the benefits of the health professions: personal satisfaction, community support, social and financial success. • It's Not the Destination, but Experiences that Count. The student ambassadors will invite their fellow medical students and tell the school students about their experience as medical students, why they chose this career, what were their most unique experiences or challenges that they had to face. A question-and-answer session will be planned as part of the session in order to satisfy children's curiosity. • World Needs More Doctors. The world has never had enough doctors, and people hope that young people will choose this great job, give people the care they need, and make the world a better place. A brainstorming session will be initiated by the student ambassadors together with the biology teacher and the school students to gather ideas on everyday emergency situations where a doctor was needed: car accidents, drug overdose, drowning, etc. |
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Aims of the activity

| For Student Ambassadors | For Young People in Schools |
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| <ul style="list-style-type: none"> • Building valuable teamwork experiences for and contributing to student ambassadors' employability skills. • Become aware of the importance of sustainable development goals and make connections between them and the information presented in the national curriculum. | <ul style="list-style-type: none"> • An increase in students' knowledge and understanding of Health topics using inclusive pedagogies that build self-awareness, empathy, and hope. • A better understanding of the responsibilities of the medical professions: risks, sacrifices to be made, challenges to be faced (In 2006, the World Health Organization (WHO) claimed that there was a shortage of 4.3 million doctors and other health care workers around the world. Since then, the demand for health |

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| | <p>care workers has not slowed down, even when there are enough of them).</p> <ul style="list-style-type: none"> • An increase in students' awareness and understanding of Health career progression routes. • The sessions aim to raise students' motivation, engagement, and attainment in Health subjects, increase self-concept and self-efficacy, and support students' interest in enrolling on Medicine courses at university in longer term. |
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Outline of the activity

This activity helps students understand the benefits and implications of a career in Medicine and professions related to Health Sciences. The activity aims at transmitting information between students in order to increase their level of receptiveness.

Preparation and training for the activity and sessions aimed to co-create and prepare relevant, high quality hands-on Health Sciences activities, relevant for the students in the school where activities were taking place. Student ambassadors worked collaboratively with academics, the biology teacher coordinator, and schoolteachers in Health subject areas.

Content of the Resource Training and Co-development of the activities:

- Greetings and introductions of each collaborator (researchers, student ambassadors, teachers and the teacher coordinator).
- A quick introduction of what literature and effective practices say about the best outreach practices, highlighting the importance of:
 - collaboration between schools and higher education institutions:

the need for ambassadors to understand school context, school students and inclusive Health pedagogies

- experiential and active learning activities
- longer term engagement (not one-off activities)

- the need to work with younger students especially in Health for widening participation
- that ambassadors work along with younger students positioned as peer to peer and not as teachers and students
- careers and real-world contexts are embedded in activities
- training and guidance

Resource training on **Join A League Of Elite People – Feel The Proud** by the biology teacher coordinator from the secondary school

- Introduction about reasons for working in healthcare system
- Showcasing of two videos
- The Interview with Doctor Mihail -**Every gesture counts**
- (<https://www.youtube.com/watch?v=L7fKiYClg5o>)
- Dr. House - **Non-conformist medical genius**
- (https://www.youtube.com/watch?v=pO50Dyg_GJE)
- hands on activity which puts all the collaborators into the position of school students. This aims to support ambassadors and teachers in better understanding the experiences of students, and to plan the activity accordingly and support students better during activities.
- Discussions and considerations on
 - working in groups in whole class setting
 - links to the curriculum
 - links to careers
 - inclusive pedagogies

Follow up session by the researchers with the student ambassadors prior the actual activities, focusing on:

- group work strategies
- questioning techniques (e.g., inquiry questions- encouraging school students think about an observation/problem rather than answering the questions straightaway)
- examples of Health careers (e.g. Medical assistant, Physician, Nursing, Pharmacists etc.)
- suggestions for changing the perception of health careers (e.g. health studies are long-term and take up most of your free time)
- being able to point student ambassadors' own experience while interacting with school students
- resources that ambassadors can sign post younger students to if they want to find out more about subject choices and careers

Main activities in each session:

Teachers are responsible for the flow of the session and classroom management and are expected to visit the groups and have interactions with the students using inclusive pedagogies.

Session 1 (1 hour):

- Brainstorming activity with students from the locally secondary school about the benefits of the health professions: personal satisfaction, community support, social and financial success.
- Pro and Against Debate about becoming or not becoming a doctor. The class of school students will be divided into two groups, one advocating for and the other one against. At the end each group will present their arguments found.

Session 2 (1 hour):

- Based on a cognitive map, the different careers in Healthcare and the academic routes to follow will be discussed with the school students.
- A question-and-answer session will be organised with a special guest speaker from the Faculty of Medicine, so school students can satisfy their curiosity about healthcare careers.

Session 3 (1 hour):

- A brainstorming session will be initiated by the student ambassadors together with the biology teacher and the school students to gather ideas on everyday emergency situations where a doctor was needed: car accidents, drug overdose, drowning, etc.
- End the session with a game about the super powers that everyone thinks they have or would like to have. Every super power should be argued.

People, places, careers and curricula

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| <p>Collaboration</p> | <p>The biology teachers work closely with student ambassadors, university academics, and a regional teacher coordinator to develop hands-on Health activities for the entire year group. The school runs the activities after co-creation and co-development with the collaborators. All staff and school students are informed about the collaboration with the university. During the activity, student ambassadors are present in the classroom as older peers. They participate in the activities, alongside school students and engage school students in conversation about the activities and about school students' own interests and plans. Teachers are responsible for the classroom management and flow of the session.</p> <p>There have been several planning meetings liaising with</p> <ul style="list-style-type: none"> • A local secondary school • Student Ambassadors from ANOSR and University of Bucharest • Academics from University of Bucharest |
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| | <ul style="list-style-type: none"> • Experts in IAG from Proedus • A history teacher coordinator from the local secondary school <p>Following the discussion with all the collaborators, a resource training was planned and then delivered by the biology teacher coordinator at the local school with the participation of student ambassadors and researchers from the university, and several teachers from the school. Student ambassadors, along with teachers, interact with school students through hands-on Health activities to support the development of enquiring minds, teamwork, reasoning skills, empathy and career awareness.</p> |
| Pedagogy | <p>Challenge-based learning generates powerful educational experiences. Health activities will challenge students to engage with complex topics. Challenges will be issued during debates and will stimulate students to go beyond what has been done before in a serious or fun way.</p> <p>Action learning combines learning-by-doing with reflective learning and collaborative learning. School students will work on finding solutions to problems that they have to deal with in their lives. The goal is to find actionable solutions that can be applied in the real world: how to act in case of car accidents, drug overdose, drowning, etc.</p> |
| IAG | <p><u>Student ambassadors</u> (around 3 to 4) are present in the classroom and share their areas of study and their route to the university.</p> <p>Successful goal setting and achievement is the result of planning, thinking and doing. Student ambassadors and Proedus experts will help school students develop goal setting skills related to their future according to the following criteria:</p> <p>Goals for my future career:</p> <ul style="list-style-type: none"> • It is achievable. I have the necessary skills, strengths, abilities or resources. • It is believable and realistic for me. I believe I can achieve it. Given my knowledge of myself, the goal is realistic. My mental attitude is positive and optimistic. • I want to do it. I “want” means I get satisfaction and pleasure. It is my own goal. • It is worth setting because it fits into my personal value system. • I am motivated to achieve the goal. • I have set a target date for completing my goal. |
| Local Context | <p>Advice for subject selection for different careers:</p> <p>What the Faculty of Medicine looks like from a Student Perspective?</p> |

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| | <p>https://www.youtube.com/watch?v=l3Pb240As7Y</p> <p>Medical school - How to support yourself financially?</p> <p>https://www.youtube.com/watch?v=YBDRX82Pdo4</p> |
| Links to Curricula | <p>Health-focused activities include information on the benefits of the health professions, the challenges of these professions and details of the various career paths.</p> <p>A lot of information is also connected to other areas:</p> <p>STEM: modern medicine involves a lot of information about technology and science.</p> <p>Social, economic and behavioural sciences play an important role in improving public health and clinical practice.</p> |
| Possible Adaptations | <p>This activity ideally can be completed during a lesson time with a whole class.</p> <p>Alternatively, this can be adapted as one year-long project or as a debate competition about innovative healthcare and nanotechnology.</p> |

Resources and references

- Resource for teacher: <https://ro.europa.jobs/art-de-ce-sa-alegi-o-cariera-in-domeniul-medical/>
- Student Guide: <https://www.youtube.com/watch?v=pO2EeBgfY08>
- Video Guide: The Interview with Doctor Mihail – **Every gesture counts**
<https://www.youtube.com/watch?v=L7fKiYClg5o>
- Dr. House – **Non-conformist medical genius**
https://www.youtube.com/watch?v=pO50Dyq_GJE
- Student Guide: <https://www.youtube.com/watch?v=pO2EeBgfY08>
- Mc.Holland, J.D. (1976). Human Potential Seminar. A positive-approach to self-development. Basic Guide-Handbook. National Center for Human Potential.

