

REPLAY YOUR FUTURES

LABS FOR
EXPLORING
UNDISCOVERED
PATHWAYS



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INTRODUCTION

Welcome to Replay your futures – Labs for exploring undiscovered pathways!

We are living in times of considerable volatility and uncertainty, so planning a professional career as well as personal and professional development requires a different approach from before. Career decision makers must take into account the unpredictability of the labour market, and the need to adapt to future professional realities. Coping with labour market risks is challenging and it is difficult to adjust to what the future holds.

This handbook proposes to support career planning and personal development through an overview of theoretical assumptions and practical methods for anticipating the future of the labour market. It consists of three modules which provide the reader with a look at their professional career and personal development, taking into account various perspectives delivered by diversified conditions on the labour market.

The training materials support the identification of various scenarios of professional futures and they include a description of methods for adapting to the changing reality, which will increase the chances of achieving professional development goals. The handbook was developed as one of the deliverables of the project: *Future laboratories for professional and personal development – FUTURES* (2020-2023). The project is co-funded by the Erasmus+ programme Strategic Partnerships for Higher Education (KA203). The main goal of the course is to empower university students and Early-stage researchers through the use of the future. The course model is designed on the basis of the ‘learning arches’ methodology¹ (Fig. 1).

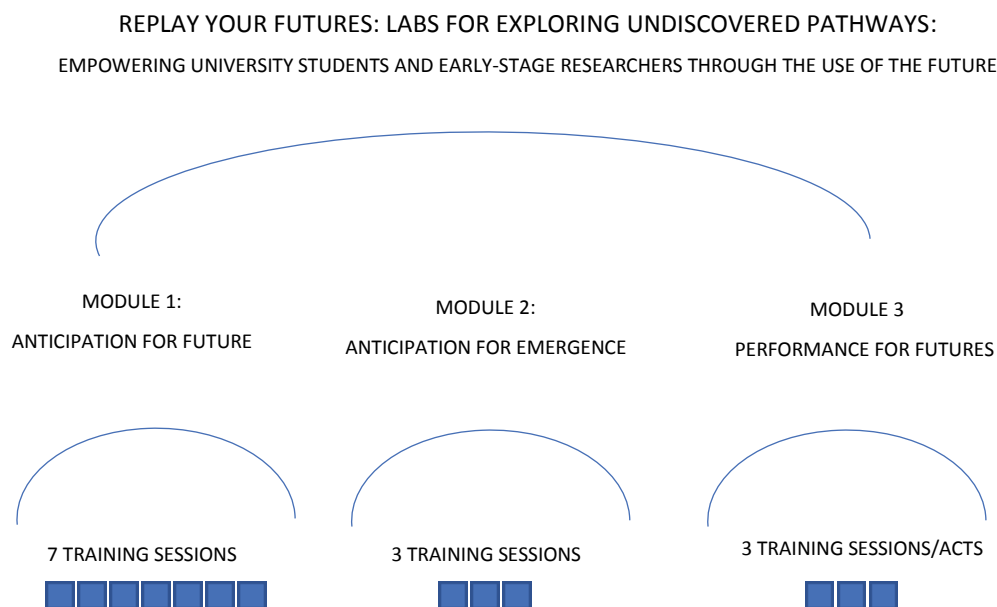


Fig. 1. Overview of Learning Arches within the *Replay your futures – Labs for exploring undiscovered pathways* course.

Source: own study.

¹ S. Kavanagh, *Learning Arch Design*, 2019. Retrieved from https://www.academia.edu/40605001/LEARNING_ARCH_DESIGN_USERS_MANUAL

The handbook consists of three modules – ANTICIPATION FOR THE FUTURE, ANTICIPATION FOR EMERGENCE and PERFORMANCE FOR FUTURES, each representing a learning arch which is further deepened and described in other modules.

The modules include training sessions which constitute coherent sets. All training sessions have a similar format. They present objectives, a theoretical introduction, a PowerPoint presentation of the topic, an example lesson or workshop scenario, recommendations for the use of the methods in virtual form, supplementary resources and useful links.

The objective of the ANTICIPATION FOR THE FUTURE module is to present methods to support professional and personal development through the use of methodologies of foresight and futures studies. The module contains theoretical elements necessary for effective implementation of these methods in practice, especially in relation to the basic assumptions of foresight and basic approaches and methods used in the framework of futures studies. The module consists of seven training sessions. The first four sessions come from the mainstream of foresight research and are largely concerned with the identification and evaluation of broadly understood factors shaping the future labour market. This part presents the potential of using PEST-type analysis to identify factors influencing the labour market or careers, a scenario method enabling deep investigation of variants of changing environmental factors, a session devoted to the futures wheel, and the presentation of roadmapping use for career planning purposes. Three further sessions serve as complementary materials and are more oriented towards providing methodological support that can be used in personal development. They contain both theoretical and practical issues concerning the use of the Force Field Analysis, the SCAMPER method and the de BONO six hats method with the aim of presenting ways to strengthen the forces that affect future change so that the change is more successful.

The second module – ANTICIPATION FOR EMERGENCE introduces the reader to the capability to navigate between different anticipatory systems. The aim of this module is two-fold. Firstly it familiarizes facilitators and educators with Anticipation for Emergence, learning to sense and make sense of novelty in the present, which helps them see their personal and professional development with new eyes and/or a new sense of agency. Secondly the module equips with tools and offers the readers the opportunities to apply this capability to their own context of students and junior researchers. The module comprises three learning sessions: Futures Literacy, Reframe Capacity: imagining alternative futures, Identity Work: building resilience and respond-ability. In the first training session the reader is introduced to the capability of Futures Literacy, using the methodology of a Futures Literacy Lab. This practical tool aims to let trainees experience various ways of 'using the future' by guiding them through three phases: Reveal, Reframe, Rethink. In the second session – Reframe Capacity the participant is led deeper into the capacity to reframe. The objective of this session is to experience a reframe or alternative future, to engage in rigorous imagination by exploring alternative futures and to design experiential futures that are applicable to the target group. The third session of this module – Identity Work allows participants to practice the capability of Futures Literacy by a set of workshops and an experiment in relation to their future professional context.

The objective of the third module – PERFORMANCE FOR FUTURES is to acquaint the

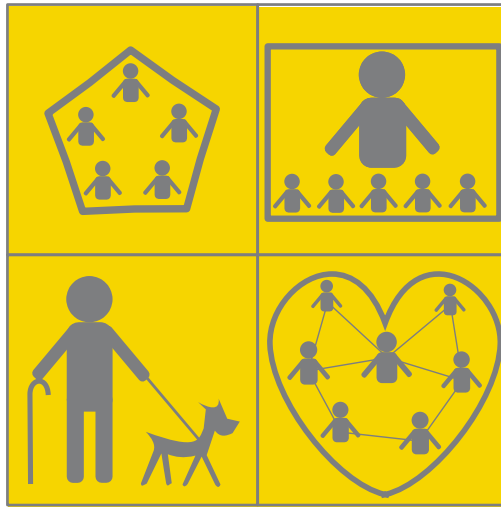
reader with some concepts and ideas from the world of theatre and performance, which can be applied to thinking about futures in ways that will support personal and professional development. The module allows to understand how theatre and performance can be useful in fostering skills in anticipation for the future and in anticipation for emergence, overall helping the user to become more futures-literate. There are three acts (training sessions) in this module. Each act broadly introduces a concept or approach from theatre and performance practices, and suggests ways in which these can be ‘translated’ and applied to futures-thinking, with a particular focus on personal and professional development. The concepts from futures studies that are addressed are also given a broad overview. The first session is called Image Theatre and Rainbow of Desire. In this act the reader is introduced to performance techniques, which will help to consider personal choices and career paths, and the hopes, fears and desires that drive them. The second session of the module concerns Status and Improvisation. The participant is supported to reflect and act on how to approach the future, embrace emergence and prepare for situations like job interviews and other professional encounters, such as meetings, and presentations. The third act of the module is called Devising and Dramaturgy. The session objective is to introduce the reader to the concepts of devising and dramaturgy, allowing the participant to start thinking about reframing the assumptions and embracing the complexity which (im)possible futures may hold.

The main audience for of the handbook are facilitators and educators of group workshops as well as individual meetings with people interested in personal and professional development. Potential beneficiaries of the publication are also students of management and pedagogy faculties, practitioners and theoreticians of vocational and management counselling and all persons interested in foresight research and futures studies. The selected training materials can also be used by individuals – students/ researchers/youth for self-work.

In the handbook the reader finds the references to the design principles underpinning the preparation of the modules, which are placed in the margins. The design principles also represent a set of hints, which should be considered when using and practicing particular parts of the training materials. The key to the design principles can be found on the next page. For further details the reader can enter the project website in the download section: <https://futuresproject.pb.edu.pl/download/>

Enjoy experiencing your professional and personal futures!

DESIGN PRINCIPLES



Inclusivity by design



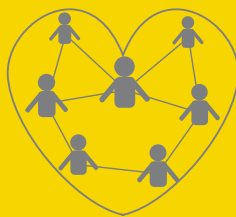
Respecting diversity concerning race, culture, gender, (dis)ability, neurodiversity and sexual orientation – with neurodiversity referring to variation in the human brain regarding sociability, learning, attention, mood and other mental functions in a non-pathological sense and gender diversity referring to gender identities that demonstrate a diversity of expression beyond the binary framework.



Designing for hybrid or virtual participation should be foreseen.

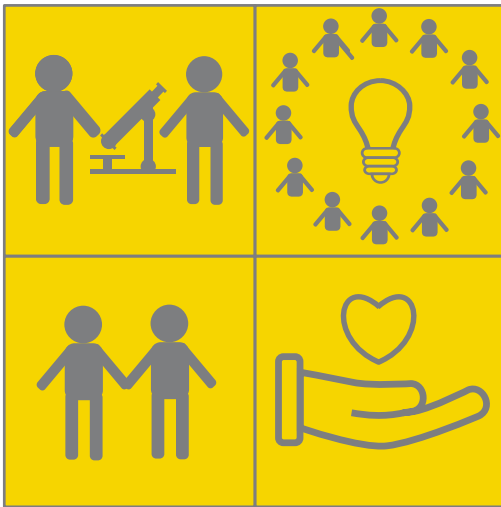


Design for accessibility of disabled users should be foreseen.



Meet them where they are: diagnosing the participants' values, their style, their needs, and their emotions, and connecting with them in a way that is effective for them.

DESIGN PRINCIPLES



Fostering a safe environment of collaboration



Active participation: a participatory process or method calls all the participants to assume an active role. Participants are not just passive listeners but actively contribute and have a say in collectively shaping any outcome.



Collective learning: collective learning refers to the collaborative acquisition and/or co production of knowledge via collective accessing, exchange and processing of information.



Encouraging an atmosphere of support, understanding, acceptance, trust, and empathy enables participants to freely express their ideas, views, and concerns.



Creating a safe environment should be foreseen in activities and educational processes aiming at personal and professional development of teenagers and young adults.

DESIGN PRINCIPLES



Empowering individuals



Critical reflection: self and critical reflection refer to the process that motivates the individuals to understand the underlying reasons and/or (un)intended consequences of their actions. Individuals are encouraged to question assumptions taken for granted and re-evaluate meanings while thinking of alternative ways of acting.



Provision of keeping participants' interest and engagement during the activities.



Designing for self-directed activities in which individuals take the initiative, with or without the help of others, in diagnosing their learning needs, formulating learning goals, identifying human and material resources for learning, choosing and implementing appropriate learning strategies, and evaluating learning.

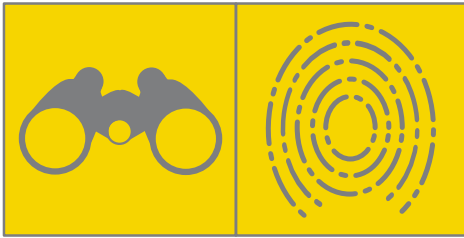


Creating a safe environment, co-design and co-creation should be integrated into activities and educational material aiming at personal and professional development of teenagers and young adults.



Providing clear instructions should be integrated in activities and educational material aiming at personal and professional development of teenagers and young adults.

DESIGN PRINCIPLES



Engagement with the Future



Preparing and planning for the future, along with active exploration of strange future scenarios, empowering the development of 'outside-the-box' thinking, creativity, and innovation among individuals.



Active exploration of scenarios for the professional and personal development should be integrated into activities and education material aiming at personal and professional development of teenagers and young adults.

DESIGN PRINCIPLES



Promote
experimentation



Experiential and immersive dimension: the experiential and immersive dimension in a process aims at eliciting in participants' responses that go beyond the cognitive. In other words, an experiential and immersive process calls participants to feel and respond to various stimuli holistically.



Learning-by-doing: learning-by-doing refers to the process during which an individual understands in a better way his/her experiences, especially those in which he/she actively participates in order to form an outcome. According to this process, the interaction of the individual's experience and energy is the one that results in learning and not the activity itself.



Leaving room for improvisation and emergence to respond to participants' needs.



Fostering creative imagination by combining and rearranging different elements of the data gathered from sensory experience.

CONTENTS

INTRODUCTION	3
ANTICIPATION FOR FUTURE MODULE	15
INTRODUCTION	17
TRAINING SESSION 1: STEEPVL ANALYSIS	19
1. OBJECTIVE.....	19
2. THEORETICAL INTRODUCTION	19
3. PRESENTATION ABOUT THE TOPIC (E-LEARNING).....	20
4. PRACTISE YOUR PATHWAYS.....	22
5. RECOMMENDATIONS FOR VIRTUAL FORM (OPTIONAL)	30
6. SUPPLEMENTARY RESOURCES	31
TRAINING SESSION 2: SCENARIO ANALYSIS	32
1. OBJECTIVE.....	32
2. THEORETICAL INTRODUCTION	32
3. PRESENTATION ABOUT THE TOPIC (E-LEARNING).....	34
4. PRACTISE YOUR PATHWAYS.....	44
5. RECOMMENDATIONS FOR VIRTUAL FORM (OPTIONAL)	48
6. SUPPLEMENTARY RESOURCES	48
ANNEXES	49
TRAINING SESSION 3: ROADMAPING AS A TOOL FOR VISUALISING PROFESSIONAL AND PERSONAL FUTURE	51
1. OBJECTIVE.....	51
2. THEORETICAL INTRODUCTION	51
3. PRESENTATION ABOUT THE TOPIC (E-LEARNING)	52
4. PRACTISE YOUR PATHWAYS.....	59
5. USEFUL AREAS OF EXPERTISE/EXPERTS (OPTIONAL).....	65
6. RECOMMENDATIONS FOR VIRTUAL FORM (OPTIONAL)	65
7. RECOMMENDED SUPPLEMENTARY RESOURCES	66
TRAINING SESSION 4: THE FUTURES WHEEL METHOD FOR CAREER PLANNING FOR YOUNG PEOPLE	68
1. OBJECTIVE.....	68
2. THEORETICAL INTRODUCTION	68
3. PRESENTATION ABOUT THE TOPIC (E-LEARNING)	72
4. PRACTISE YOUR PATHWAYS.....	77
5. USEFUL AREAS OF EXPERTISE/EXPERTS (OPTIONAL).....	85
6. RECOMMENDATIONS FOR VIRTUAL FORM (OPTIONAL)	85
7. RECOMMENDED SUPPLEMENTARY RESOURCES.....	85

TRAINING SESSION 5: FORCE FIELD ANALYSIS	87
1. OBJECTIVE.....	87
2. THEORETICAL INTRODUCTION	87
3. PRESENTATION ABOUT THE TOPIC (E-LEARNING).....	89
4. PRACTISE YOUR PATHWAYS.....	94
5. RECOMMENDATIONS FOR VIRTUAL FORM (OPTIONAL)	98
6. RECOMMENDED SUPPLEMENTARY RESOURCES.....	98
REFERENCES:.....	98
TRAINING SESSION 6: SHAPING PERSONAL DEVELOPMENT AND CAREER PATH WITH THE USE OF THE SCAMPER METHOD	100
1. OBJECTIVE.....	100
2. THEORETICAL INTRODUCTION	100
3. PRESENTATION ABOUT THE TOPIC (E-LEARNING)	103
4. PRACTISE YOUR PATHWAYS.....	109
5. RECOMMENDATIONS FOR VIRTUAL FORM (OPTIONAL)	111
6. RECOMMENDED SUPPLEMENTARY RESOURCES	111
REFERENCES:.....	112
TRAINING SESSION 7: USING DE BONO’S SIX THINKING HATS TECHNIQUE TO SELECT THE DESIRED CAREER DEVELOPMENT SCENARIO	114
1. OBJECTIVE.....	114
2. THEORETICAL INTRODUCTION	114
3. PRESENTATION ABOUT THE TOPIC (E-LEARNING)	117
4. PRACTICE YOUR PATHWAYS	122
5. USEFUL AREAS OF EXPERTISE/EXPERTS (OPTIONAL).....	126
6. RECOMMENDATIONS FOR VIRTUAL FORM (OPTIONAL)	126
7. RECOMMENDED SUPPLEMENTARY RESOURCES.....	126

ANTICIPATION FOR EMERGENCE	129
MODULE OBJECTIVE.....	131
INTRODUCTION	131
AIM AND DESIGN.....	132
INVITATION TO FACILITATORS/EDUCATORS	134
TRAINING SESSION 1: FUTURES LITERACY: WALKING ON TWO LEGS.....	136
1. OBJECTIVE.....	136
2. THEORETICAL INTRODUCTION	136
3. PRACTISE YOUR PATHWAYS.....	138
4. PRESENTATION ABOUT THE TOPIC (E-LEARNING)	142
5. USEFUL AREAS OF EXPERTISE/EXPERTS	146
6. RECOMMENDATIONS FOR VIRTUAL FORM	146
7. RECOMMENDED SUPPLEMENTARY RESOURCES.....	147
TRAINING SESSION 2: REFRAME CAPACITY: IMAGINING ALTERNATIVE FUTURES.....	148
1. OBJECTIVE.....	148
2. THEORETICAL INTRODUCTION	149
3. PRACTICE YOUR PATHWAYS	150
4. PRESENTATION ABOUT THE TOPIC (E-LEARNING)	154
5. USEFUL AREAS OF EXPERTISE/EXPERTS	157
6. RECOMMENDATIONS FOR VIRTUAL FORM	157
7. RECOMMENDED SUPPLEMENTARY RESOURCES.....	158
TRAINING SESSION 3: IDENTITY WORK: BUILDING RESILIENCE & RESPONSE-ABILITY.....	160
1. OBJECTIVE.....	160
2. THEORETICAL INTRODUCTION	160
3. PRESENTATION ABOUT THE TOPIC (E-LEARNING)	162
4. RECOMMENDED SUPPLEMENTARY RESOURCES.....	175
SUPPLEMENTARY RESOURCES.....	176
INSTRUCTIONS – FUTURES THINKING WORKSHOP: PERSONAL AND PROFESSIONAL DEVELOPMENT	182
PERFORMANCE FOR FUTURES	189
MODULE OBJECTIVE.....	191
1. ACT 1 – IMAGE THEATRE AND RAINBOW OF DESIRE	193
2. THEORETICAL INTRODUCTION	193
3. PRESENTATION ABOUT THE TOPIC (E-LEARNING)	195
4. PRACTISE YOUR PATHWAYS.....	200

5. USEFUL AREAS OF EXPERTISE/EXPERTS.....	204
6. RECOMMENDATIONS FOR VIRTUAL FORM.....	205
7. RECOMMENDED SUPPLEMENTARY RESOURCES.....	205
ACT 2 – STATUS AND IMPROVISATION.....	206
1. ACT 2 OBJECTIVE	206
2. THEORETICAL INTRODUCTION	206
3. PRESENTATION ABOUT THE TOPIC (E-LEARNING)	208
4. PRACTISE YOUR PATHWAYS.....	212
5. USEFUL AREAS OF EXPERTISE/EXPERTS (OPTIONAL).....	216
6. RECOMMENDATIONS FOR VIRTUAL FORM.....	216
7. RECOMMENDED SUPPLEMENTARY RESOURCES.....	217
ACT 3 – DEVISING AND DRAMATURGY	218
1. ACT 3 OBJECTIVE	218
2. THEORETICAL INTRODUCTION	218
3. PRESENTATION ABOUT THE TOPIC (E-LEARNING)	220
4. PRACTISE YOUR PATHWAYS.....	224
5. USEFUL AREAS OF EXPERTISE/EXPERTS.....	228
6. RECOMMENDATIONS FOR VIRTUAL FORM.....	229
7. RECOMMENDED SUPPLEMENTARY RESOURCES.....	229



ANTICIPATION
FOR THE FUTURE
MODULE

INTRODUCTION

*When I pronounce the word Future,
the first syllable already belongs to the past...*
Wisława Szymborska, Poems New and Collected

The existing concepts and theories of personal and professional development based on the assumption of secure jobs in stable organisations need constant reformulation in such a way as to meet the current challenges of the economy. The labour market requires continuous updates so that it responds to current challenges of the constantly changing social, technological, economic and legal factors influencing it. This means that the contemporary conceptualisation of careers and career decision-making processes calls for reflection not only on oneself and one’s aptitudes and interests, but also on the external forces shaping the future labour market.