Career case studies:

- What the Faculty of Medicine looks like from a Student Perspective?
<https://www.youtube.com/watch?v=l3Pb240As7Y>
- Medical school – How to support yourself financially?
<https://www.youtube.com/watch?v=YBDRX82Pdo4>

Become your best version

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| Country | France | Duration | Three 1-hour sessions two weeks apart |
| Age group | 11-14 years (Cycles 3 and 4 in France) | Careers | Medical Doctors |

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| <p>Summary</p> | <p>This activity aims to popularise among students the medical profession. Despite sustained efforts, the medical profession allows those who choose it to reap the sweet fruits of their work. In many countries the medical professions are among the most desired by young high school graduates, but they are also particularly appreciated in society. When someone addresses you with all their soul “Doc., please!”, solving their health problem is the most beautiful answer you can offer.</p> <p>This activity will involve the work of student ambassadors who will collaborate with the biology teacher, even with the medical staff of the institution who can provide their own point of view of the experience lived during the exercise of medical practice. Obviously, university academics, and a regional teacher coordinator will also work together to develop hands-on Health activities for the entire year group. The school runs the activities after co-creation and co-development with all collaborators involved.</p> <p>All those who participate, students and teachers, will be informed about the collaboration with the university. During the activity, student ambassadors are present in the classroom as older peers. They participate in the activities, alongside school students and engage school students in conversation about the activities and about school students’ own interests and plans. Teachers are responsible for the classroom management and flow of the session.</p> <p>This activity includes three main phases:</p> <ul style="list-style-type: none"> • Save yourself by saving others. This activity will launch a brief discussion about how the faculty of medicine can change someone's life. Stories about the careers of famous French doctors who made a revolutionary impact on the medical field will be brought to the attention of the students. With their scientific discoveries and also making important contributions to medicine, they have undergone a transformation, becoming different people, which people talk about, decades or centuries later. • White jobs. The student ambassadors will invite the medical staff of the school and they will describe their experience as medical students, why did they choose this career, what were their memorable experiences or difficult moments that they had to face. A Q&A (question and answer) session will be planned as part of the interaction in order to satisfy student's curiosity. • Doctor-nurse collaboration is made in Heaven. Doctors often need to be able to provide the patient with a successful medical act by trained and empathetic medical staff. The activity will focus on the special and indestructible connection between the doctor and the nurse towards the ultimate goal of healing/improving the patient's condition. The activity will consist of a focus group guided by students ambassadors and biology teachers. |
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Aims of the activity

| For Student Ambassadors | For Young People in Schools |
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| <p>This activity is a tool for autonomous learning through experience in a real context as a complement to the training of university student ambassadors. The aims in the training course are as follows:</p> <ul style="list-style-type: none">• To engage student ambassadors as co-facilitators of the sessions, sharing their university experiences as practical examples of professions that represent the discipline in practice.• To empower student ambassadors to develop and enhance their competences through self-experience activities. | <p>The expected outcomes of the activities in the school and their impact include:</p> <ul style="list-style-type: none">• An increase in students' knowledge and understanding of Health topics using inclusive pedagogies that build self-awareness, empathy, and hope.• A better understanding of the responsibilities of the medical professions: their very important contribution to the overall health of the population, the challenges of the profession, crisis situations, vaccines and medicines they create to eradicate these crises.• An increase in students' awareness and understanding of what admission to a university of medicine may imply, including the difficult and laborious university course, residency examination, and specialised training.• The sessions aim to raise students' motivation, engagement, and attainment in Health subjects, increase self-concept and self-efficacy, and support student's interest in enrolling on Medicine courses at university in the longer term.• Building valuable teamwork experiences for and contributing to student ambassadors' employability skills.• To develop a better understanding of the need to "ensure healthy lives and promote well-being for all at all ages" <i>SDG 3</i>.• To create links with the national curriculum and the UN Sustainable Development Goals (SDG), which are relevant on a global scale.• To improve students' awareness and understanding of ways of access and career progression in social health courses. Based on the experiences and academic exchanges carried out with the student ambassadors as role models. |

Outline of the activity

Save yourself by saving others. The objective of this activity is to stimulate students' interest in a medical career and occupations related to Health Sciences.

Preparation and training for the activity and sessions aimed to co-create and prepare relevant, high quality hands-on Health Sciences activities, relevant for the students in the school where activities were taking place. Student ambassadors worked collaboratively with academics, the biology teacher coordinator, and schoolteachers in Health subject areas.

Content of the resource training of university student ambassadors and co-development of activities:

- Greetings and introductions of each collaborator (researchers, student ambassadors, teachers and the teacher coordinator).
- A quick introduction of what literature and effective practices say about the best outreach practices, highlighting the importance of:
- Collaboration between schools and higher education institutions:

the need for ambassadors to understand school context, school students and inclusive Health Sciences pedagogies.

- Experiential, project-based and active learning activities.
- Longer term engagement (not one-off activities).
- The need to work with younger students especially in Health Sciences for widening participation.
- University student ambassadors work along with younger students positioned as peer to peer and not as teachers and students.
- Careers and real-world contexts are embedded in activities.
- Training and guidance.
- Resource training on **Save yourself by saving others** by the biology teacher coordinator from the secondary school.
- Introduction about the advantages of belonging to the healthcare system.
- Presentation of a few slides about three of the most famous French doctors, who had special contributions in the field of research:
 - [Georges Albert Édouard Brutus Gilles de la Tourette](#) a French neurologist who first described Tourette syndrome and who also contributed to the study of hysteria and hypnosis.
 - [Guillaume-Benjamin-Amand Duchenne](#), he was a significant contributor to the advancement of electrophysiology. The development of modern neurology was based on Duchenne's understanding of neural pathways, as well as his innovations in the diagnostic process, such as deep tissue biopsy and nerve conductivity tests. Also, Duchenne muscular dystrophy is named after him.

- [Christian Cabrol](#), a French surgeon, who has performed the first heart transplant in Europe.
- Hands on activity which puts all the collaborators into the position of school students. This aims to support ambassadors and teachers in better understanding the experiences of students, and to plan the activity accordingly and support students better during activities. Discussions and considerations on:
 - Working in groups in the whole class setting.
 - Links to the curriculum.
 - Links to careers.
 - Inclusive pedagogies

Follow up session by the researchers with the student ambassadors prior the actual activities, focussing on:

- Group work strategies.
- Questioning techniques (e.g., inquiry questions- encouraging school students to think about an observation/problem rather than answering the questions straightaway).
- Examples in social sciences and humanities.
- Suggestions for changing the perception of social sciences and humanities.
- Being able to point out student ambassadors' own experience while interacting with school students.
- Resources that ambassadors can sign post younger students to if they want to find out more about subject choices and careers.

Main activities in each session:

In each practical activity, student ambassadors are expected to question the school students about their approach to the activity, as well as their expectations and future career plans. Student ambassadors are expected to answer students' questions about their own progression and access to university and their experiences at university level.

Teachers are responsible for the flow of the session and classroom management and are expected to visit the groups and have interactions with the students using inclusive pedagogies.

Session 1 (1 hour):

- A focus group will be organised, using a more structured brainstorming method, in which student ambassadors will lead the discussion, encouraging secondary school students to express their own points of view. The main topic will be, '*What do we do without medical personnel?*'. Students will be asked to describe how doctors got involved in the COVID-19 pandemic and how they seemed to mobilise many medical students to help the population.
- Several studies' conclusions about the significant impact of hospital staff involvement in stopping the pandemic as quickly as possible will be presented to them in the second part of the activity.

Session 2 (1 hour):

- In the second working session, students will be engaged in activity using the brainwriting technique, or 6-3-5 technique. New ideas are written on the sheets of paper that circulate between the participants. The technique is called this, because it exists:
 - 6 members in the working group, who note on a sheet of paper how many.
 - 3 solutions each, to a given problem, time of.
 - 5 minutes (amounting 18 replies, in 30 minutes, in each group)
- More themes for thinking will be introduced:
 - How can we enhance the relationship between the doctor and patient?
 - What would we do if we were medical students and at the same time volunteers?
 - How could a medical student organise their free time so that they do not ignore studying?
 - What would be the greatest satisfaction, but also the most difficult moments if you have a “white job”?

For the given problem, each of the 6 participants has to be noted on a sheet, 3 solutions in the 3-column table in a maximum time of 5 minutes. The sheets then migrate from left to right until they reach the original owner. The one who received the sheet of the colleague from the left, reads the already noted solutions and tries to modify them in a creative sense, by new formulations, adapting them, improving them and rebuilding them continuously.

- The second part of the activity involves the presence of the medical staff of the school and the launch of a Q&A. Students are already familiar with the most important aspects of the medical profession and will ask questions about what they want to learn in addition. The activity will flow, because children already know those who work in the medical office of the school.

Session 3 (1 hour):

- In the last session, the snowball method will be used. This is based on the interweaving of individual activity with that carried out cooperatively, within groups. It consists in incorporating the activity of each member of the collective into a larger collective approach, meant to solve a given task or problem.

The phases of the snowball method:

- Introductory phase: the teacher exposes the data of the problem: *Why is doctor-nurse collaboration made in Heaven in your opinion?* (They can refer to surgery, blood collection, anything to do with the importance of this collaboration).
- Individual work phase: students work on their own to solve problems for five minutes. At this stage, the related questions are noted the subject being treated.
- Phase of work in pairs: students form groups of two students to discuss the individual results that each has reached. Answers are requested to individual

questions from colleagues and, at the same time, note whether new ones are coming up.

- The meeting phase in larger groups. There will be presented the solutions that have been reached. At the same time, it is answering the remaining unresolved questions.
- Phase of reporting solutions collectively. The whole class, reunited, analysed and concluded on the ideas issued. These can be placed on the board so it could be viewed by all participants and to be compared. They will also clarify the answers to the unresolved questions up to this stage, with the aid of the leader (student ambassador).
- Decision phase. The final solution is chosen and conclusions are established on the steps taken and on the participation of students in the activity. Here there will be the final conclusions of the students after the three sessions of activities. They will give feedback to other participants and share what they found most interesting about learning about the medical field.

People, places, careers and curricula

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| <p>Collaboration</p> | <p>There have been several planning meetings liaising with:</p> <ul style="list-style-type: none"> • A local secondary school • Student Ambassadors, UCO • A regional Arts teacher coordinator • Academics from Catholic University of the West UCO <p>Following the discussion with all the collaborators, a resource training was planned and then delivered by the biology teacher coordinator at the local school with the participation of student ambassadors and researchers from the university, and several teachers from the school. Student ambassadors, along with teachers, interact with school students through hands-on Health activities to support the development of investigative thinking, teamwork, reasoning skills, empathy and career awareness. Details of the guidance for the student ambassadors and teachers can be found in the section above, <i>Description</i>.</p> |
| <p>Pedagogy</p> | <p>These active experiential learning activities can help teachers to create more innovative learning activities and emphasise procedures in students. This results in more innovative learning sessions, focusing on students' procedural knowledge and helping them to actively participate in the learning process and become their own centres of learning.</p> <p>Challenge-based learning generates powerful educational experiences. Health activities will challenge students to engage with complex topics. Challenges will be issued during brainstorming or brainwriting and will stimulate students to go beyond what has been done before in a serious or fun way.</p> |

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| | <p>Action learning combines learning-by-doing with reflective learning and collaborative learning. School students will work on finding solutions to problems that they have to deal with in their lives. The goal is to find actionable solutions that can be applied in the real world: how to manage a crisis situation, how to be motivated to reach your goal, etc. In addition, the activities aim to promote the knowledge and application of the SDGs in each study area.</p> |
| IAG | <p>Information, advice and guidance:</p> <p><u>Student ambassadors</u> (around 3 to 4) are present in the classroom and share their areas of study and their route to the university.</p> <p><u>Career case studies</u>: the activity proposes the example of three French doctors.</p> <p>Successful goal setting and achievement is the result of planning, thinking and doing. Student ambassadors will help school students develop goal setting skills related to their future according to the following criteria:</p> <p>Goals for my future career:</p> <ul style="list-style-type: none"> • It is achievable. I have the necessary skills, strengths, abilities or resources. • It is believable and realistic for me. I believe I can achieve it. Given my knowledge of myself, the goal is realistic. My mental attitude is positive and optimistic. • I want to do it. I “want” means I get satisfaction and pleasure. It is my own goal. • It is worth setting because it fits into my personal value system. • I am motivated to achieve the goal. • I have set a target date for completing my goal. |
| Local Context | <p>Advice for subject selection for different careers:</p> <p>parcoursup: des conseils pour chercher une formation</p> <p>Onisep: la fabrique de l'orientation</p> <p>Médecine Ma METHODE pour REUSSIR (https://www.youtube.com/watch?v=ldPGXmDAzZ4)</p> <p>MED+ Etablir un budget prévisionnel https://www.youtube.com/watch?v=nLtJAY8xrUI</p> |
| Links to Curricula | <p>Health-focused activities include information on the benefits of the Health professions, the challenges of these professions and details of the various career paths.</p> <p>A lot of information is also connected to other areas:</p> |

| | |
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| | <p>STEM: modern medicine involves a lot of information about technology and science.</p> <p>Social, economic and behavioural sciences play an important role in improving public health and clinical practice.</p> <p>Psychology and psychotherapy field- nowadays the population is increasingly exposed to burnout, depression, and daily stress reveals childhood trauma that affects the overwhelmed organism. Excessive stress leads to cardiovascular disease, insomnia, and concerns lead to somatization of symptoms, all of which require the doctor to work with the psychotherapist for the ultimate goal- healing the patient.</p> |
| Possible Adaptations | <p>These activities ideally can be completed during lesson time with a whole class.</p> <p>Alternatively, this can be adapted as one year-long project or as a debate competition about innovative healthcare and nanotechnology in the establishment.</p> |

Resources and references

- Teacher Guide/Pedagogical guide: **COVID-19 crisis: Medical students as back up for medical regulation**
<https://www.sciencedirect.com/science/article/pii/S2211423821000420>
- Video guide: **University route of a French student:**
<https://www.youtube.com/watch?v=F5VwupPW9u0>
- Student Guide: **LA VÉRITÉ SUR LA MÉDECINE !! opinion d'un étudiant français** (<https://www.youtube.com/watch?v=Sir7353gPJs>)
- [Georges Albert Édouard Brutus Gilles de la Tourette](#)
- [Guillaume-Benjamin-Amand Duchenne](#)
- [Christian Cabrol](#)
- Mc.Holland, J.D. (1976). Human Potential Seminar. A positive-approach to self-development. Basic Guide-Handbook. National Center for Human Potential.
- Teacher Guide/Pedagogical guide: **COVID-19 crisis: Medical students as back up for medical regulation**
<https://www.sciencedirect.com/science/article/pii/S2211423821000420>
- Video guide: **University route of a French student:**
<https://www.youtube.com/watch?v=F5VwupPW9u0>
- Student Guide: **LA VÉRITÉ SUR LA MÉDECINE !! opinion d'un étudiant français** (<https://www.youtube.com/watch?v=Sir7353gPJs>)
- French Ministry of Education, Youth, Sport and the Olympic and Paralympic Games - Dgescola
- Karoff, M., Tucker, A. R., Alvarez, T., & Kovacs, P. (2017). Infusing a peer-to-peer support program with adventure therapy for adolescent students with

autism spectrum disorder. *Journal of Experiential Education*, 40(4), 394-408.
<https://doi.org/10.1177/1053825917727551>

- Senthamarai, S. (2018). Interactive teaching strategies. *Journal of Applied and Advanced Research*, 2018: 3(Suppl. 1) S36S38
<https://dx.doi.org/10.21839/jaar.2018.v3S1.166>
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- Trocmé-Fabre, H. (1999). Réinventer le métier d'apprendre. Éditions d'organisation.

Chapter 8: Common approaches to outreach with older school students and to supporting retention and progression in HE

Universities are increasingly focused on supporting underrepresented groups during the whole student life cycle from pre-entry to progression and successful completion of HE programmes (Moore, Sanders and Higham, 2013). Outreach strategies concerned with supporting students pre-entry are often focused on supporting students in gaining access to HE. These include interventions that aim to support attainment, raise aspirations and awareness of HE, and increase applications and enrolments. Universities also focus on activities and interventions aiming to enhance HE student retention and success. Success is often considered in relation to attainment and the extent to which students are facilitated to fulfil their potential (Torgerson et al., 2014). This may be in relation to completing a module or assessment, progressing to the next level, or actually graduating. Success is sometimes related to the qualification category a student achieves (e.g. 2.1- or first-class) (Torgerson et al., 2014). Progression is a broader referring to successful transitions within a programme of study or afterwards into further study or employment (Torgerson et al., 2014). Targeted programmes and activities sometimes aim to support under-represented students to continue their studies at a higher level (Moore, Sanders and Higham, 2013).

Outreach interventions

Universities undertake a range of outreach activities often targeting particular groups of underrepresented students at different educational stages prior to university and often undertake a combination of activities. Most studies identified outreach as interventions with school students prior to their entry to HE. The ambitions of programmes were include to familiarise students with HE environment, 'raise aspirations' or awareness of HE, increase the number of applications or enrolments, and raise attainment. Interventions target students from underrepresented groups, with many targeting post 16 students.

The most common strategies include campus visits, taster sessions and summer schools. Student ambassadors working as 'role models' are used across interventions because of their perceived similarity to pre-entry students and ambassadors play a key or lead role in most outreach activity.

Table 5. Common outreach strategies

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| Academic instruction/tutoring |
| Curriculum developments (e.g., activities embedded in school curriculum) |
| Taster days/Conferences/Workshops/Masterclasses |

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| Open days or evenings |
| Counselling |
| IAG /Career development/ career workshops |
| Information on financial support |
| Guidance through HE application process |
| Mentoring/ peer mentoring |
| Study skills assistance |
| Summer schools/Weekend programmes/Residential visits |
| Campus visits/ campus tours |
| Enrichment activities |
| Ambassador programmes/ Role models |
| Collaborative partnerships (community groups, universities, schools) |

Information, advice, and guidance

Information Advice and Guidance (IAG) is often embedded in outreach activities and is often considered a vital feature of outreach activities with underrepresented groups (Moore, Sanders and Higham, 2013; Sanderson and Spacey (2021). Student ambassadors play a key role in HE led IAG activity.