The main goal of ANTICIPATION FOR THE FUTURE MODULE is to empower the professional development of university students and early-stage researchers through the use of the methodologies of foresight and professional development. The course module is designed on the basis of the ‘learning arches’ methodology² (Fig. 2).

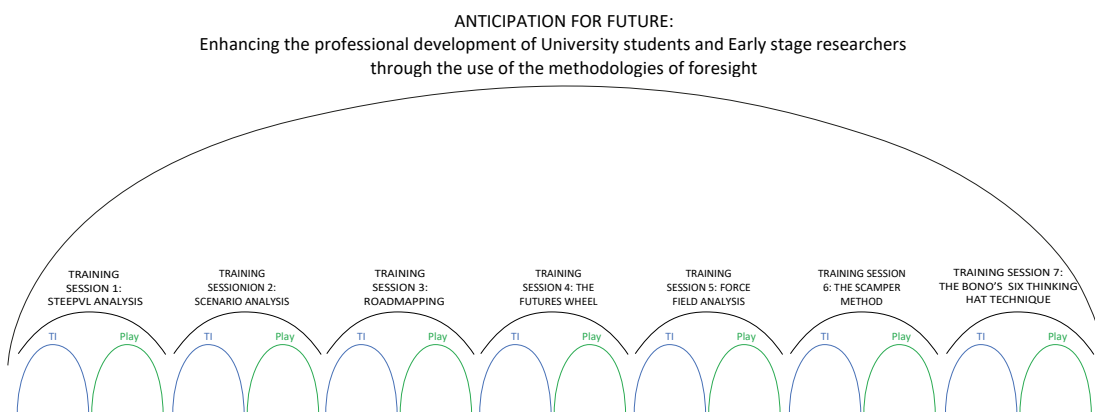


Fig. 2. Overview of Learning Arches within the AfF Module.

Source: own study.

The module contains theoretical elements necessary for the effective implementation of methods in practice, especially in relation to the basic assumptions of foresight and basic methods used in the framework of futures studies and personal development.

As depicted in Fig. 2, the AfF module comprises seven overall learning arches corresponding to seven training sessions.

First part of each session (**blue**) is designed to equip facilitators and other potential recipients of the handbook with the theory to fully grasp the concept of Anticipation for the Future (**Theoretical Introduction, TI**).

The second part of each training session (**green**) refers to the possibility of applying theoretical knowledge in practice by university students and early stage researchers (**Play**).

² S. Kavanagh, *Learning Arch Design*, 2019. Retrieved from https://www.academia.edu/40605001/LEARNING_ARCH_DESIGN_USERS_MANUAL

While the overarching aim of the module is to enhance professional development of acilitators/ educators AND university students and early-stage researchers, the direct learning goals presented in this module are directed towards facilitators.

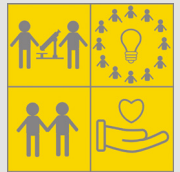
The first four sessions come from the mainstream of foresight research and are largely concerned with the identification and evaluation of broadly understood factors shaping the future labour market. This part presents the potential of using 1) PEST-type analysis to identify factors influencing the labour market or careers, 2) a scenario method enabling deep investigation of variants of changing environmental factors, 3) a session devoted to the futures wheel, and 4) the presentation of roadmapping use for career planning purposes. Three further sessions serve as complementary materials and are more oriented towards providing methodological support that can be used in personal development. They contain both theoretical and practical issues concerning the use of the Force Field Analysis, the SCAMPER method and the de BONO six hats method. All training sessions have a similar format. They present objectives, a theoretical introduction, a PowerPoint presentation of the topic, an example lesson or workshop scenario, recommendations for the use of the methods in virtual form, supplementary resources and useful links. The content presented in the ANTICIPATION FOR THE FUTURE brings you smoothly to the subsequent modules presented in this handbook, namely ANTICIPATION FOR EMEGENCE and PERFORMANCE FOR FUTURES.

Enjoy, let yourself be immersed in different futures!

TRAINING SESSION 1: STEEPVL ANALYSIS

1. OBJECTIVE

The global future is influenced by many factors. In order to analyse them, we can use STEEPVL analysis of the environment, which is well-known in management science. The aim of the training session is to present the concept of PEST-type environment analysis and to demonstrate the possibility of its use in practice. **This analysis in the field of personal and professional development can be used to identify the competences of the future and to identify the social, technological, economic, environmental, political, value-related and legal factors that influence professional development, labour market or a chosen business concept to be developed by university students or early stage researchers.**



2. THEORETICAL INTRODUCTION

STEEPVL analysis is a variant of PEST-type analysis which allows studying the environment taking into account seven dimensions. It helps to understand its complexity and to develop a broader view of the future.

STEEPVL analysis could be treated as a checklist of **S**ocial, **T**echnological, **E**conomic, **E**cological, **P**olitical, **V**alue-related and **L**egal factors that influence a given phenomenon.

All of the mentioned factors are interrelated and influence each other. Social factors influence the economy, the economy influences politics and the environment, and so on. All factors should therefore be interpreted as co-creating the future, as they all contribute to its better understanding.

Within the foresight methodology, STEEPVL analysis is particularly useful for scenario and trend analysis. The multi-dimensionality of STEEPVL analysis allows potential driving forces of scenarios to be captured, which could be missed for example in a traditional PEST analysis. In addition to defining the driving forces behind the development of scenarios, STEEPVL analysis is used, among other things, to identify unprecedented events that break trends (“wild cards” and discontinuous changes).


This analysis can also support the traditional SWOT analysis, where strengths, weaknesses, opportunities and threats can be monitored in terms of social, technological, economic, ecological, political, value-related and legal factors.

There are several versions of ambient factor analysis, which depend on the categories included in the analysis, so in practice we may encounter different names, such as PEST analysis (includes P – political factors, E – economic, S – social, T – technological) or STEEPVL analysis (includes S – social, T – technological, E – economic, E – ecological, P – political, V – values and L – legal factors). The choice of factors underlying the analysis should depend on the need for comprehensiveness and multidimensionality of the phenomena to be captured. In this manual, we will discuss the STEEPVL analysis, i.e. including 7 factors, due to its multidimensionality. In practice, it can be reduced to a basic STEEP analysis.

STEEPVL analysis in career planning can be used to analyse social trends, technological, economic, environmental, political, value-related and legal aspects that affect the labour market and professional future.


3. PRESENTATION ABOUT THE TOPIC (E-LEARNING)

The following slides could support you with introducing STEEPVL analysis to the participants in a training session. The session should start by explaining the essence of the analysis, first encouraging participants to answer the question if the anticipation of the future makes sense. It can also start by asking participants what the acronym STEEPVL means. This can be supported with such applications as mentimeter (<https://www.mentimeter.com/>). The facilitator instructs participants to enter their thoughts about the meaning of the letters in the STEEPVL acronym, which may result in an interesting visualisation of the most frequent answers. Then, interaction is encouraged according to the slides depicted below.

Co-funded by the Erasmus+ Programme of the European Union 

1.1 MODULE 1. ANTICIPATION FOR THE FUTURE
TRAINING SESSION 1. STEEPVL analysis


STEPPVL analysis



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STEPPVL analysis

STEPPVL analysis is an **environmental screening** tool to better understand the **complexity** of the environment and to develop a **broader view** of the future.



Source: <https://i.pinabbay.com/pj/illustrations/rlc4rl99lka-ut%lc5%82o-pow%lc4%99kczg%lc4%83co-vevto-1242024/>

STEEPVL analysis

In a STEEPVL analysis, we examine **environmental factors** that may have a significant impact on the analysed area, e.g. the labour market, professional career or competences.



Source: <https://photos.gettyimages.com/photos/rylwelka-worker-labour-plasterer-4544217>

FACTORS – a checklist

STEEPVL analysis is a checklist of the following factors:

- **S** (Social)
- **T** (Technological)
- **E** (Economic)
- **E** (Ecological)
- **P** (Political)
- **V** (Values)
- **L** (Legal)

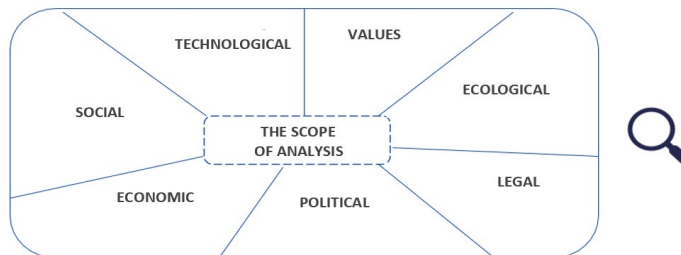


SELECT THE SCOPE OF THE ANALYSIS



IDENTIFY THE STEEPVL FACTORS INFLUENCING THE SCOPE OF THE ANALYSIS

7x5 minutes



STEPPVL analysis- examples of factors



Source: <https://pixabay.com/pl/photos/marketing-cyfrowego-sro-google-1723340/>

The remaining slides in the presentation concern the possible examples of STE factors that may be relevant for the professional development, labour market or career development. They are presented in section 4.

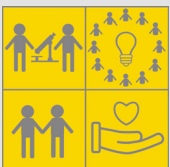
4. PRACTISE YOUR PATHWAYS

Example of a lesson/workshop scenario

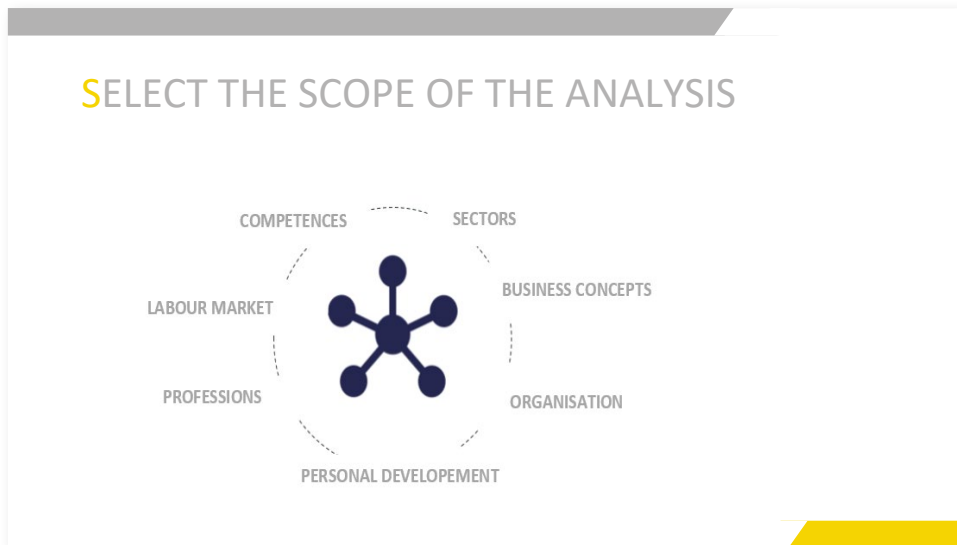
Objective: to identify STEEPVL analysis factors influencing the labour market/career/ personal development

Teaching aids: large sheets of AO format, sticky notes (one set per one group), inspiration cards

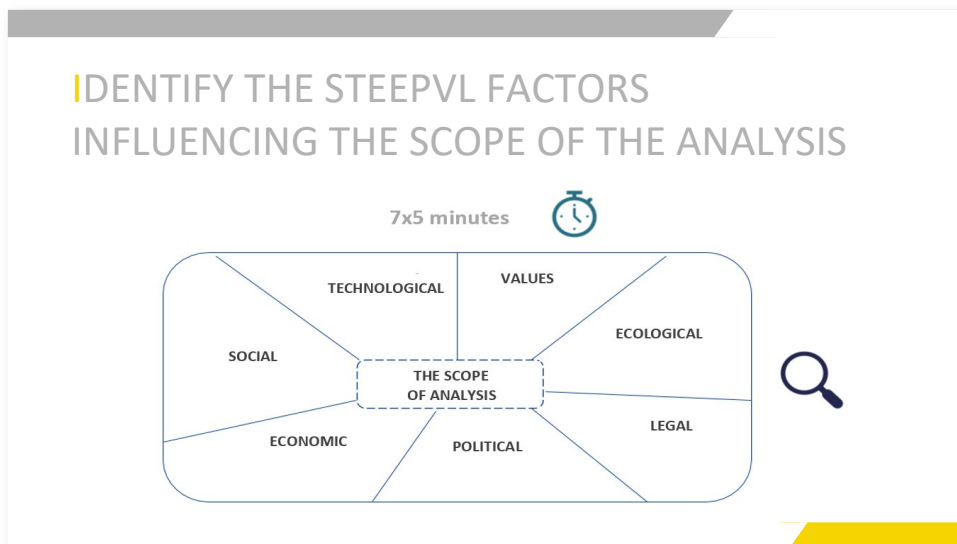
1. Divide the group of students into sub-groups of five/four.
2. Formulate the area of analysis, e.g. labour market, competences of the future, or ask the participants to propose an area for further analysis. This could be, for example,



the future of a given profession, the future of a specific economic sector, a specific organisation or a business concept for which the group would like to carry out a STEEPVL analysis.



3. Ask the group participants to write the name of the research area in the middle of a large sheet of paper, e.g. A1.
4. Then ask the group members to divide the sheet into seven equal parts (Annex 1).



5. Encourage the identification of the social, technological, economic, environmental, political, values and legal factors that influence the area under analysis (e.g. professional development, labour market or business concept).

Start by identifying social factors. Allow 5 minutes for this task. Ask people to propose social factors on separate small sticky notes. Repeat this exercise in the next groups of factors.


You can use inspiration cards for each group of factors. Please note that the presented factors are examples to help you gain a better understanding of the dimensions, whereby



the order in which they are presented is random and not a result of assigning specific relevance to them. In case of an extended version of the analysis, the factors can be generated together with the group or as part of the initial stage of the scenario workshop or trend analysis. Examples of social, technological and economic factors are as follows.

Social factors:

Percentage of older people in the age structure of the population




SOCIAL FACTOR: PERCENTAGE OF OLDER PEOPLE IN THE AGE STRUCTURE OF THE POPULATION

Source: fot. MATTHIAS ZOMER / pixabay.com

This factor focuses on the share of older people (at a post-working age) in the total population. It refers to the scale of the phenomenon of ageing of the population which, on the one hand, influences the structure of labour supply and, on the other hand, determines the profile of offered goods and services, which consequently affects labour demand.

Percentage of people with vocational education



SOCIAL FACTOR: PERCENTAGE OF PEOPLE WITH VOCATIONAL EDUCATION

Source: ilirad Polnik - Pixabay

This factor relates to the structure of the population by level of education of the population with particular emphasis on vocational education. The set of people with

vocational education includes both secondary and higher education graduates – at the level of higher vocational schools providing practical education.

The number of immigrants in the country

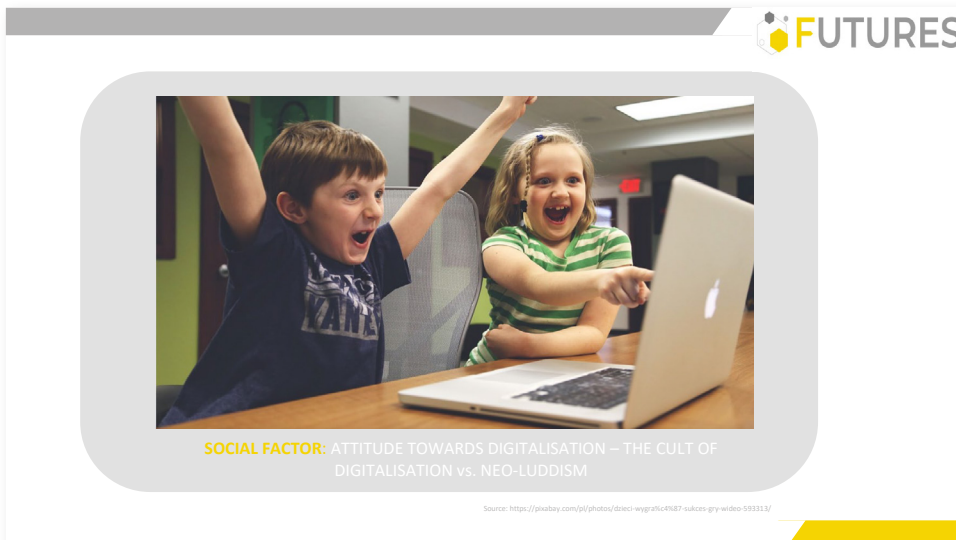


SOCIAL FACTOR: THE NUMBER OF IMMIGRANTS IN THE COUNTRY

Source: Andrey Popov, Shutterstock

It takes into account the nature (permanent or temporary stay) and directions of immigration, the demographic structure of immigrants (origin, age and education) and the factors triggering the desire to leave or relocate to the country.

Attitude towards digitisation – the cult of digitalisation versus neo-luddism



SOCIAL FACTOR: ATTITUDE TOWARDS DIGITALISATION – THE CULT OF DIGITALISATION vs. NEO-LUDDISM

Source: <https://photos.com/pf/photos/d2ici-wygrt6t987-sukcs-gry-wideo-593113/>

The factor indicates social attitudes towards digitalisation. They result from the level of social trust in technology, oscillate from praising technological progress to opposing digitisation in the belief that social changes caused by automatisisation constitute a threat. The identified attitude determines consumption patterns, covering both consumption models understood as a way of spending funds allocated to consumption (expenditure structure and level of consumption per capita), as well as consumption patterns expressed in a tendency to imitate and stereotype thinking.

Technological factors

Level of work automation



The factor refers to the share of occupations in which technology replaces the human factor in the performed work in relation to the total number of occupations. The level of work automation is also the level of its (work) algorithmisation (mechanisation, robotisation) in various occupations. This factor also refers to the potential to mechanise selected activities within the analysed occupation, i.e. to relieve or completely reduce human physical and/or mental work with the use of machines and equipment.