Common IAG strategies include summer schools, taster days and HE visits, groupwork, mentoring, presentations to school students, and a range of online and text message support. Common IAG strategies are presented in Table 2.

Table 6. Common IAG strategies

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| Student ambassadors/ role models |
| Groupwork |
| Presentations |
| Mentoring |
| Visits to HE providers/ Taster days/ Summer schools |
| Tailored / Individual IAG |
| Access to informed counsellors |
| Text messaging |
| Online support/ email support |

Curricular and pedagogical approaches

Curricular and pedagogical interventions in outreach are often designed to help students transition to HE from school as well as to engage and motivate them during

the first year in HE and in support progression. A range of curricular and pedagogical strategies are seen to enhance the experiences and likelihood of the access, progression, and success of underrepresented students. Common strategies include the development of inclusive pedagogical approaches, integration of experiential and student-centred learning, flexible and online delivery, peer to peer interaction and mentoring.

Table 7. Common curricular and pedagogical interventions

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| <p>Inclusive curriculum (content, pedagogy, assessment, and feedback)</p> <p>Experiential learning/ active learning/ project and inquiry-based learning</p> <p>Peer mentoring/ coaching/ tutoring</p> <p>Group work and informal peer learning,</p> <p>Flexible delivery</p> <p>E-learning/ Blended learning</p> <p>Foundation courses/ Bridging programmes</p> <p>Preparatory courses/ Access programmes</p> |
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Supporting HE retention and progression

Benefits for student ambassadors

Research indicates benefits for student ambassadors, often referred to as peer mentors, who provide peer support for other undergraduate students studying at their university. By taking on an academic support role and sharing their own knowledge and strategies with underrepresented students, peer mentors can consolidate their own specialised knowledge and skills. This can enhance their understanding of course content as well as help them think about its practical applicability (Pugliese et al., 2015). Through this work student ambassadors/ mentors can develop healthy relationships with other ambassadors and students. These relationships build trust and friendship and help them to learn to relate and engage with students who are different from themselves (Pugliese et al., 2015). Underrepresented students come to university from very different backgrounds and student ambassadors need to develop an understanding of the unique challenges students face and ensure new students from underrepresented backgrounds feel welcome. Through interactions with students both within and outside their disciplines, student ambassadors can develop positive social connections (Pugliese et al., 2015; Prunuske et al., 2019) which are also important in fostering their own sense of belonging (Williamson et al., 2014).

The importance of supporting HE retention and progression

Issues of retention and progress in higher education have been recognised in many areas and disciplines including the field of health (Patterson & Price, 2017; Prunuske et al 2019, social sciences (Virnoche, & Grant-Panting, 2019), STEM (Cruz et al., 2021) and Arts (Pugliese et al., 2015). The opportunity gaps once at university tend to be more acute for students from underrepresented groups such as students of colour (Banks & Dohy, 2019), low-income background students (Bohanon, 2018), mature students (Smell & Newman (2020), students with disabilities (Hillier et al. 2019; Pino & Mortari, 2014) and/or first-generation students (Virnoche, & Grant-Panting, 2019).

There are various barriers to retention and academic success for underrepresented groups. Racism especially for students of colour, lack of cultural awareness as well as a perceived lack of support and obstacles in accessing the required information / resources are identified as major barriers to the retention of underrepresented groups (Banks & Dohy, 2019; Gore et al., 2017). In addition, the lack of an inclusive curricular content that acknowledges the diverse cultures of students may lead to feelings of low self-esteem, lack of confidence, and self-doubt (Gore et al., 2017) as well as to feelings of loneliness and disengagement with academic studies. These feelings may directly impact on the ability of underrepresented students to develop study skills, time management, and perceptions of educational preparedness. Studies have found that students from underrepresented groups may feel like outsiders and feel uncomfortable in the HE environment (Sanderson & Spacey, 2021). The academic environment is considered as a primary setting for fostering participation and a sense of belonging (Moore et al., 2013). Therefore, student engagement is critical in the first year at university (Cotton et al., 2013). The first year is considered the key point for withdrawal and sets the scene for success in later years for those who successfully progress (Cotton et al., 2013; Kaehne et al., 2014; Moore et al., 2013).

The importance of students' experiences in the first year at university has prompted efforts to enhance the experiences and likelihood of the success of underrepresented students at this vital stage. A range of approaches have been found to be effective for students' retention and success, particularly an inclusive and culturally relevant curriculum that nurture students' sense of belonging (Banks & Dohy, 2019; Cotton et al., 2013; Cruz et al., 2021; Moore, et al 2013). Effective pedagogies that have been found to be successful in supporting the retention and progress of underrepresented students build on students' life experiences, interests and aspirations, consider their differences, use interactive teaching styles, practice, and hands-on and student-centred strategies (Pino & Mortari, 2014). Such pedagogies include: reflection and dialogical methods to connect students to powerful forms of knowledge (Bennett et al., 2015; Cotton et al., 2013); e-learning, flexible course delivery (Heaslip et al., 2017); detailed constructive feedback and engaging in discussions on progress with tutors (Banks & Dohy, 2019; Cotton et al., 2013). Another effective approach to retention and progress in HE has been peer mentoring. Peer mentoring involves current fellow students providing guidance and support to their peers. These student ambassadors

play a major role in orientation (career paths and employment), socialisation, motivation, and general academic support especially for underrepresented students with the aim to facilitate the transition, integration and foster the sense of belonging that is vital to retention and success in HE (Austen' s et al. (no date); Cotton et al., 2013). Interventions based on active collaborative learning with trained peer mentors allow the development of supportive learning communities which are important in developing underrepresented students' sense of belonging which in turn increases their self-efficacy and persistence (Austen' s et al. (no date); Bennett et al., 2015). Such relationships may be particularly beneficial in the first year at university when underrepresented students may feel isolated, lack confidence, and experience higher rates of cultural dissonance (Prunuske et al., 2019). The first year in HE may be a critical period for 'doubting' which coupled with a lack of perceived social support may lead to the risk of dropout among underrepresented students (Cotton et al., 2013; Gerodetti & Nixon, 2019). Friendships and peer support is an important factor for many underrepresented students in their decisions about whether to persist in HE (Cotton et al., 2013; Hume et al., 2021; Moore et al., 2013). Therefore, peer mentoring and other peer support schemes/initiatives have increasingly been adopted in universities around the world (Cruz et al., 2021; Virnoche, & Grant-Panting, 2019; Prunuske et al., 2019; Pugliese et al., 2015). Some examples of such initiatives are presented in the tables below.

Examples of HE progression activities in different subject areas

STEM activity

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| Title of the activity/programme /Intervention | A Peer coaching model that would promote increased persistence among first year STEM Latina/o students |
| Citation | Cruz, C., Rajpal, G., Lecocke, M., Martines, I., & Lurie, A. (2021). Peer coaching program development: A framework of first-year Latina/o student persistence pursuing STEM pathways at a Hispanic serving institution. <i>Journal of Hispanic Higher Education, 20</i> (4), 365-384. |
| Area/ Domain | Science, Technology, Engineering, and Mathematics (STEM) |
| Country | United States |
| Activity /Intervention summary | Increasing college persistence and graduation rates of Latina/o students is crucial as they continue to lag behind their peers. Latina/o students require guidance and support throughout their undergraduate education. This is a pilot peer-to-peer coaching program, at a Hispanic Serving |

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| | <p>Institution (HSI) where 70% of the total student population are Latinas/os. The program consisted of a STEM coach, peer coaches (mentors), and students (mentees).</p> <p>Peer coaches each received hourly pay, were assigned seven to eight Latinas/os to mentor closely matched to their STEM discipline and worked an average of 8 to 10 hr a week for 16 weeks (1 week was designated for training/orientation) each academic semester. All peer coaches lived on the university campus and four of the six peer coaches were first-generation students.</p> <p>The program consisted of voluntary self-selected Latina/o students (mentees) attending weekly meetings (15 weeks each semester) with their Latina/o peer coaches.</p> <p>Each peer coach received a coaching handbook that encompassed best mentoring practices, university resources and contact information, and media/confidentiality policies. Peer coaches received weekly trainings that consisted of training topics aimed at allowing students to help them transition into the university environment while also helping them in overcoming common barriers to postsecondary success.</p> |
| Educational level | First year university students |
| Group size | Cohort I |
| Single /Series | Multiple |
| Duration | Over one academic year |
| Goals/Purpose | <ul style="list-style-type: none"> • to increase persistence and supporting Latina/o students pursuing science, technology, engineering, and mathematics (STEM) pathways during their first year in college. • to enhance the first-year undergraduate experience of Latinas/os by promoting and facilitating genuine conversations between the student (mentee) and the upperclassman (peer coach) assigned as their coach. <p>Taken collectively, the goals for the peer coaching program were to help first-year Latina/o STEM students overcome adversity by helping them feel a greater sense of social belonging within the campus community and aid them in achieving their academic goals of pursuing a STEM pathway.</p> |

Arts activity

| | |
|--|---|
| Title of the activity/programme /Intervention | The Faculty of Arts and Social Sciences Mentorship Program (FASSMP) at the University of Windsor |
| Citation | Pugliese, T., Cipkar, S., Roma, G., Jones, G., Rabie, R., & Bolton, T. (2015). Evaluating the effects of the Faculty of Arts and Social Sciences mentor program. https://policycommons.net/artifacts/1205790/evaluating-the-effects-of-the-faculty-of-arts-and-social-sciences-mentor-program/1758899/ |
| Area/ Domain | Arts and Social Sciences |
| Country | United Kingdom |
| Activity /Intervention summary | <p>The University of Windsor created the Faculty of Arts and Social Sciences Mentorship Program (FASSMP) in 2005 to address challenges surrounding enrolment and retention at the institution. The mentorship programme is designed to enhance first-year student learning and engagement, while also enabling upper-year mentors to acquire and refine their leadership, facilitation, pedagogical and learning skills.</p> <p>The peer mentors are upper-year undergraduate students enrolled in a course called 'Mentorship and Learning', which requires a service-learning internship in a first-year class.</p> <p>Peer mentors were trained to work in one interdisciplinary transitional course, which enrolled 200 first year students.</p> <p>The mentors co-facilitate large courses, providing individual support and small-group animation to connect first-year students to course content, faculty and the university community.</p> <p>Through the mentors' efforts, first-year students explore and apply the courses' key concepts in critically reflective and collaborative settings, with a focus on developing self-confidence and success strategies, learning autonomy and building a strong sense of connection to their peers and the institution at large.</p> <p>The programme also aims to enhance the circulation among students of 'insider knowledge' about how to succeed both generally at the university level and specifically in first-year courses.</p> |
| Educational level | First-year students |
| Single /Series | Multiple |

| | |
|----------------------|---|
| Duration | September 2011 and June 201 |
| Goals/Purpose | <ul style="list-style-type: none"> • to enhance first-year student learning and engagement • to increase first-year retention rates and enhance the first-year experience. • to enable upper-year mentors to acquire and refine their leadership, facilitation, pedagogical and learning skills. |
| Description | <p>The cornerstone of the programme is the Mentorship and Learning course, which introduces student mentors to learning theory, learning styles, group facilitation, effective leadership, critical thinking/reading skills and information literacy.</p> <p>Student mentors apply their training immediately, interning in introductory courses in their own discipline.</p> <p>Mentorship and Learning course instructors supervise mentor internships, while the instructors of the course in which the mentor is interning offer ongoing feedback and support.</p> <p>Mentorship and Learning is an interdisciplinary course that explicitly encourages students to share discipline-specific approaches and techniques that often translate differently across disciplines.</p> <p>Senior mentors, selected from among applicants who were highly successful in the Mentorship and Learning course in previous years, work as part of the course teaching team to 'mentor the mentors' and facilitate debriefing and peer learning sessions for interning mentors.</p> <p>The mentors act as peer learning facilitators, with the dual responsibility of offering support and guidance and of actively engaging students with course content through small-group sessions that we call 'breakout sessions'.</p> <p>This approach enables instructors to employ active learning strategies more frequently and to offer types of learning support that would not otherwise be possible in a large class.</p> <p>It also improves both the quality and quantity of feedback instructors receive about student learning in the course.</p> <p>The highly scaffolded 'just-in-time' supervision and training that the mentors receive enhances their responsiveness and increases the consistency and quality of the mentoring first-year students receive. During the period of the study (September to December 2011).</p> <p>The programme operated in five different first-year courses. Each of these courses integrated the mentors in a slightly different way. For the most part, mentors worked during their respective class times; course instructors allocated between</p> |

10 and 45 minutes for mentors to lead breakout sessions either at the beginning or the end of each class. This model was not, however, applied in the psychology and sociology classes. There, mentors worked alongside graduate teaching assistants during lab sessions.

The programme team model includes six different participants.

Programme instructors; senior mentors, mentors, course instructors, teaching assistants, and first-year students:

The *programme instructors* manage the process and are responsible for the smooth operation and organization of both the programme as a whole and the Mentorship and Learning course. Each week, they instruct students in the Mentorship and Learning course and share facilitation strategies that can then be used to lead breakouts during the practicum component of the course.

Senior mentors are paid teaching assistants, competitively selected from a pool of the previous year's mentors. They are co-instructors of the Mentorship and Learning class and act as liaisons between the instructors and course instructors. Senior mentors are also assigned a small group of mentors to oversee during the semester.

Mentors are central to the programme. They are learning facilitators and, unlike mentors in most other analogous programs, are discipline-specific, allowing them to provide insider knowledge unique to each department. Their role is twofold: to offer support and guidance for first-year university students and to actively engage them with course content through small-group breakout sessions. Mentors they do not teach course content, answer questions regarding content or grade, or receive a stipend. Instead, they receive course credit and are recruited through a competitive selection process.

Course instructors represent their respective departments and work with their assigned mentors. They are to notify mentors of the material that will be covered in class ahead of time so that the mentors can prepare their breakout sessions and manage class time.

Benefits

Academic Impact- Mentors had the task of helping students navigate the first-year experience. They assisted in bridging gaps that the professor is sometimes unable to address, such as studying for midterm exams, essay writing support and keeping up with class content. Many first-year students reported feeling that mentors were accessible and made them feel comfortable, often breaking down the barriers that may exist within the professor-student relationship.

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| | <i>Interpersonal Skills and Social Connections</i> - The programme provided first-year students with a mechanism to meet and interact with other students through the structured breakout sessions, an opportunity that students typically do not have within a university classroom. |
| Collaboration in leading the activity | Faculty of Arts Faculty of Social Sciences |
| Resources/Other examples/Case studies | What works https://www.arts.ac.uk/students/student-careers/awards-funding-and-support/mentoring |
| Pedagogy | Active Learning Social Learning Collaborative Learning |
| Links and references | Pugliese, T. et al., 2015. Evaluating the effects of the Faculty of Arts and Social Sciences Mentor Program / : Évaluation des effets du Programme de mentorat de la Faculté des arts et des sciences sociales, Canadian Electronic Library. Ottawa, Ontario. https://heqco.ca/pub/evaluating-the-effects-of-the-faculty-of-arts-and-social-sciences-mentor-program/ https://repository.londonmet.ac.uk/4647/2/599-2926-1-PB.pdf https://unistars.org/papers/STARS2018/11D.pdf |

Health activity

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| Title of the activity/programme /Intervention | Near-peer mentorship programme: A Prematriculation program |
| Citation | Prunuske, A., Houss, B. & Wirta Kosobuski, A. 2019. Alignment of roles of near-peer mentors for medical students underrepresented in medicine with medical education competencies: a qualitative study. <i>BMC Med Educ</i> 19 , 417 |
| Area/ Domain | Medicine |
| Country | United States |

| | |
|--|--|
| <p>Activity /Intervention summary</p> | <p>The University of Minnesota Medical School Duluth Campus (UM MSD) is a regional campus with a social mission to train physicians who will practice family medicine in rural communities. To support the transition of underrepresented students into medical school, the Prematriculation programme at the University of Minnesota Medical School Duluth Campus utilized near-peer mentors to support the transition of students underrepresented in medicine, including American Indian/ Alaska Natives and those from rural backgrounds, into medical school. A Prematriculation program run from 2013 to 2017 for students that had successfully completed their undergraduate baccalaureate degrees and been accepted to medical school.</p> <p>Nine near peer mentors and were selected by the course faculty from the previous year’s class based on exceptional interpersonal skills and strong academic performance during the Prematriculation course and their first year of medical school.</p> <p>The Prematriculation course occurred during the summer when the near peer mentors had no other academic commitments. Near peer mentors were paid an hourly salary and were expected to attend the Prematriculation course sessions, support Prematriculation students, lead discussion sessions to prepare for the examinations, and write exam questions. During the summer, near peer mentors met regularly with the course faculty to discuss student challenges, provide feedback, and suggest course improvements.</p> |
| <p>Educational level</p> | <p>Undergraduate</p> |
| <p>Single /Series</p> | <p>Whole cohort/ 1 mentor to 4-5 mentees</p> |
| <p>Duration</p> | <p>4-week in-person interdisciplinary course during the summer</p> |
| <p>Goals/Purpose</p> | <ul style="list-style-type: none"> • to build the students’ self-efficacy and promote academic success. • to prepare incoming underrepresented students for medical school including American Indian/ Alaska Natives and those from rural backgrounds. |
| <p>Description</p> | <p>The initial Prematriculation curriculum had no hands-on clinical teaching sessions but did include clinically oriented problem-based learning cases.</p> <p>Each week there was an infectious disease theme.</p> <p>Example: <i>Tuberculosis</i>.</p> <p>Students engaged in learning activities and were assessed with multiple- choice examinations.</p> <p>Weekly learning activities included:</p> <ul style="list-style-type: none"> • A problem-based learning case |

- Faculty lectures
- Clinical skill session
- Oral presentations on similar cases
- Microbiology laboratories.