Level of cyber-security



This factor refers to the degree of confidence (personal as well as institutional) and protection guarantees in any activity involving the use of digital tools. This factor also refers to the level of available and applied protection (e.g. of sensitive data, including personal data) in the field of cyberspace (mainly the Internet but also other information

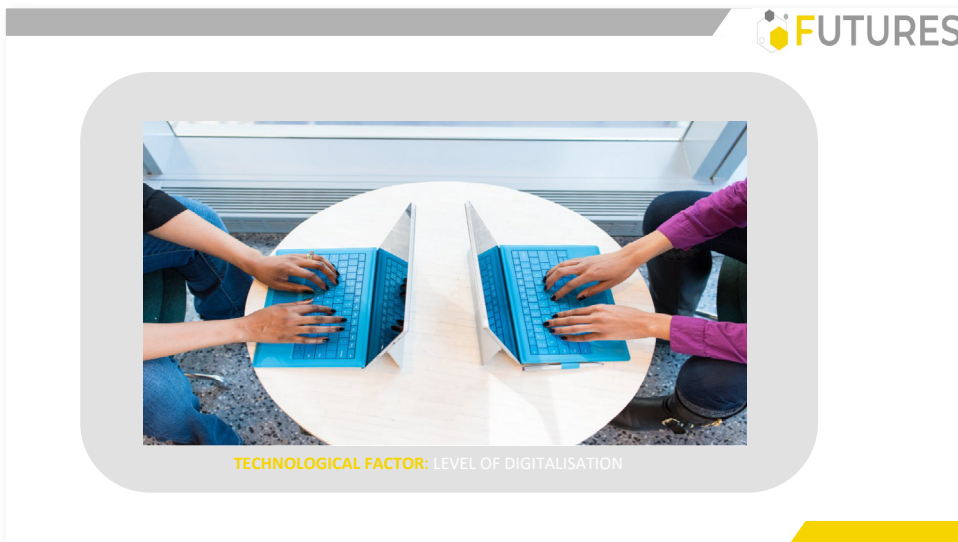
and communication systems), in particular in areas such as information exchange, social networks and different types of e-services (e.g. e-banking; e-commerce, etc.).

Level of work virtualisation



This factor relates to the level of virtualisation of working life. Virtual technologies may have dual consequences for the labour market, both positive (e.g. professional mobility, unlimited access to data in time and space) and negative (e.g. technology addictions, risk of virtual harassment, loneliness in the network).

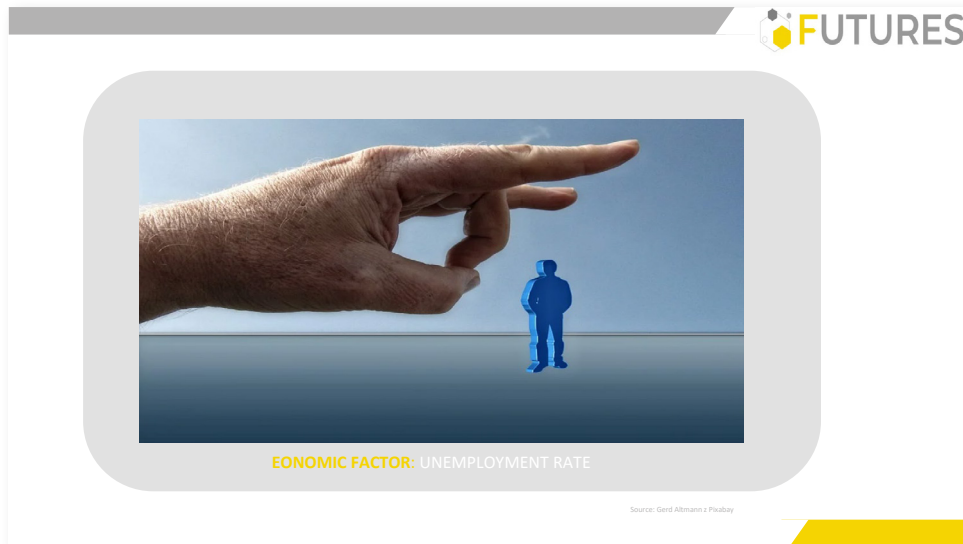
Level of digital development



The factor determines the current status and growth rate of the use of information and communication technologies (ICT). It reflects the degree of advancement of ICT technologies used in widely understood processes of storing, processing and transmitting information, supporting the development of various industries. The factor also takes into account the degree of advancement of ICT infrastructure, the state of digitisation of economic activity and public administration.

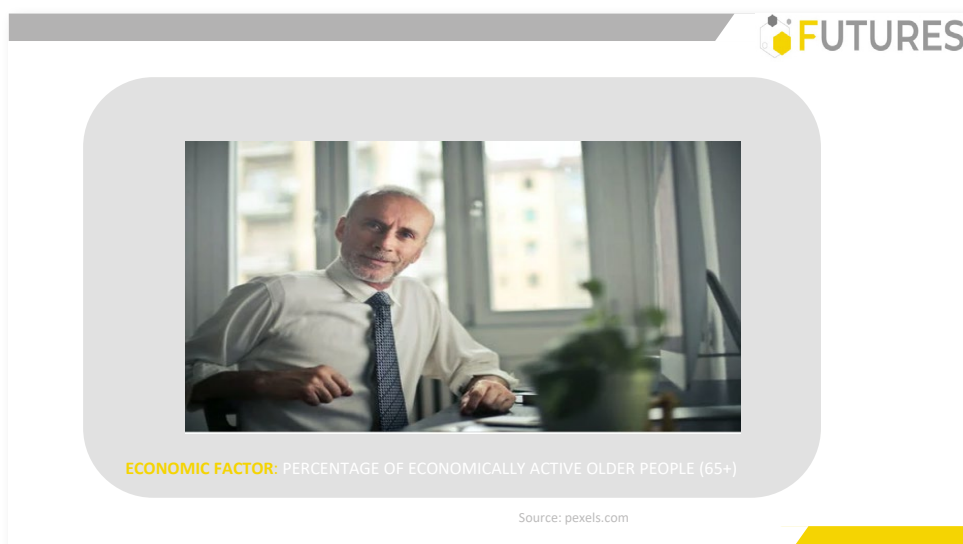
Economic factors

Unemployment rate




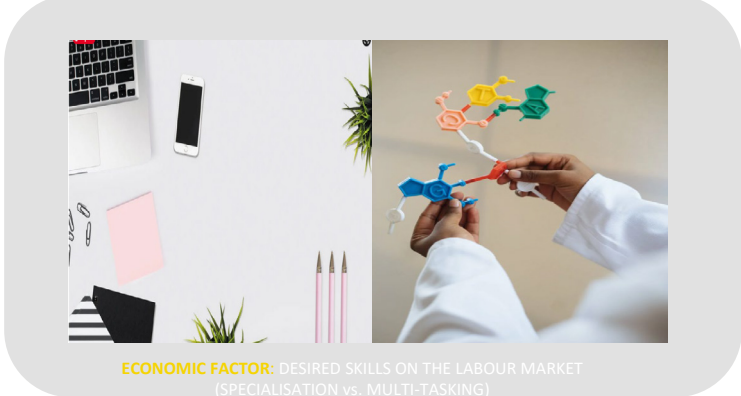
The factor is expressed by the share of unemployed persons among economically active persons. The economically active population includes both unemployed and employed persons. The unemployment rate is a barometer of the labour market situation and determines categories of customers of vocational counsellors (unemployed at high unemployment rate; employed, graduates, employers at low unemployment rate).

Percentage of economically active older people (65+)



The factor relates to the level of unemployment and employment of older people (aged 65+), potential customers of career counsellors. This factor is related to the employment opportunities of older people (spread of flexible forms of employment), salary levels, and the health status of seniors.

Desired skills on the labour market (specialisation vs. multi-tasking)






ECONOMIC FACTOR: DESIRED SKILLS ON THE LABOUR MARKET
(SPECIALISATION vs. MULTI-TASKING)

Source: <https://www.pexels.com/photo/silver-iphone-6-near-macbook-pro-1036841/>

The factor refers to key skills required in the labour market. Nowadays, in an era of changing and evolving job profiles, there is a tendency to master desirable skills rather than specific occupations ensuring long-term stabilisation. These skills can range from a narrow field (specialisation) to a broad set of tasks (multi-tasking).

Availability of social benefits

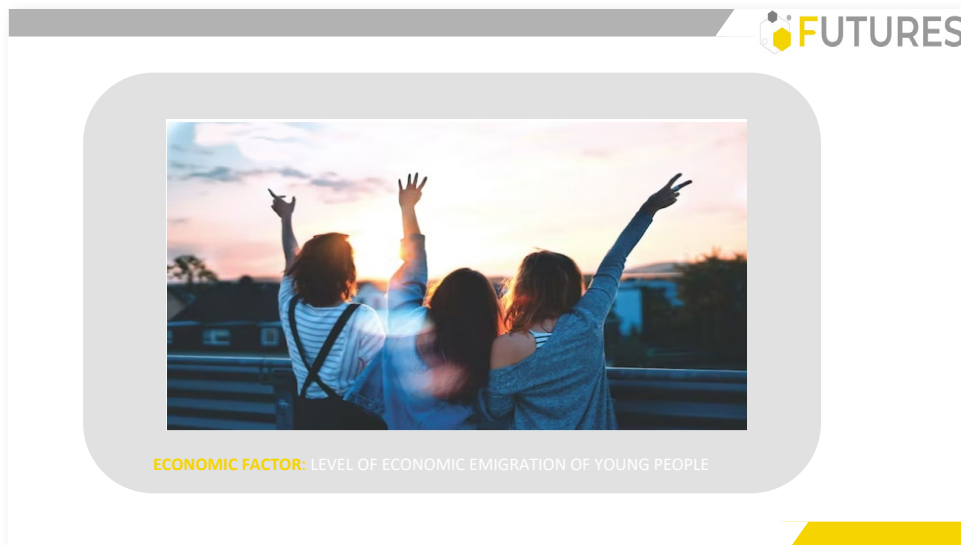



ECONOMIC FACTOR: AVAILABILITY OF SOCIAL BENEFITS

Source: <https://unsplash.com/photos/9kXCu44fM0>

This factor relates to the types and eligibility of particular groups of vocational guidance clients for social benefits. The availability of social benefits determines the attitudes of certain groups of vocational guidance clients towards labour force participation.

Level of economic emigration of young people



It takes into account the nature (permanent or temporary stay) and directions of emigration of young people, as well as the demographic structure of emigrants (by gender and education). Quantitative measures of migration are: the scale of migration inflow and outflow and the balance of migration. The factor is determined mainly by the economic situation and, as a result, by the attractiveness of local, regional, national and international labour markets (wage level, employment stability, legal protection of employment, access to flexible forms of employment).

7. Ask the group to write each of the identified factors on a separate sticky note.

Ask the group to identify the factors in a non-adjective form, e.g. “R&D investment” instead of high/low R&D, “unemployment rate” instead of high/low unemployment rate.

Extension of the exercise:

A variant of the analysis may also be the stage when the group creates a visualisation of the discussed factors, e.g. by using creative techniques, drawings, plastic materials, etc. It may contain a summary and conclusions, a discussion of the process as well as differences and similarities in identified or selected factors. Useful areas of expertise/experts are optional. The presented STEEPVL analysis can be used as a starting point for the scenario method, which is presented in training session 2.

5. RECOMMENDATIONS FOR VIRTUAL FORM (OPTIONAL)

Due to the form of presentation, the presented materials could be used in a form of traditional workshops, or meetings conducted in a virtual form. For the virtual form, you may use platforms such as MS Teams or Zoom where you could set up separate rooms for each working group. You have to remember that the virtual form requires the use of a STEEPVL analysis template to be completed, available online for participants. You can create your own visualisation (using available templates e.g. <https://miro.com/> - where you can also work online in a group). The final findings concerning the results of STEEPVL analysis could later be shared during the final meeting with the whole group.



6. SUPPLEMENTARY RESOURCES

For more examples or further reading you may find useful:

1. Ejdys J., Gudanowska A., Halicka K., Kononiuk A., Magruk A., Nazarko J., Nazarko Ł., Szpilko D., Widelska U. (2019), Foresight in Higher Education Institutions: Evidence from Poland, Foresight and STI Governance, vol. 13, no.1.
2. Gudanowska A., Kononiuk A., Magruk A., Pająk A., Rollnik-Sadowska E., Sacio-Szymańska A., (2021), *Doradca zawodowy projektantem przyszłości: zastosowanie studiów nad przyszłością w doradztwie zawodowym*, Sieć Badawcza Łukasiewicz - Instytut Technologii Eksploatacji, Radom, https://horyzontyprzyszlosci.itee.radom.pl/wp-content/uploads/2021/02/HP_podrecznik_A4_calosc.pdf.
3. Kononiuk A. (2010), Analiza STEEPVL na przykładzie projektu Foresight technologiczny „NT FOR Podlaskie 2020”. Regionalna strategia rozwoju nanotechnologii. *Ekonomia i Zarządzanie*, 2, 105-115 .
4. Loveridge D., (2002), *The STEEPV acronym and process – a clarification*, Ideas in Progress, 29, The University of Manchester, PREST Policy in Engineering, Science and Technology.
5. Watson R., (2012), *Trends and technology timeline 2010+ a roadmap for the exploration of current and future trends, in Future Files. A brief history of the next 50 years*, London-Boston: Nicholas Brealey Publishing.

Useful links:

1. Application to increase audience engagement: <https://www.mentimeter.com/>
2. Miro board, where you can create a STEEPVL analysis template using ready-made output visualisations and work together online: <https://miro.com/beFORE> E-Learning Course, <http://futureoriented.eu/foresight-course/>, where you can benefit from lessons dedicated to STEEP analysis: <http://futureoriented.eu/courses/module-1/lessons/module-1-lesson-2-the-influence-of-the-perception-on-the-future/topic/topic-4-analytical-tool-steep> or take the entire Futures Literacy course (<http://futureoriented.eu/foresight-course/>)
3. Sources of photos:
<https://unsplash.com/>
<https://pixabay.com/>
<https://www.pexels.com/>

TRAINING SESSION 2: SCENARIO ANALYSIS

1. OBJECTIVE

The aim of the training session is to familiarise students with the possibilities of using scenario methods in education and career counselling practice. The module covers two options of using the scenario method: (1) the construction of a scenario within the framework of the intuitive logic school; (2) a simplified method. The proposed workshop methods are aimed at developing skills of creating and analysing alternative career paths depending on the changing environment. The use of scenarios gives the opportunity to compare competing career goals in terms of vulnerability to changes in the environment, planning career development with regard to the possibility of modifying the career path in unfavourable environmental conditions and indicating a list of complementary competencies which are worth developing along the career path.

2. THEORETICAL INTRODUCTION

According to the terminology and practice of futures studies, the scenario method is the logical and formal construction of alternative visions of a desired future based on the involvement of heterogeneous (diverse) groups of experts, taking into account a thorough knowledge and understanding of the factors shaping the phenomenon under study and enabling rational decisions about the future.

Modern applications of the scenario method emerged in the 1960s in two centres, the USA and France. Two schools emerged in the US: the intuitive logic school and the probabilistic modified trends school. The French centre developed *La Prospective* school. The project developers see a high potential for using the scenario method based on the intuitive logic school in career guidance, especially in group processes.

The foundation for the formation of the intuitive logic school was provided by the experience of such companies as Shell, SRI, GBN and SAMI Consulting. To date, the application of the scenario method to professional development is not widespread and there is a lack of studies in this area. The scenario building methodology promoted by the school is intuitive in the sense that it is based on subjective evaluation of uncertainty by experts, but by these means it is also logical, formal and consistent.

According to G. Cairns, the main feature that distinguishes the school of intuitive logic from other schools of scenario method is that it does not use mathematical models to build scenarios, but instead uses a heuristic approach, meaning that alternative visions of the future are based on the experience and intuition of experts.



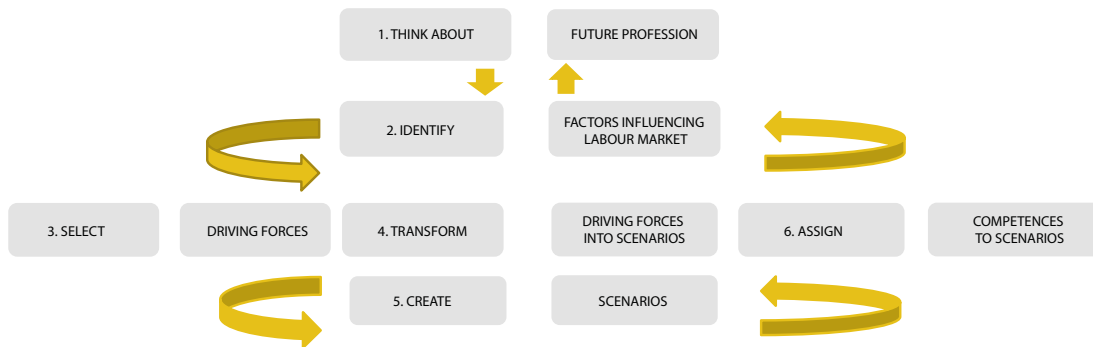


Fig. 3. Stages of scenario construction within the intuitive logic school

Source: A. Kononiuk, *Metoda scenariuszowa w antycypowaniu przyszłości (na przykładzie Narodowego Programu Foresight „Polska 2020”)*, University of Warsaw, Warsaw 2011, p. 35.

The construction of a scenario within the framework of the school of intuitive logic consists of six essential stages (Fig. 3):

- the formulation of a decision which is the subject of the scenario method, whereby the range of decisions can be very wide from an urgent decision concerning, for example, a company’s investment in a new market to long-term strategic decisions. In the context of professional development, a key strategic decision may be the choice or redefinition of a career path;
- identifying the key factors influencing this decision which, for example, in the case of enterprises may relate to issues such as market size, anticipated regulation, production capacity, and, in the case of charities, to issues such as social values and value hierarchies, consumption patterns, or the propensity of enterprises to support these organisations. With respect to professional development, these factors may relate to trends and megatrends affecting the labour market, such as, for example, population ageing, increasing automation in the labour market or the extent of social benefits provided;
- identifying the driving forces shaping the phenomena that are the subject of the decision, taking into account two types of such forces: micro-driving forces, such as migration policies, legal regulations on the labour market, and macro-driving forces, such as demographic trends, economic growth, level of work virtualisation. STEEPVL analysis presented in the first training session could be useful for the identification of such drivers;
- building a logical scenario structure, which can be formed by the extremes of the key driving forces;
- construction of scenarios (usually four);
- development of a strategy for each scenario.

Scenarios should be plausible, distinguishable, internally consistent, support the decision-making process, and have a properly worded title, an appropriate narrative and carefully prepared graphic material.

Building a logical scenario structure is possible by transforming key factors (driving forces) into scenario axes. A diagram of the transformation of key factors into scenario axes is shown in Fig. 4.

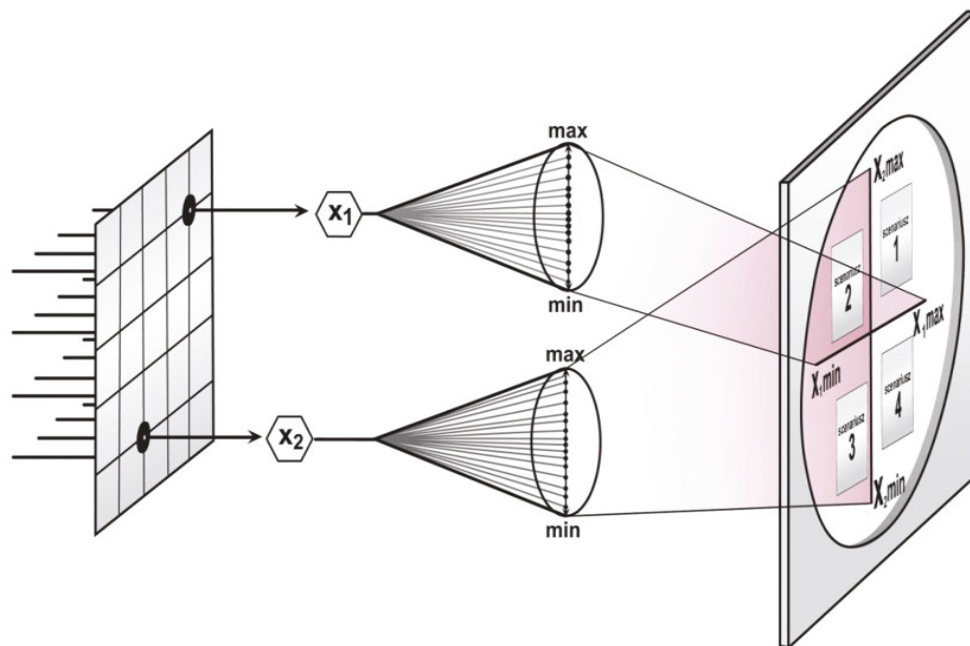


Fig. 4. Transformation of key factors into scenario axes

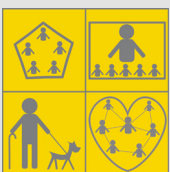
Source: S. A. Klooster, M. B. A. Asselt, *Practising the scenario-axes technique*, *Futures* 2006, No. 38, p. 18.

The identification of extreme values of key factors allows for the construction of four qualitatively different scenarios for the development of the phenomena covered by the research process in the selected time perspective.

As a result, four scenarios of business concept development/ labour market development in the selected time perspective could be created.

3. PRESENTATION ABOUT THE TOPIC (E-LEARNING)

The following slides could support you with the introduction of scenario analysis to the participants in a training session. The session should start by explaining the essence of the analysis, first encouraging participants to answer the question if the anticipation of the future makes sense. It can also start by asking participants what terms they associate with the labour market in 2040. This can be supported with such applications as mentimeter (<https://www.mentimeter.com/>). The facilitator instructs participants to enter their thoughts about their associations, which may result in an interesting visualisation of the most frequent answers. Then, interaction is encouraged according to the slides depicted below.



1.2 MODULE 1. ANTICIPATION FOR THE FUTURE
TRAINING SESSION 2. Scenario analysis

Scenario analysis



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Objective of the training session

- In this topic we will guide you through the intuitive logic school of scenario construction.
- You will learn how to identify strategic decision (concerning your professional development), identify the factors influencing labour market, select driving forces, elaborate and create scenarios.



Question 1

- Do you know the difference between forecasts and scenarios?

Forecasting vs. scenario building

Forecasting is frequently based on trend exploration.

It could be associated with driving from the past to the future but looking at the **rear mirrors**. Either way, we are following the same path. This is what we call trend exploration.

TREND EXTRAPOLATION



Source: <https://www.pexels.com/pl-pl/djdecke/yellow-van-die-cast-386035/>



Source: <https://www.pexels.com/pl-pl/djdecke/lobeta-ulica-pojazd-bland-4091187/>

In scenarios, we assume that there is more than one path into the future!

FORECAST

PRESENT



PATH



FUTURE



Future based on assumptions
Linear/ non-linear projection
Uncertainty is implicit

SCENARIOS

Current realities



Multiple Paths



FUTURES



Future A



Future B



Future C



Future D

Multiple futures that challenge assumptions
Multiple development
Uncertainty is explicit

Source: Forum, W. E. (2008). *The future of pensions and healthcare in a rapidly ageing world. Scenarios to 2030.*

How can I use scenarios in professional development?

- To assess trends affecting the labour market/occupation.
- To assess the strength of the impact of trends on the profession over a time horizon of several years.
- To assess the degree of uncertainty of trends affecting the labour market.
- To develop alternative career visions according to changing trends.

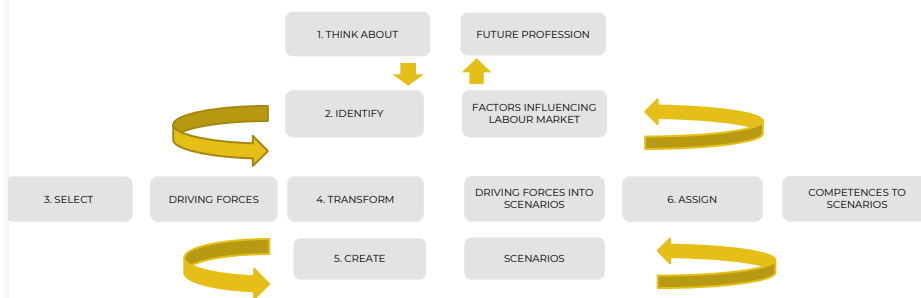


Source: <https://www.pexels.com/pl-pl/djdecke/wyczyszczenie-zarowki-355948/>

In intuitive logic school of scenario construction, we assume that scenarios could be created in a structured way!



How to do it? In iterative way as follows....



Stage 1

Think about the **profession** you have or would like to have.

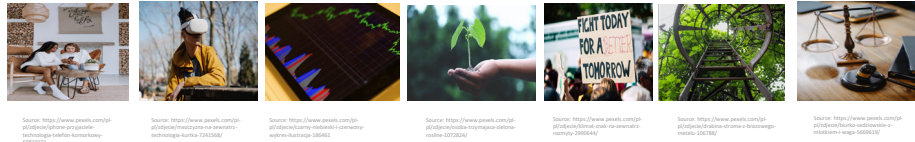
Choose a "time horizon for the evolution of the profession" which should be, on the one hand, short enough for possible events to be conceptualized, but, on the other hand, long enough for trends affecting the profession to have an impact (let's assume 5-10 years).



Source: <https://www.pexels.com/pl-pl/zdjecie/kobieta-w-omawianiu-planu-lekcji-377251/>

Stage 2

Identify the external factors affecting the profession.
This you can do with the **use of STEEPVL analysis, which is a checklist of social, technological, economic, political, value-related and legal factors.**



Examples of STEEPVL factors (social)

- The proportion of older people in the population age structure
- Supply of specialists on the labour market
- Percentage of people with vocational education
- Number of immigrants in the country
- Attitude towards digitalisation



Source: <https://www.pexels.com/pl/pl/obraz/iphone-grajsciele-technologie-telefon-komorkowy-5081919/>

Examples of STEEPVL factors (technological)

- The popularity of the use of artificial intelligence
- The level of automation of work
- The level of cyber security
- The level of digital technology development in the country
- The level of work virtualisation



Source: <https://www.pexels.com/pl/pl/obraz/rozprawy-na-siwosci-technologie-kurka-7241568/>

Examples of STEEPVL factors (economic)

- The popularity of the use of artificial intelligence
- The level of automation of work
- The level of cyber security
- The level of digital technology development in the country
- The level of work virtualisation



Source: <https://www.pexels.com/pl-pl/zdjecie/carmy-niebieski-czerwony-wykrm-illustracja-186461/>

Examples of STEEPVL factors (ecological)

- Focus on shaping pro-environmental attitudes among citizens
- Environmental awareness of employers
- The level of conscious consumption
- The level of environmental risk associated with human activity



Source: <https://www.pexels.com/pl-pl/zdjecie/osoba-trzymajaca-cielona-rodzina-1072824/>

Examples of STEEPVL factors (political)

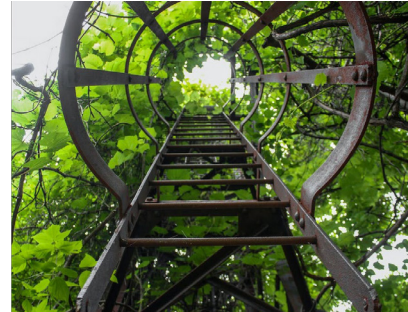
- Promotion of the return of highly qualified specialists from abroad
- Policy regarding the labour market in the EU countries and beyond
- Nature of legal regulations (restrictive/liberal in terms of employing foreigners)
- The level of social support granted by the state



Source: <https://www.pexels.com/pl-pl/zdjecie/klimat-znak-na-ozwiazaniu-rozmyty-299064/>

Examples of STEEPVL factors (values)

- The level of intergenerational cooperation
- The level of care for physical and mental health
- The level of work-life balance
- Society's perception of trade school graduates



Source: <https://www.pexels.com/pl-pl/zdjecie/drabina-stroma-z-brazowego-metalu-106789/>

Stage 3



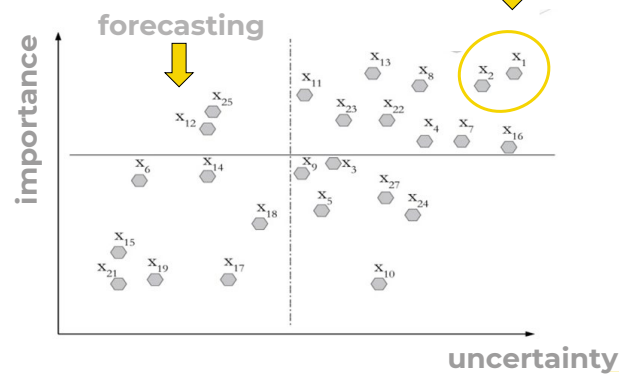
Source: <https://www.pexels.com/pl-pl/zdjecie/5-odrzutowcow-paradujacych-w-stronie-chemur-129627/>

Try to rank all the identified factors by **importance and predictability**. Those factors that are important and predictable could be the subject to forecasting.

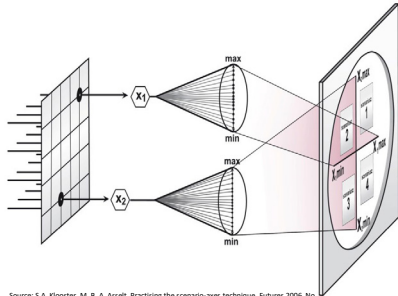
Two factors that are at the same time **the most important** and **the most uncertain** are the subject to

Factors' ranking

scenario method



Stage 4: Transform two driving forces into scenarios

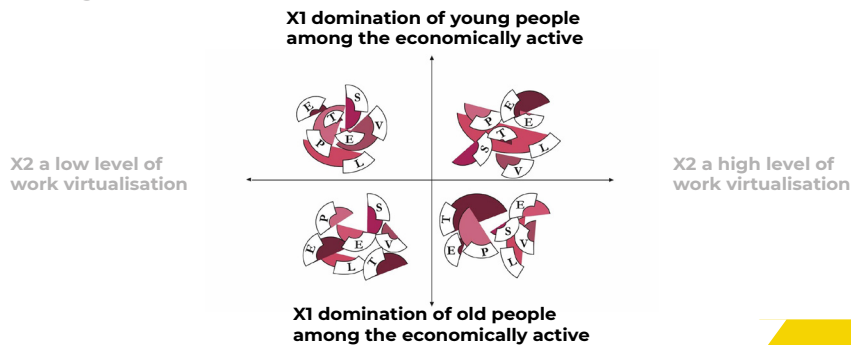


Source: S.A. Klooster, M.B.A. Asselt, Practising the scenario-axes technique, Futures 2006, No. 38, p. 18.

- Two factors that are at the same time the most important and uncertain came out into extreme states.
- Think about **high level of work virtualisation** versus **low level of work virtualisation**, **high percentage of old people on the labour market** versus **low percentage of old people on the labour market**. Two extreme states of two factors are transformed into four scenarios!

Stage 5: Develop four possible scenarios How does this look in practice?

Plot the identified factors x_1 and x_2 on two orthogonal axes
Assign extreme values to the factors



Stage 6: : Assign competences to scenarios

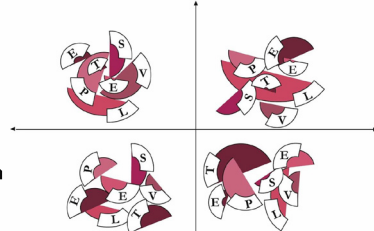
What competences do I need on the labour market if S2 occurs?

S2: Youth in the traditional labour market

X2 a low level of work virtualisation

S3: Seniors in the traditional labour market

X1 domination of young people among the economically active



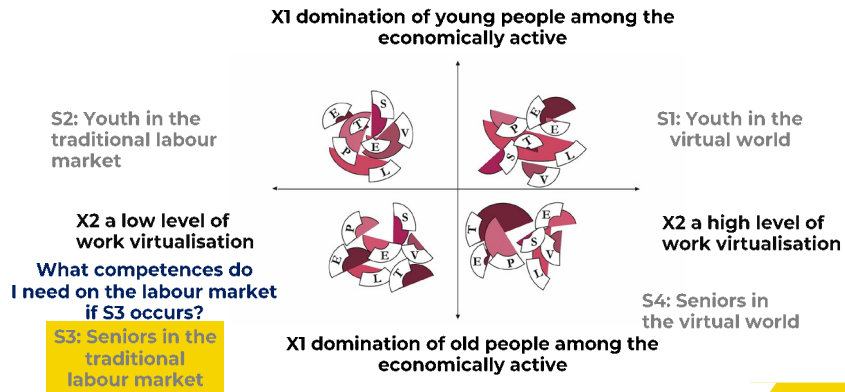
X1 domination of old people among the economically active

S1: Youth in the virtual world

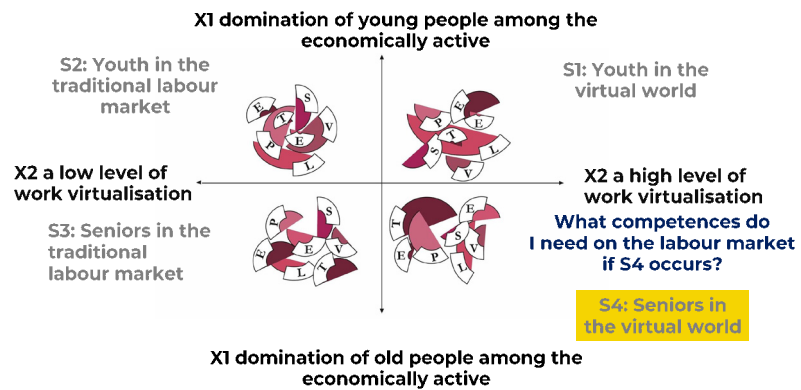
X2 a high level of work virtualisation

S4: Seniors in the virtual world

Stage 6: Assign competences to scenarios



Stage 6: Assign competences to scenarios



Extension of the exercise

- What are your hopes in relation to the occurrence of scenarios?
- What fears do these scenarios generate?
- What competences would you need if these scenarios were to occur?



Scenario 1: YOUNG PEOPLE IN THE VIRTUAL WORLD

- What are your hopes in relation to the occurrence of **Scenario 1**?
- What fears does this scenario generate?
- What competences would you need if this scenario were to occur?

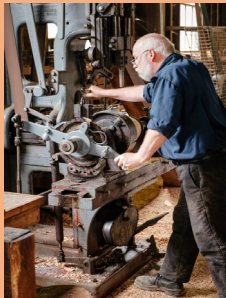


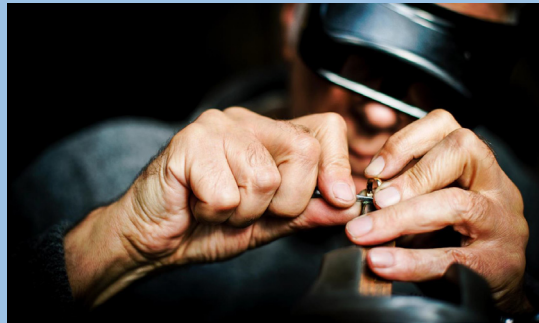
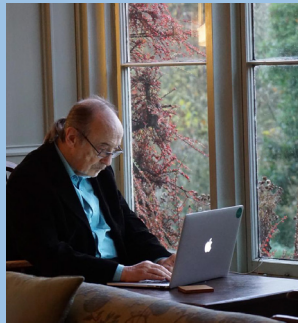
Scenario 2: YOUNG PEOPLE IN THE TRADITIONAL LABOUR MARKET

- What are your hopes for the **S2 scenario**?
- What fears does this scenario generate?
- What competences would you need if this scenario were to occur?

Scenario 3: SENIORS IN THE TRADITIONAL LABOUR MARKET

- What are your hopes for the **S3 scenario**?
- What fears does this scenario generate?
- What competences would you need if this scenario were to occur?





SCENARIO 4: SENIORS IN THE VIRTUAL WORLD

- What are your hopes for the **S4 scenario**?
- What fears does this scenario generate?
- What competences would you need if this scenario were to occur?

Scenario 1: Examples of hopes, fears and desired competences

- **Hopes:** more time for children and family contacts (thanks to widespread work at home); closer to colleagues (there are no boundaries, easy communication); interdisciplinary teams - working globally; more time for professional and personal development; development of new professions related to the virtual world; easy access to education / training
- **Fears:** need to stand out on the labor market, because of strong competition among young people; addiction to technology; need for being available 24/7; predominance of temporary employment; low level of general knowledge (young people will be specialists only in narrow areas); blurring the line between work and private life; diverse working hours, losing the sense of day and night
- **Desired competences and qualifications:** advanced digital competences, IT skills, languages skills, high level of specialist competences; ability to learning quickly; typing fast skills, ability to cooperate with devices; versatility; adaptive competences (including physical), time management skills; ability to re-branch

4. PRACTISE YOUR PATHWAYS

Example of a lesson/workshop scenario

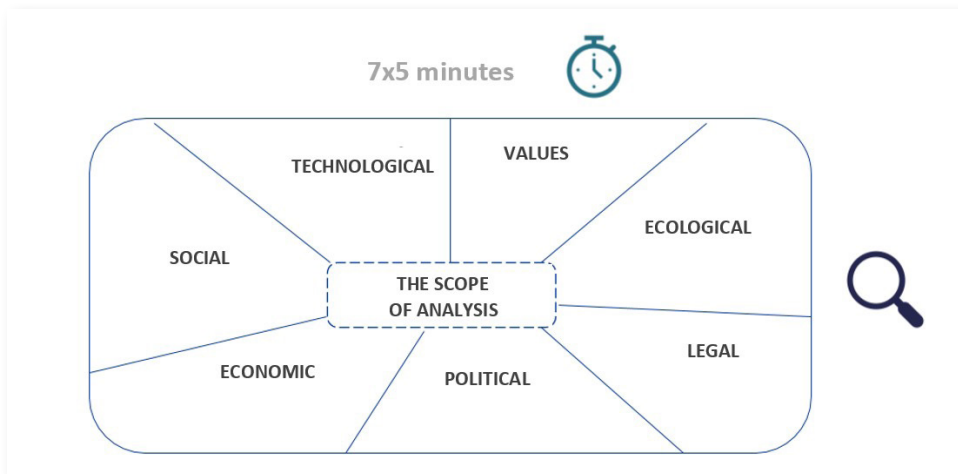
Objective: creating alternative scenarios or career paths

Teaching aids: small sticky notes, inspiration cards (STEEPVL presentation), diagram for ranking factors in terms of importance and uncertainty (Annex 2), diagram for the scenario method (Annex 3)

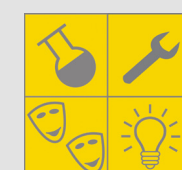
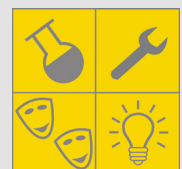
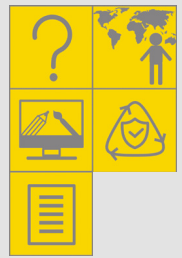
1. Explain the objectives of the training session (slide 2).
2. Ask group participants what is the difference between scenarios and future forecasts. Then, explain differences between the terms (slides 3-5). This exercise can be done using the crossword application, [LearningApps.org/](https://www.learningapps.org/). The coded terms “scenario” and “forecast” will be read out by the participants, then the differences between them will be captured in the discussion.



3. Present how the scenario method can be used in professional development (slide 6).
4. Explain to the group that you will now present the steps in the scenario method, which will eventually lead to the creation of four alternative career paths (slides 7-8).
5. Introduce the exercise about the future of the profession that the students would like to have, encourage the selection of time horizon for the profession (slide 9).
6. Next, ask participants to identify external factors affecting the profession in the chosen time frame. Present examples of factors (slides 10-17). You can additionally use the inspiration cards (STEEPVL presentation). Spend about 30 minutes on this part of the exercise. Ask participants to write each factor separately on a small sheet of sticky paper. If the group consists of many people, you can divide participants into groups of five and ask them to work on one profession. Encourage the identification of the social, technological, economic, environmental, political, value and legal factors that influence the area under analysis (e.g. professional development, labour market or business concept).