After the third year there were sessions on history taking and basic procedural skills, like suturing, to give the students early exposure to clinical skills.

The role of near peer mentors in:

- **Patient care and procedural skills.** The near peer mentors promoted self-care in medical school and shared with the students beneficial study and coping strategies, e.g., emphasizing the need for enough sleep and finding opportunities to destress.
- **Medical knowledge.** The near peer mentors served in the teacher role to aid in educating junior students in medical knowledge running review sessions and wrote clinically relevant exam questions. “When you teach it, when you create questions, you realize what the high-yield stuff is, what is testable; helping the participants to identify internal and external resources to access reliable information.
- **Practice-based learning and improvement.** The near peer mentors self-directed their own goals for the summer, identifying sessions and materials they wanted to teach the program participants and worked with the faculty to identify evidence-based resources.
- **Interpersonal and communication skills.** The near peer mentors needed to establish trust with the Prematriculation students, to be open to hearing their needs, and to act as a bridge to facilitate communication between the students and the faculty. The students needed to maintain an open dialogue using nonverbal and verbal techniques, similar to those that they will use with patients, to work with the participants to clarify their understanding of the situation. The students were often from very different backgrounds and the NPMs needed to understand their unique challenges and make sure the students felt welcome.
- **Professionalism.** The near peer mentors needed to maintain participant privacy and confidentiality while also being self-aware of their own limitations.
- **Systems-based practice.** Medical students should understand how medical school outcomes relate to the community’s health care needs. Serving as a near peer mentor to other students interested in serving rural communities, helped to reinforce the students’ commitment to addressing these needs.

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| Collaboration in leading the activity | <ul style="list-style-type: none"> • Department of Health and Human Services Health Resources • Services Administration Dean's Office that offered funds to support the inclusion of students who were deemed academically at-risk |
| Resources/ Additional examples of effective practices. | <p>PASS: Personal and academic Support System, p. 45</p> <p>Mentoring interventions for underrepresented minorities</p> <p>An Innovative Model of Peer Mentoring</p> <p>http://www.slcc.edu/oss/Bruin_Scholars/index.aspx</p> <p>https://www.youtube.com/watch?v=Jtwsqubw2l&t=63s</p> <p>https://www.youtube.com/watch?v=gXi5LbWyuDo&t=60s</p> |
| Pedagogy | <p>Practice-based learning</p> <p>Collaborative learning,</p> <p>System-based practices</p> |
| Links and references | <p>https://doi.org/10.1186/s12909-019-1854-x</p> <p>https://www.sciencedirect.com/science/article/abs/pii/S0027968417302092?via=ihub</p> <p>https://www.tandfonline.com/doi/abs/10.1080/10401334.2012.741544</p> |

Social sciences activity (I)

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| Title of the activity/programme /Intervention | Experienced-Based Curriculum – A major-based peer mentoring initiative |
| Citation | <p>Virnoche, Mary E. and Grant-Panting, Alexis (2019) "Mentoring in the Middle Years: Major-Based Peer Mentors and an Experienced Based Sociology Curriculum," <i>IdeaFest: Interdisciplinary Journal of Creative Works and Research from Humboldt State University</i>. Vol. 3 , Article 15.</p> <p>http://www.csustudentsuccess.net/wp-content/uploads/2022/06/Major-Based-Peer-Mentors.pdf</p> |
| Area/ Domain | Sociology |
| Country | United States |
| Activity /Intervention summary | Humboldt State University is one of 23 campuses in the California State University system. It is the northern-most campus and in a rural setting with 74% of students originating from areas more than 250 miles away. Because of a drop in |

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| | <p>enrolment, the university launched the major-based peer mentoring program to increase retention and graduation.</p> <p>The initiative called for the closure of student opportunity gap as well as improvements in retention rates and decreases in years to graduation. In 2013, the campus earned the federal designation of “Hispanic-Serving Institution (HSI)”. By 2018 more than two-thirds of students in the Department identified as students of colour and more than two-thirds of the students in the Department were first-generation college students.</p> <p>The peer mentors in this program supported a middle years’ experience-based curriculum, while offering academic mentoring, career support, and connections to communities and other peers. The middle years encompass the academic period between the end of first year and the beginning of senior year.</p> |
| Educational level | Middle year (the end of first year and the beginning of senior year) |
| Single /Series | Multiple/Four main activities |
| Duration | During the academic period between the end of first year and the beginning of senior year. |
| Goals/Purpose | <ul style="list-style-type: none"> • To close student opportunity gap • To improve retention and graduation rates |
| Description | <p>A Sociology peer mentor program was designed to provide one-to-one mentoring that supported a department practice of holistic advising, as well as outreach to groups of Sociology majors in key courses. This course outreach focused on pivotal points in the curriculum where peer support could be most beneficial.</p> <p>The program only employed 2–3 peer mentors in any given year. The program started with mentor-mentee intensive email and personal contact. Mentors received training before and during their mentoring experience. The training included introductions to student development theory, principles of mentoring, campus demographic and retention information, cultural competency skills, leadership, and campus resources. The mentors also served as social links to support student involvement with major-related activities and academic community building. They encouraged mentees to attend a variety of department events from degree planning workshops to beach bonfires. They also collaborated with the Sociology Student Association on planning events and generating participation.</p> |

The curriculum itself was informed by research on high impact teaching and learning. The curriculum addresses career uncertainties. It also creates connections between developing academic skills, “real life” experiences, and imagined post-academic life.

The four main activities were:

Service learning second-year course. “Social Issues and Action” course with a service-learning component.

All students need to identify a community organization of interest and complete 13–20 hours of service in that placement. Service-learning experiences include everything from assisting at the local food bank to playing board games and talking with teens at juvenile hall. As these are short-term community experiences, they usually involve relatively simple tasks while allowing students a small window into the operations of a community group.

Peer mentors in collaboration with the faculty coordinator support the Sociology majors as they search for and confirm their service-learning placements.

Peer mentors introduced themselves to the service- learning students during the first weeks in the semester.

They share their own experiences and offer to meet with students one-to-one to brainstorm on service-learning opportunities and make contact with organizational staff.

They provided students with their contact information and how they can best connect with them.

Mentors also used the student sociology club as an avenue for outreach and connection with students.

They attended sociology club events, meetings, and outreach events designed for clubs by the university.

Professional development seminar. A one-unit professional development seminar for students in their second or third year that delivers career-related content.

The seminars also address equity gaps that develop around professional mentoring delivery without the structure that curricular integration offers. One-to-one student-faculty advising, and peer mentoring can build on that knowledge.

Major peer mentors are required to have taken or be enrolled in the professional development seminar. With these skills in place, they are able to support their mentees in seeking service-learning placements, internships, and jobs.

The proseminar topics include building résumés and cover letters, as well as networking logic, organization systems, and other skills from elevator speeches to working a room.

Students also learn to plan and manage a job search, from creating a system to keep track of all the moving pieces to business correspondence and interview preparation. And as a class they talk with a panel of community professionals who share their experiences of hiring new staff members. The panel discussion is usually followed by a reception where students are encouraged to apply the networking skills they learned in class.

Capstone thesis or internship. The capstone is the final experience-based course. In the semester before their capstone, students must decide and get instructor approval to enrol. The preparation for enrolment requires considerable work. Peer mentors are trained on how to support students in the planning processes, even if they have not yet completed capstone themselves.

Peer mentors accompany the capstone faculty coordinator for thesis and internship classes when they meet with students in key gateway classes: research methods and theory. Peer mentors offer to set up meetings with students to help them with the enrolment process in the internship class. In addition, peer mentors encourage their mentees to attend the final presentations of thesis presentations and internship poster sessions scheduled in the last week of each term.

Supporting holistic advising. The Department integrated major-based peer mentors into three existing advising mechanisms: pre-registration group advising; pre-registration one-to-one faculty advising; and walk-in main office traffic where students get answers to general questions about the department and other resources.

Peer mentors offer “pre-advising” in anticipation of busy registration period schedules. Pre-advising helps students make the best use of their faculty advising time. Peer mentors help students identify questions, as well as prepare and review important advising materials, such as their degree plan and paperwork required to register for some specialized classes (internship and thesis).

Benefits:

The peer mentors themselves reported overall positive experiences in their work supporting students.

First generation students were more likely (80%) than continuing generation students (46%) to meet with a peer mentor.