7. Start with the identification of social factors. Allow 5 minutes for this task. Ask the participants to propose social factors on separate small sticky notes. Repeat this exercise for the other groups of factors.
8. Distribute the diagrams for ranking the factors in terms of importance and uncertainty (Annex 2). Print them out in advance on an A3 size sheet.
9. In the next step of the exercise, ask the participants to rank the factors of the STEEPVL analysis in terms of two criteria: importance and uncertainty.
10. Suggest a seven-point scale for rating the factors both in terms of importance and uncertainty.
11. Ask the participants to rate in groups all identified factors/trends in terms of importance and uncertainty.
Ask the participants to identify the two key factors (most important and uncertain), examples are presented in (slide 18-19). Next, ask the group to select a time horizon for the construction of the scenarios (usually a ten/fifteen year horizon).
12. Ask the participants to transform the key factors into scenario axes (slide 20). Distribute the axes diagrams (Annex 3). Print them out in advance on an A3 size sheet.
13. Suggest that the participants create four alternative career scenarios. Ask them to suggest creative names for the scenarios (slides 21-22).







14. Ask the participants to assign competencies to the developed scenarios (slides 22-25).

An alternative version of this exercise is to present to the participants the ready scenarios of the future that have been developed within the FUTURES project slides (26-30).

The assumptions of the scenarios are presented below. The leader of the meeting may ask about hopes, fears and expectations connected with the realisation of the above scenarios. Present the examples of hopes, fears and desired qualifications (slide 31).





Scenario 1: YOUNG PEOPLE IN THE VIRTUAL WORLD

- What are your hopes in relation to the occurrence of Scenario 1?
- What fears does this scenario generate?
- What competences would you need if this scenario were to occur?

HOPES	
FEARS	
INDISPENSABLE COMPETENCES	

High level of work virtualisation
Dominance of young people among the economically active

It is a vision of the work environment aimed at favouring mainly young people, for whom the virtual environment is more important than the real environment (in exceptional cases, these environments are treated – by young people – equally). Most data and professional information will be able to be perceived with all senses, set in the appropriate context of the situation. This is the aftermath of: 1) the evolution of the XYZ generations; 2) the coronavirus pandemic of 2020-2022, which forced teenagers of that period to function remotely, not only in the educational field; 3) and the very dynamic development of ICT (information and communication technologies), including virtual and augmented technologies.

It is a vision of the world in which virtual life is inseparable from real life. Virtual technologies may have dual consequences, for the labour market, both positive (e.g. professional mobility, unlimited access to data in time and space) and negative (e.g. technology addictions, risk of virtual harassment, loneliness in the network). Moving the labour market to the virtual world may sound like a radical change, but in many ways it is a natural continuation of current trends.





Scenario 2: YOUNG PEOPLE IN THE TRADITIONAL LABOUR MARKET

- What are your hopes for the S2 scenario?
- What fears does this scenario generate?
- What competences would you need if this scenario were to occur?

HOPES	
FEARS	
INDISPENSABLE COMPETENCES	

Low level of work virtualisation
Dominance of young people among economically active

The prolonged unfavourable epidemic situation in the country and the sharp increase in health expenditure have prevented the high expenditure intended for the virtualisation of the labour market. High costs of hardware, purchase of software licences, constantly growing costs of training administrators, low level of absorption of modern technologies by entrepreneurs caused the virtualisation process to be much slower. At the same time the demographic structure of the Europe has changed. Vaccines have not adequately safeguarded the health and lives of senior citizens. Hence, the age structure in 2040 will be dominated by young people taking their first steps in the labour market.

Scenario 3: SENIORS IN THE TRADITIONAL LABOUR MARKET

- What are your hopes for the **S3 scenario**?
- What fears does this scenario generate?
- What competences would you need if this scenario were to occur?



HOPES

FEARS

INDISPENSABLE COMPETENCES

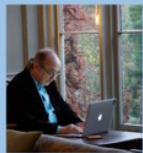
**Low level of work virtualisation
Domination of old people among economically active**

Developments in medicine, health care and preventive health care are leading to an increase in the life expectancy of the population. In addition, the pandemic situation, which guaranteed immunity against the virus thanks to vaccination systems, has resulted in a higher mortality rate among young people.

The labour market is dominated by older people among the economically active. The spread of the ideology of technosceptic movements (aversion to modern technologies, fear of a "rebellion of the machines", the spread of neo-luddism) inhibits the wider use of virtual technologies.

Low levels of virtualisation continue to provide jobs for those with lower ICT skills.

Young people with high competences have problems finding jobs and have to take jobs below their qualifications, thus hindering their development. The economy is not developing



SCENARIO 4: SENIORS IN THE VIRTUAL WORLD

- What are your hopes for the **S4 scenario**?
- What fears does this scenario generate?
- What competences would you need if this scenario were to occur?

HOPES

FEARS

INDISPENSABLE COMPETENCES

**High level of work virtualisation
Dominance of old people among the economically active**

The COVID-19 vaccination campaign among senior citizens has had a beneficial effect. People in this age group have not only been protected against the dangerous virus, but have also gained immunity to other viral infections, resulting in an improvement in their overall health and increased life expectancy. The natural process of population ageing is accompanied by the development of medicine, health care and greater concern for health, as well as by negative birth rates. As a result, in 2040, older people (of retirement age) will dominate the labour market among the economically active and the economy will be oriented towards older people (*silver economy*).

Remote working popularised in the era of the 2020-2022 pandemic and the very dynamic development of ICT technologies have resulted in the virtualisation of workplaces. Direct contact with superiors, colleagues and clients has been reduced to a minimum. Remote working based on cloud platforms, virtual desktops and networking dominates. Unfortunately, economically active seniors face technical barriers to functioning in virtual workplaces due to the digital exclusion of a large group of seniors. In addition, older workers cannot get out of the habit of building working relationships on the basis of direct contacts, which creates resistance to the adoption of modern technologies.

5. RECOMMENDATIONS FOR VIRTUAL FORM (OPTIONAL)

Due to the form of presentation, the presented materials could be used in the form of traditional workshops or meetings conducted in a virtual form. For the virtual form, you may use platforms such as MS Teams or Zoom where you could set up separate rooms for each working group. You have to remember that the virtual form requires the use of a STEEPVL analysis template to be completed at the very beginning of scenario analysis, available online for participants. You can create your own visualisation (using available templates e.g. <https://miro.com/> - where you can also work online in a group). The final findings concerning the results of STEEPVL analysis and scenario analysis could later be shared during the final meeting with the whole group.

6. SUPPLEMENTARY RESOURCES

For more examples or further reading you may find useful:

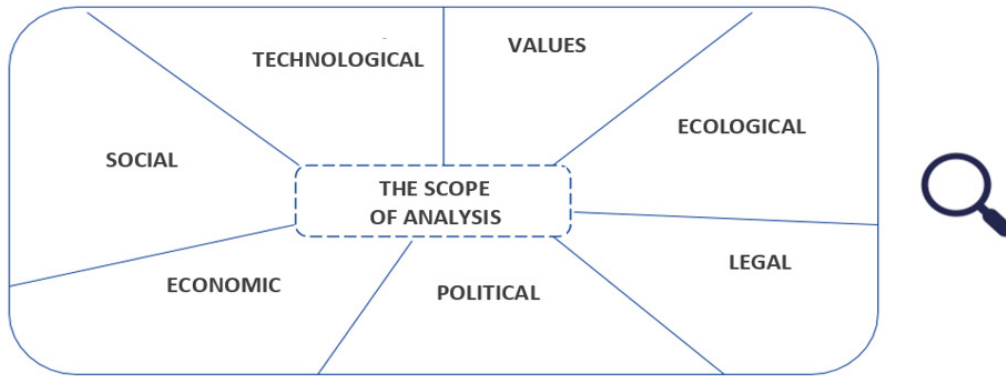
1. Cairns G., Wright G., Bradfield R., van der Heijden K., Burt G., *Exploring e-government futures through the application of scenario planning*, "Technological Forecasting and Social Change" 2004, No. 71.
2. Ejdyś J., Gudanowska A., Halicka K., Kononiuk A., Magruk A., Nazarko J., Nazarko Ł., Szpilko D., Widelska U., *Foresight in Higher Education Institutions: Evidence from Poland*, Foresight and STI Governance 2019, Vol. 13, No.1
3. Fahey L., Randall M. (1998), *Learning from the Future. Competitive Foresight Scenarios*, John Wiley&Sons, New York.
4. Gudanowska A. (ed.), Kononiuk A. (ed.), *Uwarunkowania rozwoju procesów produkcji i wzrostu kompetencji cyfrowych społeczeństwa*, Politechnika Białostocka, Białystok 2020.
5. Kononiuk A. (2010), *Analiza STEEPVL na przykładzie projektu „NT for Podlaskie 2020”*. *Regionalna strategia rozwoju nanotechnologii*, *Ekonomia i Zarządzanie*, Vol. 2, No. 2
7. Kononiuk A. (2011), *Metoda scenariuszowa w antycypowaniu przyszłości (na przykładzie Narodowego Programu Foresight „Polska 2020”)*, Uniwersytet Warszawski, Warszawa.
8. Ringland G., (2007), *UNIDO Technology Foresight for Practitioners. A specialised Course on Scenario Building*. Prague, 5-8 November.
9. Sutherland J., Canwell D. (2007), *Klucz do zarządzania strategicznego. Najważniejsze teorie, pojęcia, postaci*, PWN, Warszawa.
10. Watson R., (2012), *Trends and technology timeline 2010+ a roadmap for the exploration of current and future trends, in Future Files. A brief history of the next 50 years*, Nicholas Brealey Publishing, London.

Useful links:

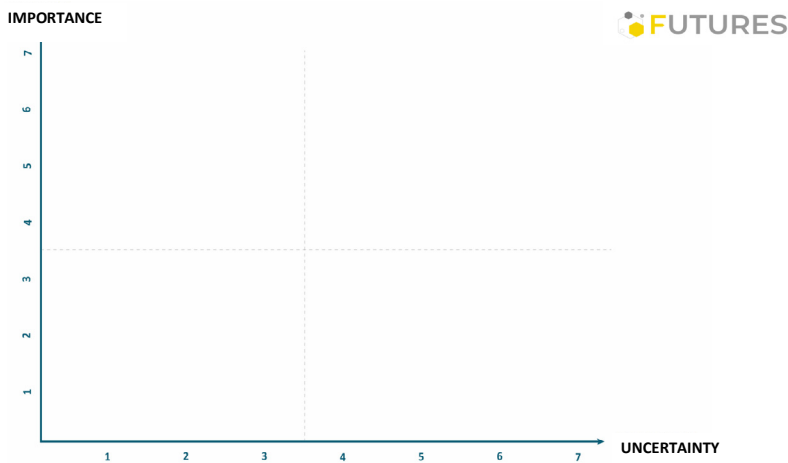
1. Application to increase audience engagement: <https://www.mentimeter.com/>
2. Miro board, where you can create a STEEPVL analysis template as the first step in the scenario method using ready-made output visualisations and work together online: <https://miro.com/beFORE> E-Learning Course, <http://futureoriented.eu/foresight-course/>, where you can benefit from lessons dedicated to scenario analysis: <http://futureoriented.eu/courses/advanced-course-students/lessons/module-5->

ANNEX 1

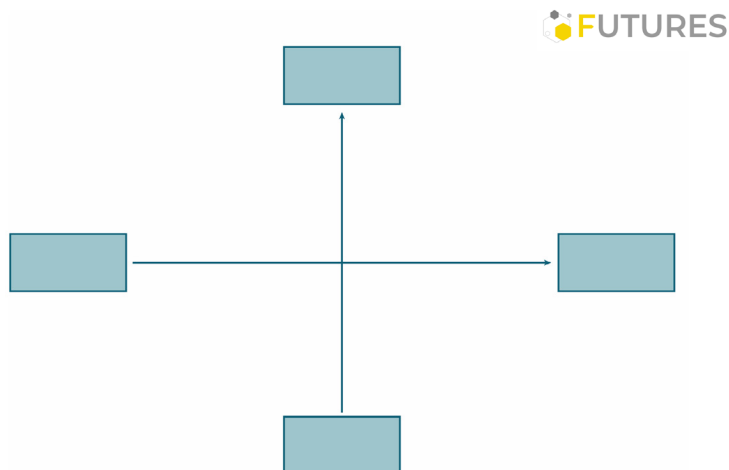
7x5 minutes



ANNEX 2



ANNEX 3



[lesson-2-future-oriented-methodologies/topic/topic-7-intuitive-logics-school-of-scenario-construction-case-studies/or](#) take the entire Futures Literacy course (<http://futureoriented.eu/foresight-course/>)

3. Sources of photos:

<https://unsplash.com/>

<https://pixabay.com/>

<https://www.pexels.com/>

TRAINING SESSION 3: ROADMAPPING AS A TOOL FOR VISUALISING PROFESSIONAL AND PERSONAL FUTURE

1. OBJECTIVE

The aim of the session is to explain the concept of roadmapping, the process of its implementation and to indicate the results that can be created thanks to its implementation. The participants of the workshop, after getting acquainted with the idea of the method, could create their own exemplary visualisations, depending on the chosen option, referring to the labour market, the future of the chosen career path or personal development.



2. THEORETICAL INTRODUCTION

The roadmap method was developed in the field of production planning, but has since been transferred to other industries as well as to futures studies. It supports the planning process, enables multidimensional analyses and a broad look at a given area/problem/idea.

The visualisation/diagram created during the implementation of the method can take various forms, which is beneficial for researchers using the method in their work as well as creating very diverse and interesting visualisations. The most common form is a multilayer time chart, in which, apart from reflecting different perspectives, it is possible to analyse and present connections between them. In the context of manufacturing companies, where the method appeared first, it allowed for the identification of new solutions as well as new applications for already existing technological solutions. It was a tool enabling not only effective development planning, but also the management of a given issue.

The implementation of the method allows for the visualisation of the future, with a certain specified time horizon. A characteristic element of the visualisations is a timeline to which each of the layers to be filled should be related. The roadmap should enable quick access to information on selected areas that form roadmap layers (for example: market, customers, products, technology, knowledge, competencies, research, process or specific resources) and support strategic planning of activities. In practice, both the process of creation and the form of visualisation of the roadmap require adjustment to the individual needs of the recipients.

In the context of planning professional and personal development, roadmapping as a method enabling visualisation of changes in time can be an extremely useful tool. An image, much faster assimilated by the human eye than a large text, can show the path of development of a particular labour market, its sector, a particular professional group, a particular team, one's own career path or personal development. The method also allows for defining an action plan that will lead to the realisation of the vision. Thus, the method can become a tool for analysis, visualisation as well as planning.



3. PRESENTATION ABOUT THE TOPIC (E-LEARNING)

The following slides can help to introduce roadmapping to participants in a training session. The session should start by explaining the nature of the method, first encouraging participants to answer questions about whether they believe thinking about the future is necessary. It can also start by asking participants what the word roadmap means. This can be initiated with applications as mentimeter (<https://www.mentimeter.com/>). The facilitator instructs participants to enter their thoughts about the term “roadmap”, which results in an interesting visualisation of the most frequent answers. Then, interaction is encouraged according to the following presentation:

Co-funded by the
Erasmus+ Programme
of the European Union

1.3
MODULE 1. ANTICIPATION FOR FUTURE
TRAINING SESSION 3. Roadmapping

Roadmapping as a tool for visualizing professional and personal future

The European Commission's support for the production of this publication does not constitute an endorsement of the contents, which reflect the views only of the authors, and the Commission cannot be held responsible for any use which may be made of the information contained therein.

WHY DO WE CREATE ROADMAPS?

Success isn't just a matter of luck, hard work, or knowledge of your environment;
it's also a well-defined and clear **plan of action**.

WHY DO WE CREATE ROADMAPS?

Preparing a roadmap allows you to visualize **the goal** you are aiming for and shows you how to get there from where you are.



Photo by gerard from freddy

THINKING ABOUT THE FUTURE ...



Photo by Cameron McMurtry from Pixels

Is thinking about the future and visualizing it necessary to be successful?

Without a doubt YES!

Excessive focus only on the nearest future without a specific vision and strategy can lead us down a blind alley.

THINKING ABOUT THE FUTURE ...

Even visionaries who know where they are going need a concrete plan of action.

Focusing on only one view is not right, keeping a balance between seeing the narrow and broader perspective is crucial if we want to develop in a sustainable and right way.



Photo by Gadi Berg from Pixels

WHAT IS ROADMAPPING?

One of the main "fathers" of the method in the area of futures studies - Robert Phaal described roadmapping as a **flexible technique**, widely used so far in industry to support strategic and long-term planning.

The output of the method is a roadmap, which is a **time chart** consisting of **several layers** that typically cover **different perspectives**.



Photo by air focus on Unsplash

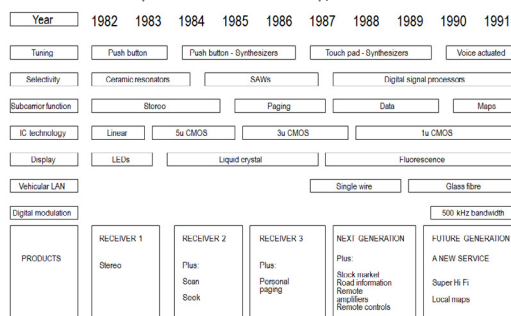
R. Phaal, C. J. P. Farrukh, D. R. Probert, *Technology roadmapping – A planning framework for evolution and revolution*, "Technological Forecasting and Social Change", 71, 2004, 5-26.

WHAT IS ROADMAP?

According to Robert Galvin, the former CEO of Motorola, where the first roadmap was created, it is **an expanded view of the future** of a chosen domain, consisting of the collective knowledge and imagination of the most talented change agents.

T. U. Daim, T. Oliver, *Implementing technology roadmap process in the energy services sector: A case study of a government agency*, "Technological Forecasting and Social Change", 75(5), 2008, 687-720

First published Motorola roadmap, for car radios

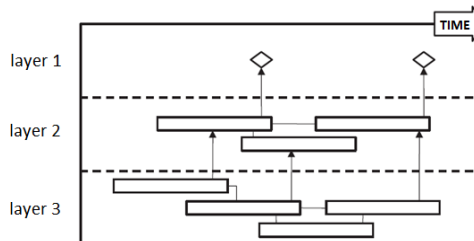


C. H. Williard, C. W. McClees, *Motorola's technology roadmap process*, "Research Management", 1987, Sept.-Oct., 13-19.

WHAT IS ROADMAP?

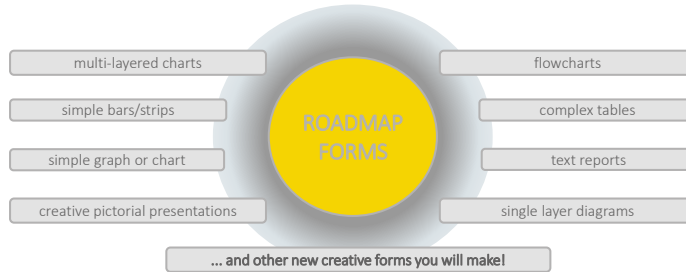
Roadmap is a **visualization** of realization of our assumed strategies.

Thanks to roadmap we translate the formulated goals and strategies into **concrete actions**, enriching them with specific dates, linking them to important moments in time, often indicating the key functions of these actions and their mutual connections.



based on R. Phaal, C. J. P. Farrukh, D. R. Probert, *Technology roadmapping – A planning framework for evolution and revolution*, "Technological Forecasting and Social Change", 71, 2004, 5-26.

ROADMAP FORMS



Created visualizations may seem deceptively simple in form, but developing them means having to deal with several challenges (e.g., generally broad visualization scope, consideration of complex conceptual and human interactions).

THE SIGNIFICANCE OF TIME IN VISUALIZATIONS



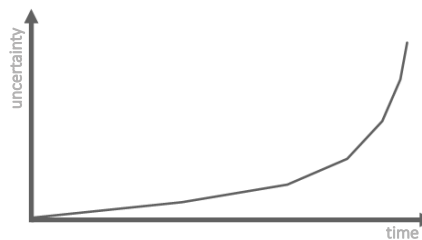
Photo by JD From Beards

A key dimension of visualization is **TIME**.

THE SIGNIFICANCE OF TIME IN VISUALIZATIONS

Reference to a timeline characterizes the roadmap creation method, whatever form of visualization is chosen.

Thanks to this, the created visualizations become dynamic.



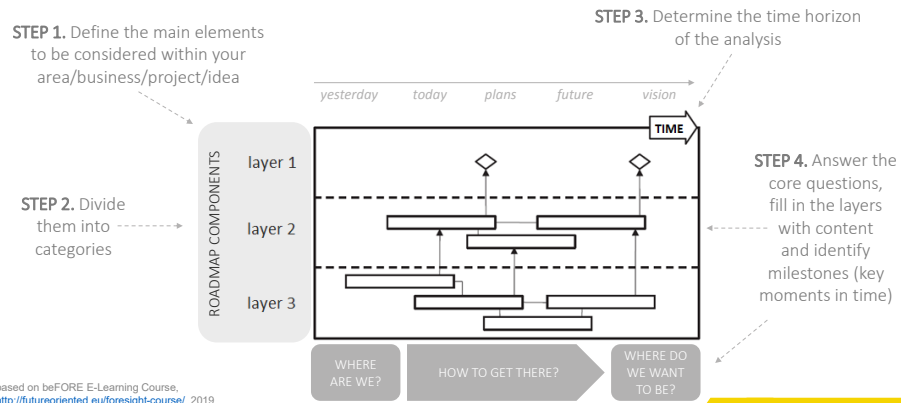
ELEMENTS OF A ROADMAP

The most popular form of roadmap is multi-layered charts.

Remember, when you are creating a roadmap, to include:

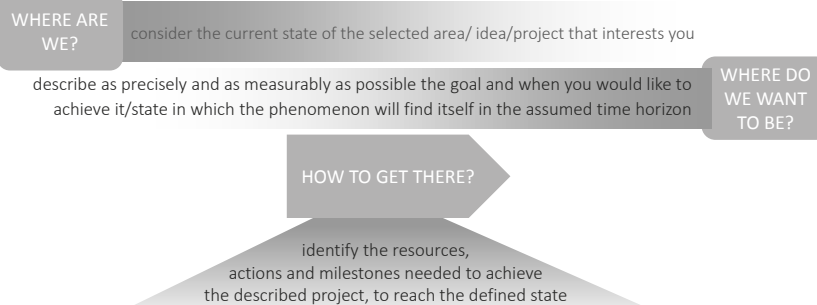
- **time dimension** - tailored to the specific situation, it can take the form of specific points in time or time intervals; you can also start in the recent past to make it easier for you to determine the status for today;
- **layers** - individually adjusted axis of layers, usually upper layers refer to goals we want to achieve (know-why?), lower layers to resources necessary to achieve them (know-how?), and middle layers are a bridge between the lower and upper layers (know-what?); remember, the mentioned division of layers is not strict, and we should be flexible when creating them!
- **annotations** - complementary information, placed outside specific layers, relevant at a given time (e.g. linkages, key decision points, gaps, critical paths, opportunities and threats).

ROADMAP DEVELOPMENT PROCESS



ROADMAP DEVELOPMENT PROCESS

FIRST think about the start and end point of the roadmap, and **THEN** and then about the road



WHEN TO CREATE A ROADMAP

Creating a roadmap is useful in any situation when we want to plan and visualize the development of a certain phenomenon over time, even a complex one that requires capturing several of its components.



Photo by gerrit form freddy

Roadmaps will be particularly useful when you want to establish key links between resources, activities and objectives, identify important gaps in the development process, develop an action plan or support and specify the adopted strategy.

REMEMBER!

Roadmapping can be applied to a wide range of contexts, but the process and visualization usually require customization.



Photo form freddy

REMEMBER!



Photo by Alex Mullins form freddy

Roadmapping is not a crystal ball - there may be more questions than answers in the beginning.

ROADMAPPING & PROFESSIONAL AND PERSONAL DEVELOPMENT

In the context of professional and personal futures, you can use roadmapping in at least two variants:

- **option one** will be to anticipate and visualize the future labor market and analyze how we will reach it (group or individual work);
- **option two** is planning and visualizing your desired career path or your personal development path (individual work).



Photo by gjenaro form Pixabay

ROADMAP TEMPLATE

The roadmap template can be very diverse as already mentioned, you can start with a simple multi-layered chart or use the templates available online (e.g. on Miro board - <https://miro.com/>)



TIME TO PRACTICE!



Photo by mozzaburn form Pixabay

4. PRACTISE YOUR PATHWAYS

The following slides provide practical information related to the implementation of each option of the roadmap creation exercise. Please note that you will also find inspiration cards matching the specific exercise option.

OPTION 1:

VISUALIZING THE FUTURE OF THE LABOR MARKET

Objective: determine the vision for the development of the labor market and analyze how we will get there

Stages:

STAGE 1. Definition of the main elements of the roadmap

STAGE 2. Divide the indicated elements into categories

STAGE 3. Establish the time horizon of the analysis

STAGE 4. Replenish the layers with content, indicate possible annotations, take a broader look

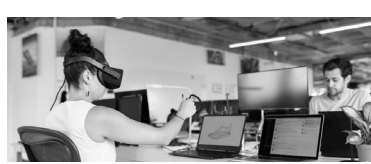


Photo by iStockphoto.coming / iStockphoto.com



OPTION 1:

VISUALIZING THE FUTURE OF THE LABOR MARKET

STAGE 1. Definition of the main elements of the roadmap

*What are the most important factors do you think are shaping the labor market?
What social, technological, economic, environmental, legal, political or value-related factors shape the labor market?*

Write down all ideas on separate sticky notes.
If you are working in groups you can work according to the brainstorming technique.



Photo by iStockphoto.coming / iStockphoto.com





OPTION 1:

VISUALIZING THE FUTURE OF THE LABOR MARKET

STAGE 2. Divide the indicated elements into categories

In case of group work discuss with the rest of the group the factors identified.

Arrange them in order of similarity and create up to 5-6 categories that constitute layers (you can use the inspiration card for grouping factors – *next slide*, but if something is missing create your own additional layer or replace some!). Create one expression for each category that symbolizes the elements it contains - these are the names of your layers.

Finally, place the agreed layers on the roadmap template.

In case of a lack of consensus, we do not waste time, we consult an external expert (a member of another group, if there are several or the facilitator) or we just act democratically.

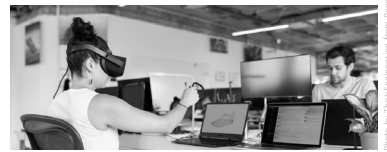


Photo by iStockphoto.com from ©iStock

OPTION 1:

VISUALIZING THE FUTURE OF THE LABOR MARKET

THE INSPIRATION CARD FOR GROUPING FACTORS



OPTION 1:

VISUALIZING THE FUTURE OF THE LABOR MARKET

STAGE 3. Establish the time horizon of the analysis



In what perspective will you analyze the development of the labor market?

Plot your decision on a timeline on the roadmap template.

Remember that your timeline can take the form of specific points in time or time intervals.

The divisions do not have to be equal, and the "breakthrough" points may involve some specific events that you anticipate.

Indicate the starting moment and the ending moment on the timeline.



Photo by iStockphoto.com from ©iStock



OPTION 1:

VISUALIZING THE FUTURE OF THE LABOR MARKET

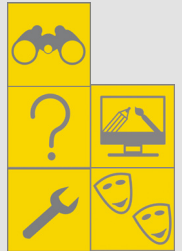
STAGE 4. Replenish the layers with content, indicate possible annotations, take a broader look

You can fill in the layers vertically, thinking about a given time horizon and what will happen in each layer, or horizontally, analyzing changes over time focusing on a given individual layer.

First, focus on the core questions about the initial and final state (*next slide*). You can describe these states as an overarching vision or in the context of the layers already identified.



Photo by iStockphoto.com / Tom Pichler



OPTION 1:

VISUALIZING THE FUTURE OF THE LABOR MARKET

WHERE ARE WE?

indicate what the labor market and its various components look like today

describe as accurately as possible the state of the labor market as it will reach within the assumed time horizon

WHERE DO WE WANT TO BE?

!! You can also use the visions created by the scenarios method and the Future Wheel here.

HOW TO GET THERE?

identify the resources, actions and milestones needed to reach the defined state



OPTION 1:

VISUALIZING THE FUTURE OF THE LABOR MARKET

STAGE 4. Replenish the layers with content, indicate possible annotations, take a broader look

Finally, remember to make annotations, point out potential connections within and between layers (perhaps an event/action in a layer is necessary for another to occur in the next layer) and ... give yourself a moment to look at the finished roadmap as a whole!



Photo by iStockphoto.com / Tom Pichler



OPTION 2: VISUALIZING THE FUTURE OF PROFESSIONAL OR PERSONAL DEVELOPMENT

Objective: defining an individual career path or a path of personal development

Stages:

- STAGE 1.** Definition of the main elements of the roadmap
- STAGE 2.** Divide the indicated elements into categories
- STAGE 3.** Establish the time horizon of the analysis
- STAGE 4.** Replenish the layers with content, indicate possible annotations, take a broader look



Photo by Nature_Design from Pixabay

OPTION 2: VISUALIZING THE FUTURE OF PROFESSIONAL OR PERSONAL DEVELOPMENT

STAGE 1. Definition of the main elements of the roadmap

*What is important in your life and affects your professional life?
What motivates you and what discourages you?*

You can use an inspiration card with some suggestions (*next slide*), but if something is missing create your own element!



Photo by Nature_Design from Pixabay

OPTION 2: VISUALIZING THE FUTURE OF PROFESSIONAL OR PERSONAL DEVELOPMENT

THE INSPIRATION CARD
FOR THE DEFINITION OF LAYERS

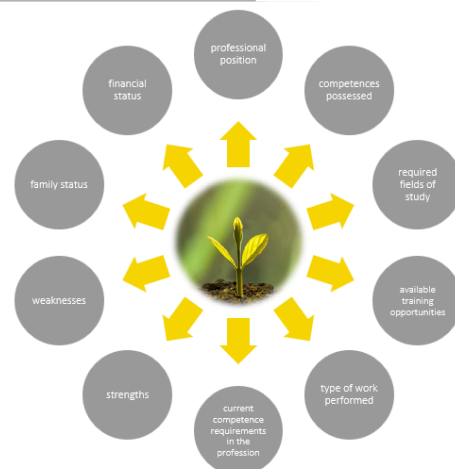


Photo by Nature_Design from Pixabay

OPTION 2: VISUALIZING THE FUTURE OF PROFESSIONAL OR PERSONAL DEVELOPMENT

STAGE 2. Divide the indicated elements into categories

If working with a facilitator, discuss the layer suggestions indicated, arrange them in order of similarity, and create up to 5 categories that constitute the next layers.

For a professional development roadmap, you can take your professional position as the top layer.



Photo by Nature_Design from Pixabay

OPTION 2: VISUALIZING THE FUTURE OF PROFESSIONAL OR PERSONAL DEVELOPMENT

STAGE 3. Establish the time horizon of the analysis



In what perspective will you analyze your career or personal development?

Plot your decision on a timeline on the roadmap template.

Your timeline can take the form of specific points in time or time intervals. You can also enter your reached age on the timeline.

The divisions do not have to be equal, and the "breakthrough" points may involve some specific events that you anticipate.

Indicate clear starting moment and the ending moment on the timeline.



Photo by Nature_Design from Pixabay

OPTION 2: VISUALIZING THE FUTURE OF PROFESSIONAL OR PERSONAL DEVELOPMENT

STAGE 4. Replenish the layers with content, indicate possible annotations, take a broader look

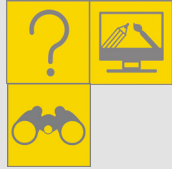
You can fill in the layers vertically, thinking about a given time horizon and what will happen in each layer, or horizontally, analyzing changes over time focusing on a given individual layer.

First, focus on the core questions about the initial and final state (*next slide*). You can describe these states as an overarching vision or in the context of the layers already identified.



Photo by Nature_Design from Pixabay





OPTION 2: VISUALIZING THE FUTURE OF PROFESSIONAL OR PERSONAL DEVELOPMENT



OPTION 2: VISUALIZING THE FUTURE OF PROFESSIONAL OR PERSONAL DEVELOPMENT

STAGE 4. Replenish the layers with content, indicate possible annotations, take a broader look

If among your **layers** there are **current competence requirements** in the profession and you have problems with defining them, you can start by using the O*NET OnLine database (<https://www.onetonline.org/>), where you can find the competencies required in the searched profession.



Photo by Nature_Design from Pixabay

OPTION 2: VISUALIZING THE FUTURE OF PROFESSIONAL OR PERSONAL DEVELOPMENT

STAGE 4. Replenish the layers with content, indicate possible annotations, take a broader look

If your **layers** include **available training opportunities**, remember that you can look for them not only in formal education. You can also look for developmental opportunities through: on-the-job-mentoring, guided experience, understudy training, job rotation, project, committee or task force assignment, special assignments, management development programs, technical education programs, job expansion, attendance in staff meetings, serving as an instructor, conference leader or trainer, help from specialists in the organization, studying books and other materials.

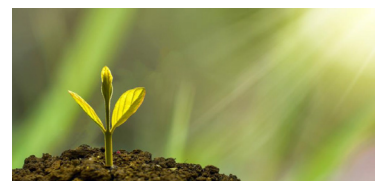


Photo by Nature_Design from Pixabay

more in: Linda M. Ginac, Develop a career roadmap. Report five: Gain the competencies required for success. The Ginac Group, Inc., 2007, pp. 18-19, <https://back.talentguard.com/wp-content/uploads/2016/01/Special-Report-5-Develop-2.pdf>



OPTION 2: VISUALIZING THE FUTURE OF PROFESSIONAL OR PERSONAL DEVELOPMENT

STAGE 4. Replenish the layers with content, indicate possible annotations, take a broader look

Finally, remember to make annotations, point out potential connections within and between layers (perhaps an event/action in a layer is necessary for another to occur in the next layer); you can also mark key decisions or different milestones and
give yourself a moment to look at the finished roadmap as a whole!



And some more practical tips:

- in case of option 1 of the exercise, if you work in groups before the beginning of stage 1 and if the group of participants is large (more than 5 people), it is worth dividing them into smaller teams, where each team will work separately;
- elements of roadmap layers collected during the first stage and grouped in the second stage may be useful during the later stage of filling the layers with content; during possible creative block or tiredness, individual components may serve to stimulate participant(s) and remind what composed a given layer;
- during the workshop you can use the template in these materials, but also inspired by its appearance, you can create your own on a large piece of paper;
- in the description of the initial state, it is possible to go back in the timeline to “yesterday”, if you want to identify important events which have influenced today’s labour market or today’s professional or personal situation;
- is also important to give participants and yourself some time after completing the layers to look at the whole visualisation; people often focus too much on a particular layer or on a particular fragment of time, it is important to look at the whole thing from a distance at the end;
- if you work in several groups, it is good to plan some time for presentation and discussion of the created visualisations.

5. USEFUL AREAS OF EXPERTISE/EXPERTS (OPTIONAL)

In the case of roadmapping based on the prepared materials, there is no need to involve specialists in a particular field.

6. RECOMMENDATIONS FOR VIRTUAL FORM (OPTIONAL)

Due to the form of presentation, the materials can be used during the creation of the roadmap in the form of traditional workshops or conducted in a virtual form. The only issue



to remember is that the virtual form will require the use of a template to be completed, available online for participants. You can create your own visualisation (using available templates e.g. <https://miro.com/> - where you can also organise online groupwork).

7. RECOMMENDED SUPPLEMENTARY RESOURCES

For more examples or further reading you may find useful:

1. Phaal R., Farrukh C., Probert D., (2001), *T-Plan: Fast start to technology roadmapping – planning your route to success*, Cambridge: Institute for Manufacturing.
2. Phaal R., Farrukh C., Probert D., (2010), *Roadmapping For Strategy and Innovation Aligning Technology and Markets in a Dynamic World*, Cambridge: Inst. Manuf., Univ. Cambridge.
3. Nazarko J., Ejdyś J., Gudanowska A., Halicka K., Kononiuk A., Magruk A., Nazarko Ł., (2020), *Roadmapping in Regional Technology Foresight: A Contribution to Nanotechnology Development Strategy*, IEEE Transactions on Engineering Management, 1–16.
4. Kononiuk A., (2014), *Roadmapping as a method enhancing regional development*, Zarządzanie Publiczne, Vol. 26, No. 2, 229–238.
5. Watson R., (2012), *Trends and technology timeline 2010+ a roadmap for the exploration of current and future trends, in Future Files. A brief history of the next 50 years*, London-Boston: Nicholas Brealey Publishing.
6. Albright R. E., (2009), *Visualization in strategic and technology roadmapping*, Proc. Portland Int. Conf. Manage. Eng. Technol., 2466–2474.

Useful links:

1. Base of professional competences O*NET OnLine database: <https://www.onetonline.org/>
2. Miro board, where you can create a roadmap template using ready-made output visualisations and work together online: <https://miro.com/>
3. Ranking of interactive tools for creating general roadmaps: <https://theproductmanager.com/tools/product-roadmap-tools/>
4. beFORE E-Learning Course, <http://futureoriented.eu/foresight-course/>, where you can benefit from lessons dedicated to Roadmapping (Topic 3: Roadmapping | BeFore (futureoriented.eu) and Topic 5: Roadmapping – Case studies | BeFore (futureoriented.eu)) or take the entire Futures Literacy course (<http://futureoriented.eu/foresight-course/>)
5. Application to increase audience engagement: <https://www.mentimeter.com/>

Resources:

1. Claire H. M., (2019), *Roadmapping*, part of beFORE E-Learning Course, <http://futureoriented.eu/foresight-course/>.
2. Daim T. U., Oliver T., (2008), *Implementing technology roadmap process in the energy services sector: A case study of a government agency*, Technol. Forecasting Social Change, Vol. 75, No. 5, 687–720.
3. Garcia M. L., Bray O. H., (1998), *Fundamentals of technology Roadmapping*, NM: Sandia National Laboratories Report SAND97-0665, Albuquerque.
4. Gudanowska A., Kononiuk A., Magruk A., Pająk A., Rollnik-Sadowska E., Sacio-Szymańska A., (2021), *Doradca zawodowy projektantem przyszłości: zastosowanie*

studiów nad przyszłością w doradztwie zawodowym, Sieć Badawcza Łukasiewicz - Instytut Technologii Eksploatacji, Radom, https://horyzontyprzyszlosci.itee.radom.pl/wp-content/uploads/2021/02/HP_podrecznik_A4_calosc.pdf.

5. Kononiuk A. (ed.), Gudanowska A. (ed.), (2013), *Kierunki rozwoju nanotechnologii w województwie podlaskim. Mapy. Marszruty. Trendy*, Oficyna Wydawnicza Politechniki Białostockiej, Białystok 2013.
6. Linda M. Ginac (2007), *Develop a career roadmap. Report five: Gain the competencies required for success*, The Ginac Group, Inc., <https://back.talentguard.com/wp-content/uploads/2016/01/Special-Report-5-Develop-2.pdf>
7. Muller G., (2008), *Roadmapping*, Philips Embedded Systems Institute.
8. Phaal R., (2004), *Technology Roadmapping*, Foresight Methodologies, UNIDO Tekst Book, Training Module 2, Austria.
9. Phaal R., Farrukh C. J. P., Probert D. R., (2001), *Technology Roadmapping: linking technology resources to business objectives*, University of Cambridge, 14/11/01.
10. Phaal R., Farrukh C. J. P., Probert D. R., (2004), *Technology roadmapping – A planning framework for evolution and revolution*, Technological Forecasting and Social Change, 71, 5-26.
11. Skulimowski A. M. J., (2009), *Metody Roadmappingu i foresightu technologicznego*, Chemik - nauka technika rynek, Vol. 5.
12. Willyard C. H., McClees C. W., (1987), *Motorola's technology roadmap process*, Research Management, Sept.-Oct., 13-19.