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| | <p>Likewise, students of colour were more likely (81%) than white students (46%) to meet with a peer mentor.</p> <p>Students of colour were more likely than white students to report that a mentor helped them attend department events. More than two-thirds (67%) of students of colour reported support with event attendance compared to 17% of white students.</p> <p>Connection to an academic program of study is particularly vital for students in the middle years. These connections support a sense of belonging in a course of study. Students of colour in a predominantly white campus and community often experience additional barriers to academic integration.</p> <p>Major peer mentoring provided particularly promising results for mitigating one of these challenges for students of colour. Their relationships with peer mentors created a sense of security.</p> <p>Overall, they noted that peer mentors helped them create connections to other students, faculty, resources, and a check that they were on track.</p> |
| <p>Collaboration in leading the activity/initiative</p> | <p>California State University Humboldt State University Department of Sociology Sociology Student Association Faculty service learning Internship coordinator, University service-learning office Career centre staff College of Arts Humanities, and Social Sciences Sociology undergraduates</p> |
| <p>Resources</p> | <p>The Sandbox Studio. P.40. 57 Curriculum related fundraising activities, p. 58. The transition game</p> |
| <p>Pedagogy</p> | <p>Experienced based pedagogy Collaborative learning Game based learning</p> |
| <p>Links and references</p> | <p>Virnoche, Mary E. and Grant-Panting, Alexis (2019) "Mentoring in the Middle Years: Major-Based Peer Mentors and an</p> |

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| | <p>Experienced Based Sociology Curriculum," IdeaFest: Interdisciplinary Journal of Creative Works and Research from Humboldt State University: Vol. 3 , Article 15.</p> <p>http://www.csustudentsuccess.net/wp-content/uploads/2022/06/Major-Based-Peer-Mentors.pdf</p> <p>Gerodetti, Natalia & Darren, Nixon. (2019). Beyond Attrition and Retention: Working With Students to Enhance the First Year Experience. 10.4995/HEAD19.2019.9435.</p> <p>https://archive.headconf.org/head19/wp-content/uploads/pdfs/9435.pdf</p> <p>Yomtov, D., Plunkett, S., Efrat, R. & Marin, A. (2015). Can peer mentors improve first year experiences of university students? Journal of College Student Retention: Research, Theory and Practice, 19 (1), 25-44.doi.org/10.1177/1521025115611398</p> <p>https://files.eric.ed.gov/fulltext/EJ1138947.pdf</p> |
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Social sciences activity (II)

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| Title of the activity/programme /Intervention | <p>A specialist peer mentoring program for university students on the autism spectrum.</p> <p>Curtin Specialist Peer Mentoring Programme</p> |
| Citation | <p>Siew CT, Mazzucchelli TG, Rooney R, Girdler S (2017) A specialist peer mentoring program for university students on the autism spectrum: A pilot study. PLoS ONE 12(7): e0180854. https://doi.org/10.1371/journal.pone.0180854</p> <p>https://journals.plos.org/plosone/article/file?id=10.1371/journal.pone.0180854&type=printable</p> |
| Area/ Domain | Sociology |
| Country | Western Australia |
| Activity /Intervention summary | <p>The Curtin Specialist Mentoring Program is a specialised peer mentoring program for university students with autism spectrum disorder aimed at improving self-reported well-being, academic success and retention in Curtin University in Western Australia. Undergraduate students currently attending Curtin University in Perth Western Australia, who self-reported diagnosis of autistic</p> |

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| | <p>disorder or a related condition were involved as mentees in the programme during the first semester of the 2014 academic year.</p> <p>The program provides students with support in managing the ongoing demands of university life and encourages the development of skills in self-managing these demands in the future. The peer-mentoring program is centred on the provision of “specialist peer mentors” who are Curtin University postgraduate students. Mentees are paired with one specialist mentor who provides individualised support based on the needs of the mentees. Topics may include time management, academic performance and communication with teaching staff and peers. CSMP mentee-mentor pairs met weekly for an hour to discuss issues pertinent to the mentee (e.g., managing stress, approaching support staff for help).</p> |
| Educational level | Undergraduate |
| Single /Series | Multiple |
| Group size | 12 |
| Duration | One semester |
| Goals/Purpose | <ul style="list-style-type: none"> • to improve well-being, academic success and retention in university of students with autistic spectrum disorder • to provide flexible support through one-to-one peer mentoring, targeted at the individual needs of each student. • to increase feelings of social support, reduce anxiety and communication apprehension and increase communication competence. |
| Description | <p>Mentors underwent specialist training workshops which covered both generic topics (e.g., roles of a mentor, resources available on campus, ways to engage with mentee, confidentiality and boundaries), as well as ASD-specific topics (e.g., discussion about specific mentees based on their assessment profiles, identifying and managing anxiety, social skills training).</p> <p>The individual needs of the mentee were identified and made available to their mentors.</p> <p>Mentors attended a weekly group supervision meeting lead by the two program coordinators, an educational specialist and psychologist experienced in working with young adults with ASD. These supervision meetings aimed to provide specialist mentors with peer-support and a forum through which individual mentee difficulties could be discussed.</p> |

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| | <p>Mentees and mentors were also encouraged to participate in a weekly Curtin Social Group where mentees and their mentors would interact and learn social skills as a group.</p> <p>The activities of the programme included:</p> <ul style="list-style-type: none"> • meeting weekly for 90 minutes during teaching weeks of the university semester (and included occasional guest speakers), • external off campus outings during the university breaks such as tenpin bowling or to the cinema. <p>The Curtin Specialist Programme provided a safe environment for the purposes of improving social communication and interaction outcomes.</p> <p>Benefits:</p> <p>Participants highlighted three positive features of the programme: provision of constant, stable support; comfort of peer-to-peer support; and flexible and individualised support.</p> <p>Participants highlighted that the programme provided opportunities for:</p> <ul style="list-style-type: none"> • structured teaching of social skills. • increased their motivation to “do things”, including university work and pursuing social goals. • provided practical forms of support. • facilitated opportunities for socialisation and created a sense of belonging. • helped them to gain emotional support from being able to talk to peers going through the same experiences. • helped them to adjust to university life (Transition, managing academic work, communicating support needs, managing negative feelings, as well as instilling more positive emotions, Socialisation) |
| Collaboration in leading the activity | Curtin University Counselling Disability Services |
| Resources | <p>Bebko JM, Schroeder JH, Ames ME. A mentoring program for students with Asperger and ASDs [Internet]. Toronto, Ontario: York University Bookstore; 2011 [cited 2015 Aug 10].https://campusmentalhealth.ca/wp-content/uploads/2018/03/A-Mentoring-Program-for-Students-with-Asperger-and-ASDs.pdf, p.8; 14; 31</p> <p>https://www.disability.admin.cam.ac.uk/</p> <p>Peer assisted learning leaders (formerly academic peer mentoring)</p> |

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| | <p>https://www.kent.ac.uk/student-learning-advisory-service/peer-assisted-learning</p> <p>https://www.youtube.com/watch?v=eGs_pNsXMaY&t=189s</p> <p>https://www.youtube.com/watch?v=onEL33D2sQI&t=49s</p> <p>https://www.youtube.com/watch?v=En2-twMGzlw</p> |
| Pedagogy | <p>Collaboration</p> <p>Discussions</p> <p>Social learning</p> |
| Links and references | <p>Siew CT, Mazzucchelli TG, Rooney R, Girdler S (2017) A specialist peer mentoring program for university students on the autism spectrum: A pilot study. PLoS ONE 12(7): e0180854. https://doi.org/10.1371/journal.pone.0180854</p> <p>https://journals.plos.org/plosone/article/file?id=10.1371/journal.pone.0180854&type=printable</p> <p>Neil Quintrell & Marvin Westwood (1994) The Influence of a Peer-Pairing Program on International Students' First Year Experience and Use of Student Services, Higher Education Research & Development, 13:1, 49-58, DOI: 10.1080/0729436940130105</p> <p>https://www.tandfonline.com/doi/citedby/10.1080/0729436940130105?scroll=top&needAccess=true</p> <p>Hamilton J, Stevens G, Girdler S (2016) Becoming a Mentor: The Impact of Training and the Experience of Mentoring University Students on the Autism Spectrum. PLoS ONE 11(4): e0153204. https://doi.org/10.1371/journal.pone.0153204</p> <p>https://journals.plos.org/plosone/article?id=10.1371/journal.pone.0153204</p> |

Concluding remarks and takeaways

The overall aim of this book is to provide up-to-date information and material to support the work of student ambassador outreach activity. Activities co-created within the Erasmus+ DIPLOMA Programme (Development of Inclusive and Participatory Learning in Organisations through Multicultural Ambassadors) by ambassadors from the UK, France, Romania and Turkey have been presented in this volume as a models of experiential learning activities co-created by student ambassadors for a wide range of settings. The literature consistently highlights the importance of student ambassadors in outreach and progression activities aiming to encourage underrepresented groups to access and succeed in HE (Gartland, 2020). The chapters in this book reinforce this by detailing ambassadors' activities and pedagogical frameworks found to be effective in underpinning these efforts. Throughout this chapter, we briefly outline how the information covered can be used to advance knowledge in the field and inform universities and other organisations about ambassador training.

From our experience and the literature, we have found Possible Selves Theory (Markus & Nurius, 1986; Harrison, 2018) is a conducive framework for developing approaches to encouraging students to access and complete university studies. Therefore, throughout this volume, we highlight how co-created activities can lead to the development of possible selves. Interventions aimed at expanding the pool of possible selves and strengthening young people's self-efficacy and locus of control are important for promoting equitable access to HE. The pedagogies discussed aim to foster a sense of belonging, connecting students with possible future selves, and address educational inequalities through inclusive and engaging learning experiences. This section highlights the civic responsibility of HEIs and student ambassadors in promoting social equity and widening participation in HE through experiential and interdisciplinary learning.