TRAINING SESSION 4: THE FUTURES WHEEL METHOD FOR CAREER PLANNING FOR YOUNG PEOPLE

1. OBJECTIVE



This training session presents the futures wheel as one of the futures studies methods that has the potential to be applied in the career planning process of young people. The futures wheel is a visual/graphic brainstorming tool that can be used to illustrate holistic future-oriented thinking in order to make more accurate decisions under conditions of high complexity. The principle of the futures wheel is to identify the different future impacts of a phenomenon by placing possible influences in a graphical representation of related circles. Thanks to this method it is possible to identify, analyse and arrange various influences and their causal relations. The method shows not only the first (central) level influences, but it can also reveal possible secondary and tertiary influences, which would be difficult to recognise or not recognised at all without the graphical representation. The futures wheel method is simple and user-friendly and does not require special resources³, so it can be easily implemented in educational processes at different levels of education, such as career planning.

2. THEORETICAL INTRODUCTION

The futures wheel was invented in 1971 by Jerome C. Glenn. It was disseminated by workshops on futures curriculum development at the University of Massachusetts in the early 1970s, and shortly thereafter by futures trainers and consultants as a method of engaging workshop participants in thinking about future consequences, and to policymakers for input into the policy analysis and forecasting process⁴.

The futures wheel is a decision-making tool that is aimed at identifying all conceivable impacts⁵. The method resembles structural brainstorming in which the main issue under study (analysed, discussed) and its possible impacts are organised in graphical circles – the futures wheel basically consists of inner and outer wheels⁶.

The aim of this approach is, on the basis of group work, to show, order, understand and clarify the causal relationships, possible influences and their sequence, between the main issue and its influences at different levels. The issue under investigation can be, for example, a phenomenon, a trend, an event, a decision, a change or a weak signal⁷, emerging issues, and future possible decisions⁸.

While this method is limited to the knowledge and research of the participants, it

³ S. Toivonen, *Advancing futures thinking in the real estate field*, *Journal of European Real Estate Research* 2021, Vol. 14 No. 1, pp. 150-166, DOI 10.1108/JERER-01-2020-0003.

⁴ J.C. Glenn, *The futures wheel*, [in:] Glenn, J.C. and Gordon, T.J. (eds.), *Futures Research Methodology 2009 Version 3.0*. With support from the Rockefeller Foundation. Millennium Project.

⁵ L. Ramasubramanian, J. Albrecht, *Planning Grand, Essential Methods for Planning Practitioners*, 2018, Springer, Cham, pp. 79-86.

⁶ S. Heinonen, J. Ruotsalainen, *Futures Clinique—method for promoting futures learning and provoking radical futures*, *European Journal of Futures Research* 2013, 1(1), 7.

⁷ S. Toivonen, *Advancing futures thinking...*, op. cit.

⁸ J. C. Glenn, *The futures wheel...*, op. cit.

may generate information overload through domain dominance. Still, it allows for the visualisation of a vast amount of qualitative information that has both depth and contextual richness⁹.

The method directs users not only to analyse the first-level impacts that are directly caused by the issue under study, but also its secondary, tertiary impacts, etc.¹⁰

The method should be carried out in such a way that the participants share their views on the chosen topic (influencing each other's beliefs), articulate their associations concerning the consequences of the development of the studied issue in the future perspective¹¹.

Although the futures wheel is a simple futures research technique designed to systematically capture qualitative expert knowledge¹², it is also an extremely powerful method for exploring the future. It focuses on direct and indirect impacts in the short to medium term, useful for strategic planning, for example¹³. Although the futures wheel is an easy-to-understand method, an undisciplined approach can result in what is referred to as "intellectual spaghetti" (i.e., generating myriad interactions that become so complex that they tend to complicate and confuse trend implications)¹⁴. The futures wheel is now used by futurists, teachers of futures courses, corporate planners, and public policy advisors around the world to help identify potential problems and opportunities and new markets, products and services, and to evaluate alternative tactics and strategies¹⁵.

On the technical/graphic side, the formation of a futures wheel begins by placing the issue under study in the centre circle (Fig. 5)¹⁶.

The influences/consequences caused directly by the central circle element are drawn on the first tier surrounding the central circle in first-order circles. Subsequent impacts/consequences caused by impacts/consequences placed on the first tier are drawn on the second layer surrounding the first layer in second-order circles. The influences/consequences caused by the second layer are again drawn on the third layer surrounding the second layer, in third-order circles. This procedure is continued until the influences/consequences are well away from the context of the study¹⁷.

⁹ M. A. Rostek, *Institutionalizing futures thinking in the Canadian army*, [in:] *Futures Thinking and Organizational Policy 2019*, Palgrave Macmillan, Cham, pp. 225-245.

¹⁰ S. Toivonen, *Advancing futures thinking ...*, op. cit.

¹¹ S. Heinonen, J. Ruotsalainen, *Futures Clinique...*, op. cit.

¹² M. A. Rostek, *Institutionalizing futures thinking...*, op. cit.

¹³ P. Daffara, *Applying the Futures Wheel and Macrohistory to the Covid19 Global Pandemic*, *Journal of futures studies* 2020, 25(2), pp. 35-48.

¹⁴ M. A. Rostek, *Institutionalizing futures thinking...*, op. cit.

¹⁵ J.C. Glenn, *The futures wheel...*, op. cit.

¹⁶ S. Toivonen, *Advancing futures thinking ...*, op. cit.

¹⁷ *Ibid.*






-  1st tier/order (direct consequences)
-  2nd tier/order (indirect consequences)
-  3rd tier/order (indirect consequences)

Fig. 5. General graphic representation of the futures wheel

Source: own study with the use of the visual paradigm software, <https://online.visual-paradigm.com/>

The futures wheel method visually resembles mind maps. However, there is a fundamental difference between the two. Mind maps depict different relationships between categories, whereas the futures wheel focuses on causal chains¹⁸.

Traditionally, the futures wheel is developed in a single session (workshop, panel), where participants jointly identify possible impacts/consequences.

Another methodological approach is also possible. In the first stage, the possible impacts/consequences of the study are created in several separate sessions (by external teams). In the second stage, a separate team creates a futures wheel, graphically mapping the results from the first stage.

According to Glenn, the futures wheel method can be used to¹⁹:

- analyse possible outcomes of current trends or potential future events or trends,
- make predictions within alternative scenarios,
- show the complexity of relationships,
- develop a multi-concept of an initial concept for a trend or event,
- engage brainstorming participants in collective/group thinking about the future,
- maintain a future-conscious perspective,
- identify potential surprises.

The most important advantages and disadvantages of the futures wheel are shown in Tab. 1.

Tab. 1. Advantages & disadvantages of the futures wheel method

ADVANTAGES	DISADVANTAGES
<ol style="list-style-type: none"> 1. Simplicity – the method does not require any special equipment. In the simplest application, you can use crayons and a piece of paper or a blackboard and coloured chalk. You can also use programs dedicated to this method, for example: the “Visual Paradigm Online”. 2. Efficiency and user-friendliness – the method can capture several complex cause-effect relationships in a simple graphical way. 3. A very fruitful method – the method enables to construct rich relations among various phenomena and influences due to their illustrativeness. 4. Easy to learn – thanks to quick training, the time needed to prepare for the actual research process is not wasted. 5. Non-domain-dominated – the futures wheel method can be applied in several different contexts. 	<ol style="list-style-type: none"> 1. Dependence of the method on the participants (their knowledge and experience) forming the circle and their ability to predict future outcomes. This may make it necessary to supplement the research findings with analysis of literature sources. 2. High pressure on research organisers to select appropriate participants. 3. There is a temptation to describe the power of the impact itself, rather than its impact. 4. High pressure to select a trained facilitator. 5. The danger of over-involving a facilitator who can influence the results too much. 6 The size of the group is limited to the facilitator’s ability to control it. 7. Open communication is required between participants, which is not always possible.

Source: own study based on: S. Toivonen, *Advancing futures thinking in the real estate field*. Journal of European Real Estate Research 2021. Vol. 14, No. 1, pp. 150-166, DOI 10.1108/JERER-01-2020-0003.

¹⁸ S. Toivonen, *Advancing futures thinking ...*, op. cit.

¹⁹ J. C. Glenn, *The futures wheel...*, op. cit.

3. PRESENTATION ABOUT THE TOPIC (E-LEARNING)

Co-funded by the Erasmus+ Programme of the European Union 

1.4 MODULE 1. ANTICIPATION FOR THE FUTURE
TRAINING SESSION 4. Futures wheel

Futures wheel for career planning for young people



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If you've ever had to study the full impact of a proposed change, you know how difficult it is to identify all possible outcomes...

<https://www.mindtools.com/pages/article/futures-wheel.htm>

What is a Futures Wheel?

- The futures wheel method is a form of structured brainstorming aimed at visualizing the future direct and indirect effects (consequences) of a specific problem/issue/trend under investigation.
- This method helps to examine, through a single image, how a given problem and its consequences will develop. It helps to avoid one-dimensional, linear thinking. Helps move the mind from linear, hierarchical, and simplistic thinking to more complex and network-oriented thinking. Helps identify relationships and unintended consequences.
- It is a method that allows you to build a model of the future based on the consequences of an event or trend. It is a subjective and qualitative method based on the experience and knowledge of the participants. It requires a deep understanding of the analyzed problem domain, so that the generated future model is as accurate as possible.

Tahvanen, S. (2021). Advancing futures thinking in the real estate field. *Journal of European Real Estate Research*, Vol. 14 No. 1, 2021 pp. 150-166. DOI 10.1108/JERER-01-2020-0003.
Glenn, J.C. (2009). "The futures wheel", in Glenn, J.C. and Gordon, T.J. (Eds), *Futures Research Methodology*, Version 3.0. With support from the Rockefeller Foundation, Millennium Project

Main stages of Futures Wheel: 1

1. Determine the topic of the study (e.g., youth career planning). The main topic of the study can be determined top-down or based on the results of another method, such as the scenario method.

Main stages of Futures Wheel: 2

2. If you need to analyze the main topic from **different perspectives**, create **inspiration cards** of these different perspectives. An inspiration card is, for example, a self-created graphic or photograph or set of photographs, the purpose of which is to guide thinking very generally about a particular area (perspective). An example set of photographs from 4 areas (economic, technological, social, and environmental) is shown on the following slides.

Main stages of Futures Wheel: 2

Example of inspiration card in the category – **economy**



Photo by John McArthur on Unsplash

Main stages of Futures Wheel: 2

Example of inspiration card in the category – **society**



Photo by mostafa meraji on Unsplash

Main stages of Futures Wheel: 2

Example of inspiration card in the category – **technology**

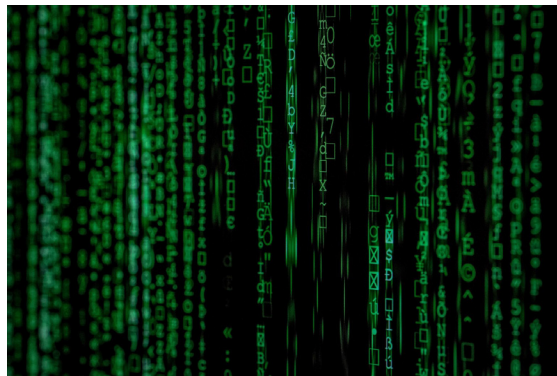


Photo by Markus Spiske on Unsplash

Main stages of Futures Wheel: 2

Example of inspiration card in the category – **ecology**



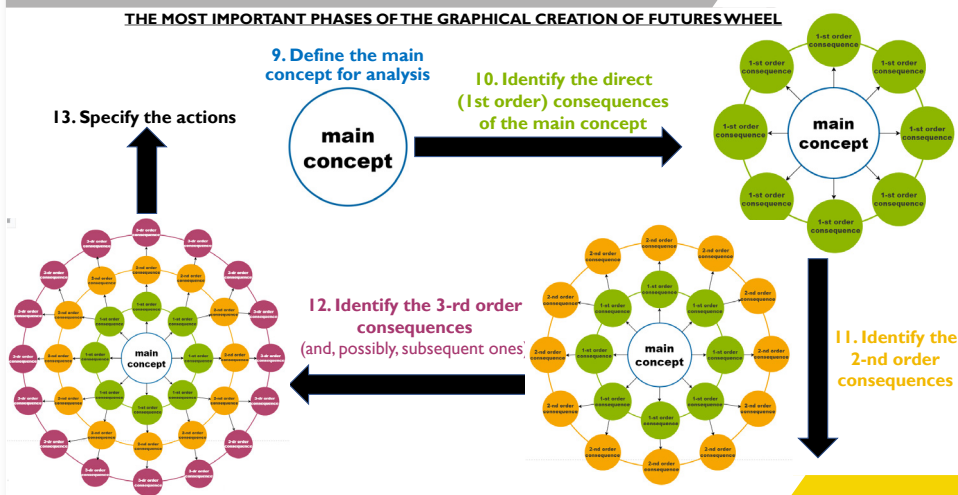
Photo by Jan Kopřiva on Unsplash

Main stages of Futures Wheel: 3-8

3. Select a moderator
4. Select a group (6-8 people) to participate in the research, which will generate the main results
5. Depending on the available infrastructure (research location – building, room, etc.), choose the equipment: e.g. big piece of paper, post-it pads, a flip chart, blackboard, on a computer with video projector, or in software.
6. Introduce the group to the problem under investigation and to the inspiration cards.
7. Explain to the group the idea, stages and purpose of the futures wheel method. Specify the time horizon to which the consequences identified by the group will "move".
8. Explain, e.g. through a moderator, the general principles of the brainstorming technique by which the futures wheel will be conducted

Main stages of Futures Wheel: 9-13

THE MOST IMPORTANT PHASES OF THE GRAPHICAL CREATION OF FUTURES WHEEL



Main stages of Futures Wheel: 9

9. In the middle of the field (sheet / board), the moderator enters in a circle the main concept (question / issue), based on the topics discussed in the first stage, that will be the subject of the study

Define the main concept for analysis

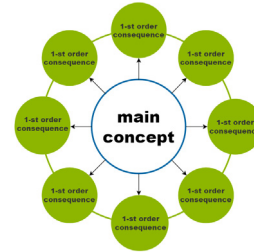


Main stages of Futures Wheel: 10

10. The moderator asks the group to propose (on the basis of free associations, in accordance with the principle of brainstorming) direct effects (1-st order) of the analyzed issue. The moderator writes down the first-degree effects on the diagram in the form of circles that are directly related to the central theme.

Identify the direct (1st order) consequences of the main concept

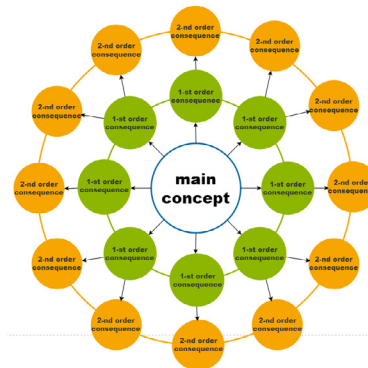
!!! It is important NOT to consider the probability of an effect when adding it to the diagram. The only question is whether the effect CAN occur !!!



Main stages of Futures Wheel: 11

11. The moderator asks the group to propose the 2nd degree effects (2nd order), which are indirect to the analyzed issue, but are direct to the 1st degree effects. The moderator writes down the second degree effects on the diagram in the form of circles that are directly related to the first degree effects.

Identify the 2-nd order consequences

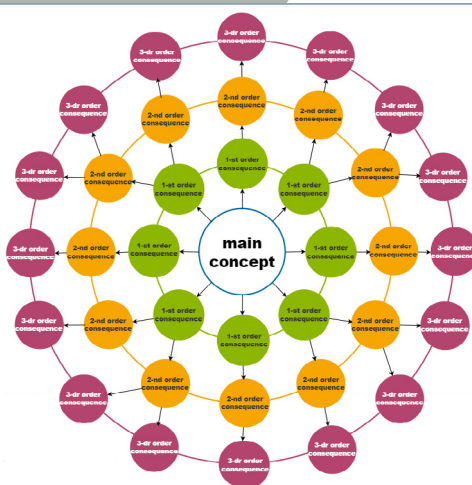


Main stages of Futures Wheel: 12

12. The moderator asks the group to propose 3rd degree effects (3rd order), which are indirect to the analyzed issue and 1st degree effects, but have a direct character in relation to 2nd degree effects. The moderator writes down the third degree effects on the diagram in the form of circles that are directly related to the second degree effects.

Identify the 3-rd order consequences (and, possibly, subsequent ones)

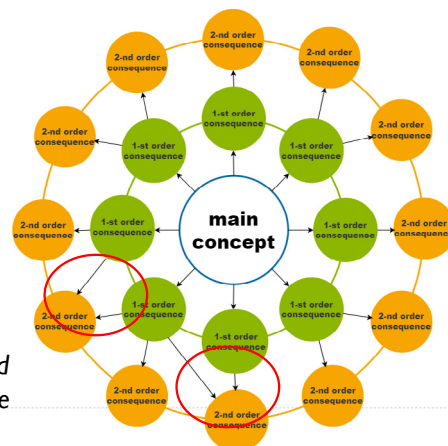
!!! The consequences of the successive order must be identified until further consequences can be identified !!!



Main stages of Futures Wheel: 13

13. Define specific actions to be performed based on the identified consequences. Based on the futures wheel results, it is possible to create one or more alternative scenario narratives based on a sequence of selected consequences.

Specify the actions



Remember that any consequences of the 2nd and 3rd order may depend on more than one higher tier consequences

4. PRACTISE YOUR PATHWAYS

The following steps have been formulated on the basis of the teaching experience of the FUTURES project implementers (many of whom are didacticists in the field of futures studies) and on the basis of publications by Glenn, J.C.²⁰ and Heinonen, S., & Ruotsalainen, J.²¹

1. Determine the topic of the study. The main topic of the study can be established based on the results of another method, e.g. scenario method, environmental scanning²², STEEP(VL).

In order to avoid domain dominance by individuals representing different backgrounds, it is worth making participants aware of the need to consider a wider range of consequences/impacts/perspectives in selected areas, e.g. economic, environmental,

²⁰ J. C. Glenn, *The futures wheel...*, op. cit.

²¹ S. Heinonen, J. Ruotsalainen, *Futures Clinique...*, op. cit.

²² M. A. Rostek, *Institutionalizing futures thinking...*, op. cit.





social, technological, etc. These sectors/areas should be determined by the objectives of the analysis, but should be as broad as possible as well²³.

2. If you need to analyse the main topic from different perspectives, create “inspiration cards” of different categories for related topics – optional. An inspiration card is, for example, a self-created graphic or photo or set of photos. An example of a simple set of photographs from the 4 areas (economic, technological, social and environmental) might look like in Fig. 6.
3. Select a moderator.
4. Select a group (6-8 people) to participate in the research, which will generate the main results.
5. Depending on the available infrastructure (research location – building, room, etc.), choose the equipment: e.g. big piece of paper, post-it pads, a flip chart, blackboard, on a computer with video projector, or in software.
6. Introduce the group to the problem under investigation and to the inspiration cards.
7. Explain to the group the idea, stages and purpose of the futures wheel method. Specify the time horizon to which the consequences identified by the group will “move”.
8. Explain, e.g. through the moderator, the general principles of the brainstorming technique by which the futures wheel will be conducted.