From our perspective, the local context matters in developing appropriate outreach activities and training materials for ambassadors, so we have presented the HE systems in the above-mentioned countries, together with the statutory requirements and regulations for ambassadors. Although this information is not valid for all countries, it is a working model that can be added to and improved by other countries. The necessity of comprehensive training for student ambassadors, especially around safeguarding and understanding statutory requirements, is well-documented (Bissoonauth-Bedford & Stace, 2017). The chapters add to this by discussing variations in training needs and statutory requirements across different countries, offering a nuanced understanding that can inform international best practices.

Activities co-created with multicultural ambassadors emphasise the role of HE ambassadors in promoting interdisciplinary learning, a key theme in the literature (Brewer, 1999; Jacobs & Frickel, 2009). The integration of the arts, sciences, and

sustainability underscores the importance of cross-disciplinary education in addressing complex global challenges. Ambassadors facilitate a near-peer mentoring environment that enhances the educational experiences and expectations of younger students. Engaging students in global challenges through project-based learning reflects a growing emphasis in educational research on developing global citizenship among students (Andreotti, 2006; Hicks & Holden, 2007). By involving students in projects with real-world impact and community engagement, such as the "EcoArtists" and "Addicted to Fashion" activities, the chapters advance the literature by showcasing how HE ambassador programs can extend beyond academic and personal development to influence wider societal change (Hart & Northmore, 2011; Watson et al., 2011). The focus on creative and artistic expression as a means of empowerment and social commentary offers a novel perspective on the role of HE ambassadors in personal and social growth (Finley, 2011). This approach highlights the potential of HE ambassador programs to foster critical thinking, creativity, and sense of agency among students. By embedding career guidance within the context of socially relevant projects, these activities present an integrated approach to career education that goes beyond traditional pathways and informational sessions. This aligns with calls for more embedded and experiential career learning in education (Hooley et al., 2014).

Takeaways for universities

At the international level, the number of universities that promote ambassador programmes is increasing, and there are some successful documented programs. For example, in the UK, the University of Manchester implemented peer-assisted study sessions (PASS). The PASS is a peer-led volunteering scheme designed to facilitate study sessions for first-year students. Older students (ambassadors) who have successfully completed the same courses lead sessions to discuss course content, study strategies, and learning approaches. The main outcomes of this program were increased retention rates, enhanced academic performance among participants, and development of leadership skills among peer leaders (Tariq et al., 2013). The Women in Science and Engineering (WISE) Ambassadors Program from the University of Michigan aims to encourage female students to pursue and remain in STEM fields. It pairs undergraduate and graduate STEM students with professional women in STEM careers and offers mentorship, career advice, and support. This program improved the following: increased retention and success rates of women in STEM majors, greater engagement in STEM activities, and enhanced career readiness (Blickenstaff, 2005).

Programmes have also paired HE ambassadors with school students in the past to investigate the impact on both parties (Austin & Hatt, 2005). In this particular instance, fifty HE ambassadors completed questionnaires detailing their activities, while twenty-five school students participated in group interviews. Following their interactions with the ambassadors, there was a noticeable increase in the students' interest in attending university, with a significant uptick in the desire to pursue higher education among this group. The HE ambassadors themselves also reported benefits from the programme, including financial support, increased self-confidence, enhanced self-esteem, and

improved transversal skills. This demonstrates the wide-ranging advantages that such programmes can offer.

However, it is still room for improvement even for more advanced HEIs. Based on our experiences of co-design and co-creating with multicultural ambassadors, we consider HEIs could

create cross-disciplinary platforms that allow student ambassadors from different faculties to collaborate on projects. This will encourage the exchange of ideas and foster a culture of interdisciplinary learning. Also, the focus on building strong partnerships with local communities, NGOs, and industries will allow students to work on real-world problems, enhancing their learning experience. The training approach for student ambassadors outlined in this handbook brings a much-needed focus on the pedagogies of student ambassador outreach activity (Gartland, 2020). The stepped approach outlined to developing training, respects the need for outreach activity to be tailored to particular communities and settings (Harrison, 2018; Rainford, 2023). Research widely indicates the value of partnerships (Gartland & Negrea, 2022) when developing effective outreach activity. For example, universities can work collaboratively with schools and co-create activity with ambassadors, academics and teachers. Such a partnership provides opportunities for ambassadors to find out about particular school settings and the students they will be working with (Bissoonauth-Bedford & Stace, 2017). Clear and bespoke purposes should be developed for outreach activity; we advocate following existing models (Harrison, 2018; Hayton & Benry-Howell, 2016) focusing on building capital, self-efficacy in targeted subject disciplines and expanding younger students' repertoire of possible selves, alongside advocating wider engagement with big societal issues. The target groups and location of activity also need to be decided upon. In this handbook we have paid particular attention to working inclusively with students aged 11-14 as this is the age when school students are forming identities in relation to subject disciplines and making vital choices about which subjects to pursue. Co-creation and experiential learning underpin all proposed outreach activities and ambassador training in this handbook. Experiential learning activities provide opportunities to embed real world contexts and careers information. Training for ambassadors is integrated in this approach; in the co-creation process, ambassadors learn from each other, teachers and academics. Experiential learning activities also provide opportunities for ambassadors to try out activities themselves and experience the learning and challenges school students will encounter, effectively equipping them to support the learning of school students (Halim et al. 2020; Gartland, 2020). However, before developing activities and training for specific activities, universities should provide standardized training modules for ambassadors covering legal requirements, safeguarding practices, and effective communication strategies to ensure ambassadors are well-prepared to work safely and effectively with young people. Universities can additionally provide more comprehensive underpinning training for ambassadors, for example including leadership skills, digital literacy, project management, and an understanding of global issues. This training should emphasize the importance of diversity, equity, and

inclusion, equipping ambassadors with the skills to work effectively with diverse populations. HEIs can also encourage ambassadors to share their personal experiences and pathways to higher education, focusing on how they overcame barriers and challenges, to motivate and inspire school students. The existence of evaluation mechanisms to assess the effectiveness of ambassador programs is necessary, especially for tracking the long-term impact programs.

From a top-down perspective, it is worth mentioning that HEIs cannot implement complex, multicultural and interdisciplinary ambassador programmes without proper financial endorsement. As such we encourage governments and national/international funding bodies to support HEIs in these initiatives. Investing in ambassador programs can yield significant economic benefits. Higher education is linked to increased earnings potential, lower unemployment rates, and greater economic productivity (Psacharopoulos & Patrinos, 2018). Ambassador programs that encourage wider participation in higher education can thus contribute to a more skilled workforce, driving economic growth and competitiveness. Ambassador programs, especially those focused on STEM subjects, can help address critical skills gaps in the workforce. By inspiring and informing students about careers in science, technology, engineering, and mathematics, these programs can support national and global priorities for innovation and technological advancement (National Science Board, 2018).

Limitations to our approach

While the work with multicultural ambassadors from UK, France, Romania and Turkey provided valuable insights into the field, it is responsible to outline the main limitations of our approach and to contextualise the use of this book. The examples and case studies presented are primarily drawn from specific regions, so the transferability of strategies and interventions to other cultural and educational contexts may be limited. That's why we recommended that universities design their own basic training for ambassadors' requirements, analyse cultural norms and create partnerships to facilitate the development of activity that is relevant for local students.

The book does cover a range of disciplines, including STEM, arts, social sciences, humanities, and health and each discipline is explored in terms of ambassador activities. Examples of activities were given for each field, but the complexity of domains is high, and some disciplines are not as deeply explored as others, which could limit the book's utility for those specific academic fields. We expect that the examples provided in this book can be adapted and tailored for particular settings and to meet institution-specific objectives. Additionally, the co-created activities followed a qualitative methodology. Mixed methods and long-term studies of this work would bring rigorous evidence of their impact. Unfortunately, such endeavors depend largely on funding, and these financial challenges were not addressed in the current volume.

The integration of digital tools and online platforms into outreach activities is rapidly evolving. In this book, we provided strategies for in-person engagement and highlighted the contribution of technology-based learning; however, we did not fully

address the potential of digital technologies and social media platforms in enhancing outreach efforts and engaging with a wider audience. Such an approach may be particularly useful for universities that provide distance learning programmes.

Future research directions

Future research should focus on longitudinal studies to evaluate the long-term impact of student ambassador programmes on both ambassadors and students. This could include studies focused on the development of self-efficacy in different disciplines, academic achievement, possible selves and career pathways, and the development of social responsibility and global citizenship (Nedungadi et al., 2024). There is a need for more research on how interdisciplinary approaches within ambassador programs can enhance learning outcomes. Studies could explore how integrating subjects such as art, science, and sustainability contributes to a more holistic education and prepares students for complex real-world challenges. With the increasing use of digital platforms for education, research on the role of digital engagement within ambassador programs is crucial. This includes the effectiveness of virtual mentoring, digital art projects, and the use of social media for environmental activism. A recent program, entitled Central Java Regional Cyber Youth Peace Ambassador program is such an example (Jannah et al., 2023). Future studies should investigate how HE ambassador programs can enhance diversity and inclusion in higher education. This includes examining the barriers faced by underrepresented groups in accessing these programs, and the impact of mentorship on reducing these barriers.

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