Fig. 6. Examples of “inspiration cards”

Source: <https://unsplash.com>

9. In the middle of the field (sheet/board), the moderator enters in a circle the main concept (question issue) – Fig. 7, based on the topics discussed in the first stage, that will be the subject of the study.

²³ J. C. Glenn, *The futures wheel...*, op. cit.

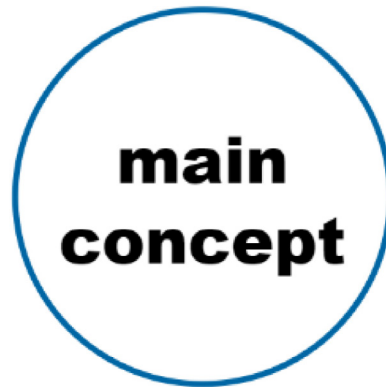


Fig. 7. Main circle with the main concept of the futures wheel

Source: own study with the use of the visual paradigm software, <https://online.visual-paradigm.com/>

- 10.** The moderator asks the group to propose (on the basis of free associations, in accordance with the principle of brainstorming) direct effects (1st order) of the analysed issue. The moderator writes down the first-degree effects on the diagram (Fig. 8) in the form of circles that are directly related to the central theme. It is important NOT to consider the probability of an effect when adding it to the diagram. The only question is whether the effect CAN occur. A ring can be drawn connecting the main consequences of the first order.

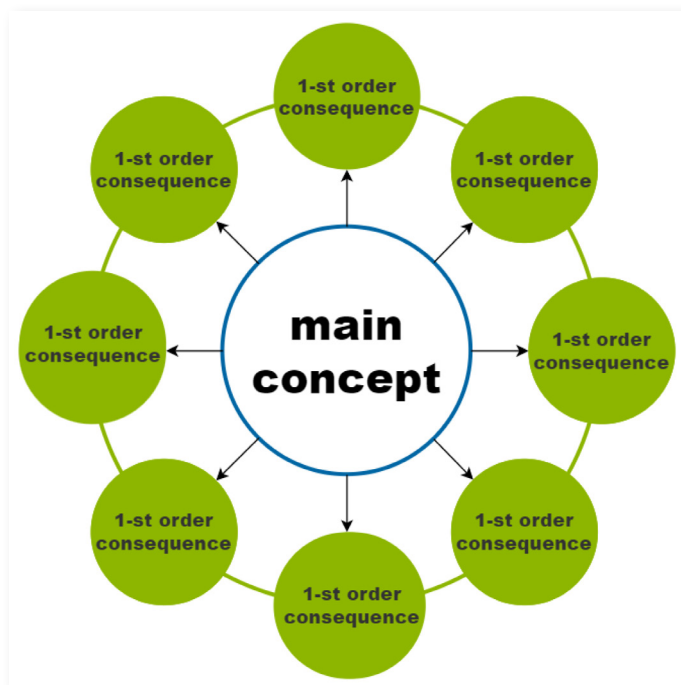
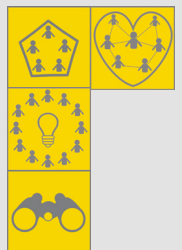


Fig. 8. Diagram of 1st order consequences in the futures wheel

Source: own study with the use of the visual paradigm software, <https://online.visual-paradigm.com/>

- 11.** The moderator asks the group to propose the 2nd degree effects (2nd order), which are indirect to the analysed issue, but are direct to the 1st degree effects. The moderator





writes down the second degree effects on the diagram (Fig. 9) in the form of circles that are directly related to the first degree effects. A ring can be drawn connecting the main consequences of the 2nd order.

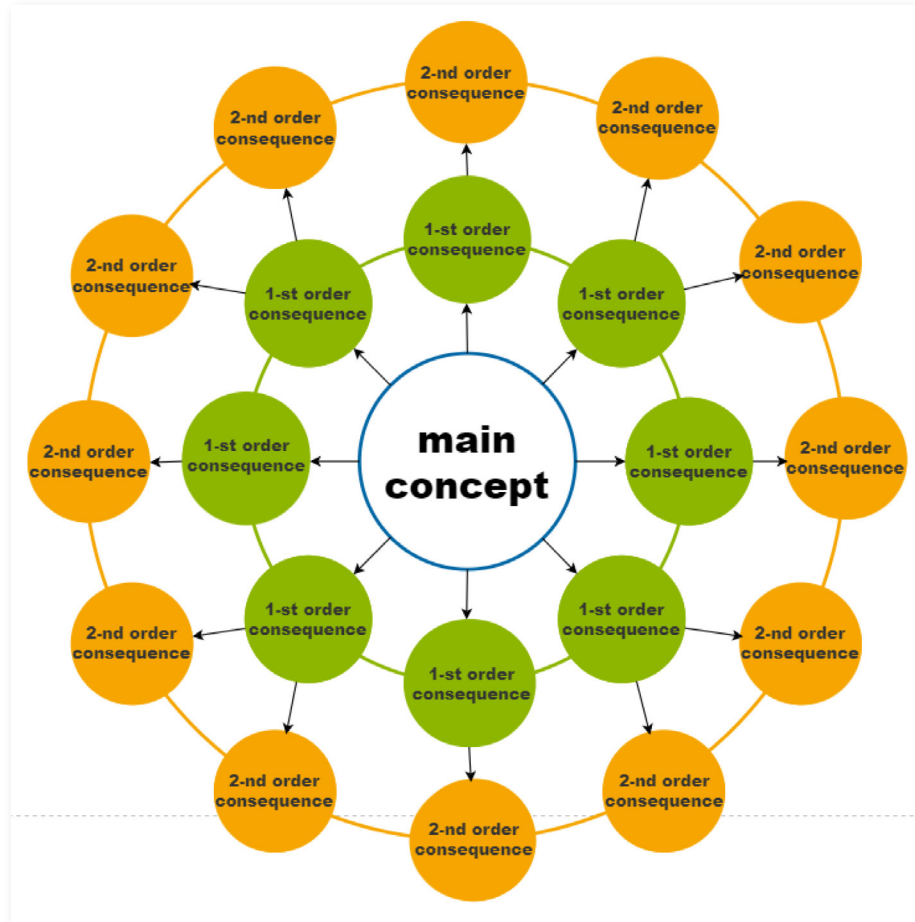
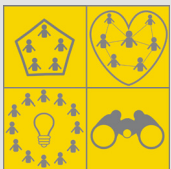


Fig. 9. Diagram of 2nd order consequences in futures wheel

Source: own study with the use of the visual paradigm software, <https://online.visual-paradigm.com/>



12. The moderator asks the group to propose 3rd degree effects (3rd order), which are indirect to the analysed issue and 1st degree effects, but have a direct character in relation to 2nd degree effects. The moderator writes down the third degree effects on the diagram (Fig. 10) in the form of circles that are directly related to the second degree effects. A ring can be drawn connecting the main consequences of the 3rd order.

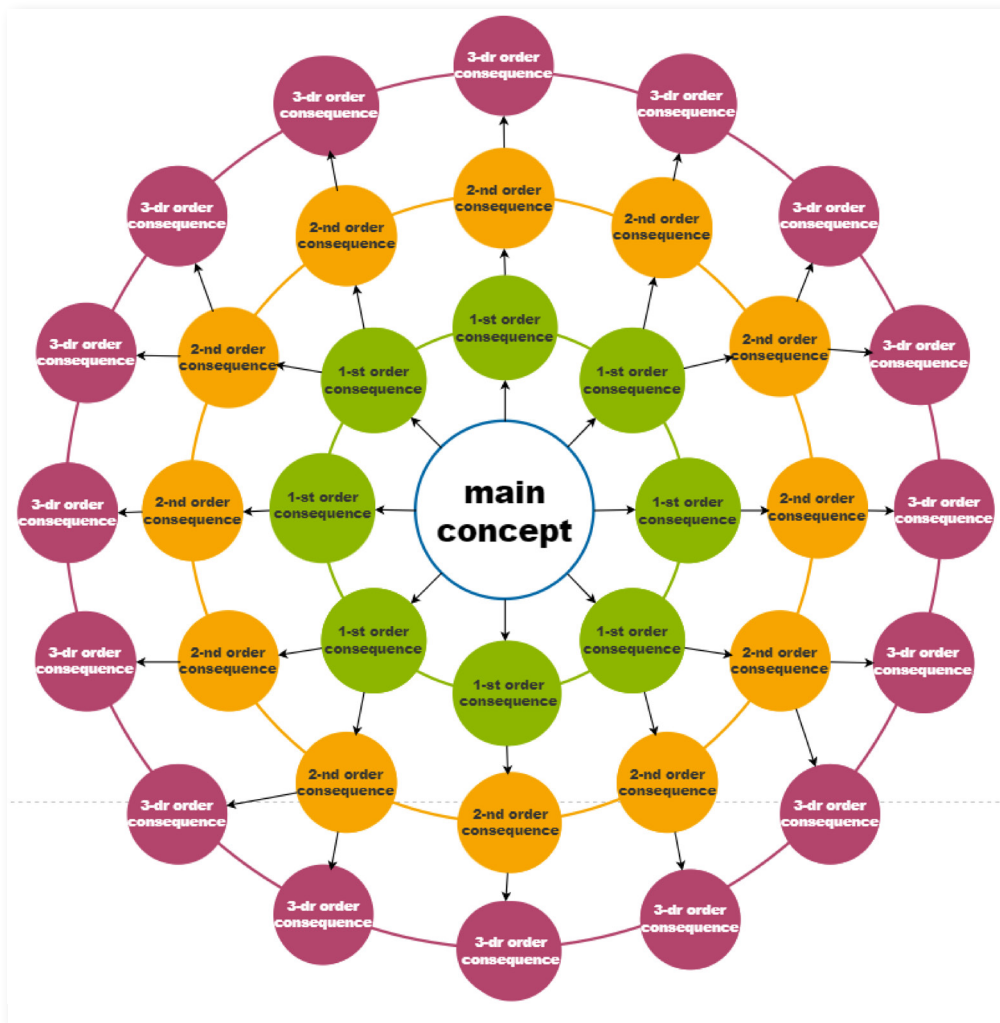


Fig. 10. Diagram of 3rd order consequences in the futures wheel

Source: own study with the use of the visual paradigm software, <https://online.visual-paradigm.com/>

The whole diagram can be created in two versions. The first version allows for writing proposals of impacts in the diagram and having them edited and critiqued by the group during the whole meeting to get final proposals. In the second case, a draft version of the diagram is created at the beginning. Then, in consultation with the group (based on their evaluations and suggestions), it is necessary to group/classify the suggestions (especially if there are many of them) and to eliminate absurd ones. Then, the final version of the diagram is created, taking into account the grouped categories of the identified impacts.

Next, using different contexts, the moderator must write each consequence into the area of the specific context, as illustrated in Fig. 11.



Fig. 11. Futures wheel with a division into 4 contexts

Source: own study with the use of the visual paradigm software, <https://online.visual-paradigm.com/>



- Define specific actions to be performed based on the identified consequences. Based on the futures wheel results, it is possible to create one or more alternative scenario narratives based on a sequence of selected consequences.

Case study from the workshop conducted in April 2021 as part of the “Futures” project.

One part of the workshop was devoted to the development of the futures wheel for the purposes of planning a career path for young people.

Referring to the futures wheel methodology presented above, the individual stages were as follows:

- The general topic of the study – labour market.

The main topic of the study was established on the basis of the result of the scenario analysis and de Bono’s 6 hats method carried out earlier (as part of the FUTURES project). The considered scenario was the “*High level of work virtualization. Dominance of young people among the professionally active*” – a full description of the scenario

method can be found in training session 2. Due to limited resources, i.e. time and conducting the workshops on-line, inspiration cards were not included.

2. The moderator was one of didactic employees at BUT (one of the representatives of the FUTURES project consortium). This person has extensive experience in the field of futures studies.
3. The group was composed of young people – students.
4. Due to the pandemic situation, the research infrastructure was based on a virtual environment. The main communication medium was the MS Teams software.
5. The moderator introduced the studied problem to the group.
6. The moderator explained the idea, stages and purpose of the futures wheel method. The time horizon was set for the year 2040.
7. The moderator explained the general principles of the brainstorming technique by which the futures wheel was developed.

The main concept was the title of the mentioned scenario, i.e. “young workers in the virtual world”. The method, through brainstorming, enabled participants to identify the futures of 1st order (direct) and 2nd order (indirect) consequences of the evaluated issue/problem. The results of the method were dynamically prepared and presented graphically in the form of network connections (futures wheel) (Fig. 12).

The list of 1st order (Roman numerals) and 2nd order (Arabic numerals) consequences is as follows:

- I. Virtualisation of work organisation:
 1. Ensuring adequate IT infrastructure;
 2. Distance is not a limitation;
 3. Instability of employment forms (gig economy);
 4. Improvement of the natural environment;
 5. Increase in civilisation diseases;
 6. Flexibility of work forms.
- II. ICT-oriented education:
 1. New educational reform;
 2. Social dependence on ICT;
 3. Liquidation of many professions.
- III. Cyberisation:
 1. Increase in work efficiency;
 2. Technological exclusion of the poor and opponents of digitisation;
 3. Minimising psycho-physical limitations.
- IV. Changing leisure time activities:
 1. New hobbies, new passions;
 2. Blurring the line between free time and home office.
- V. New dimension of social relations:
 1. Social alienation;
 2. Increased interest in mental health in response to problems generated by new technology;
 3. VR as a new public meeting space.

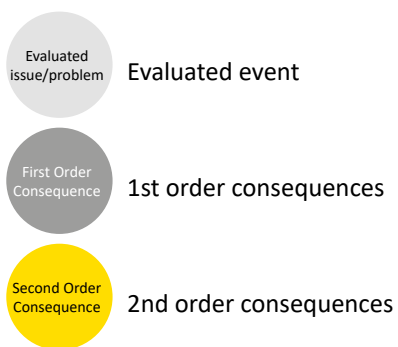
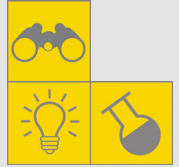


Fig. 12. Futures wheel from workshop conducted under project FUTURES in April 2021

5. USEFUL AREAS OF EXPERTISE/EXPERTS (OPTIONAL)

Other examples of methods with which the futures wheel can be combined include²⁴:

- trend impact analysis – the futures wheel can help identify and understand the primary, secondary and tertiary consequences of a trend or event;
- cross-impact analysis – the futures wheel can help identify more significant trends underlying the originally identified forces of change;
- genius forecasting and other intuitive methods – the futures wheel can give some structure to seemingly random thinking and speculation. It allows the mind to think freely, moving from one consequence to the next, leaving a trail of thought for later analysis;
- causal layered analysis – the futures wheel can help you better understand the variety of views of the future.



6. RECOMMENDATIONS FOR VIRTUAL FORM (OPTIONAL)

The presented materials can be used in the form of traditional workshops or meetings conducted in a virtual form. In the case of a virtual form, you can use platforms such as MS Teams or Zoom. It must be remembered that the virtual form requires the participation of a moderator to fill in the template, visible online for all participants. You can create your own visualization of the Futures Wheel template, for example using the MIRO application

7. RECOMMENDED SUPPLEMENTARY RESOURCES

For more examples or further reading you may find useful:

1. The Mind Tools content team, The Futures Wheel, Identifying Consequences of a Change, <https://www.mindtools.com/pages/article/futures-wheel.htm>
2. Professor Leon Fuerth discusses the Futures Wheel and its use with Forward Engagement, in a video produced by Olivia Hallihan - <https://www.youtube.com/watch?v=FFMvIUzSWyc>
3. What is the FUTURES WHEEL? What does the FUTURES WHEEL mean? The FUTURES WHEEL meaning & explanation - <https://www.youtube.com/watch?v=P74G8RiGnt4>
4. Imagine FutureEd: How-To Video Futures Wheel - https://www.youtube.com/watch?v=J36sNnSo_Os

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1. Toivonen, S. (2021), *Advancing futures thinking in the real estate field*. Journal of European Real Estate Research. Vol. 14 No. 1, 2021 pp. 150-166, DOI 10.1108/JERER-01-2020-0003.
2. Glenn, J.C. (2009), *The futures wheel*, [in:] Glenn, J.C. and Gordon, T.J. (eds.), *Futures Research Methodology*, Version 3.0. With support from the Rockefeller Foundation. Millennium Project,
3. Ramasubramanian, L., & Albrecht, J. (2018), *Planning Grand*, [in:] *Essential Methods*

²⁴ J. C. Glenn, *The futures wheel...*, op. cit.

- for Planning Practitioners* (pp. 79-86). Springer, Cham.
4. Heinonen, S., & Ruotsalainen, J. (2013). *Futures Clinique—method for promoting futures learning and provoking radical futures*. *European Journal of Futures Research*, 1(1), 7.
 5. Rostek, M.A. (2019), *Institutionalizing futures thinking in the Canadian army*, [in:] *Futures Thinking and Organizational Policy* (pp. 225-245). Palgrave Macmillan, Cham.
 6. Daffara, P. (2020), *Applying the Futures Wheel and Macrohistory to the Covid19 Global Pandemic*. *Journal of futures studies*, 25(2), 35-48.
 7. Hines, A. (2020), *Evolution of framework foresight*.
 8. Shakweer, A., & Youssef, R. M. (2007), *Futures studies in Egypt: water foresight 2025*. *Foresight*, Vol. 9 No. 4, pp. 22-32.
 9. Gordon, T.J., & Glenn, J. (2018), *Interactive scenarios*, [in:] *Innovative research methodologies in management* (pp. 31-61). Palgrave Macmillan, Cham.

TRAINING SESSION 5: FORCE FIELD ANALYSIS

1. OBJECTIVE

This session aims at learning how to support the analysis of visions for changes that are implied by the futures scenarios. You will learn how to structure the brainstorming outcomes on visions for change that will help you to project your personal or professional pathway. You will learn how to apply Force Filed Analysis into change vision analysis for self-development. The results of the analysis are helpful to make a decision about the change or create the desired vision of this change. Alternatively, you can use your analysis to think about how you can strengthen the forces that support the future change and weaken the forces opposing it so that the change is more successful.



2. THEORETICAL INTRODUCTION

Force Field Analysis (FFA) is a tool that origins from the Force-Field Theory developed by Kurt Lewin. The theory assumes that every behaviour (for example, an employee in a team, a family member, or a group in an organisation) is a result of two types of forces: driving and inhibiting²⁵. It explains how any situation is the result of all the different interacting and interdependent elements/actors that are concerned. A driving force can lead to an increase in performance, but in some cases, it can also lead to an increase in inhibiting forces. The principle of coexistence of inhibiting and driving forces is crucial in the process of change: every pressure to change behaviour is accompanied by natural forces to maintain the status quo and resist the introduction of new behaviour patterns. Knowledge of this mechanism and taking into account its existence is the basis for planning an effective program of change implementation.

Force Field Analysis was created by Kurt Lewin in the 1940s. as a systemic method for enhancing the management of change by generating a tactical approach²⁶. The technique aims to visually identify and analyse key forces affecting a problem situation. The ability, intention, or “tendency” of an element/actor to influence the situation is called its “force”. And a “field” means the entire picture of a situation, a problem, or a change considered. The forces of different elements/actors may vary in intensity and direction. The “force field” is thus the relative “distribution of forces” of the concerned elements/actors that determine a situation at any given point²⁷. The method is simple and has a visual character, which makes it suitable both for group and individual work (Fig. 13).

²⁵ D. Cartwright, (ed.), *Field theory in social science: Selected theoretical papers by Kurt Lewin*, Harper & Brothers Publishers, New York, 1951.

²⁶ A. H.N. Mak, R. C.Y. Chang, *The driving and restraining forces for environmental strategy adoption in the hotel Industry: A force field analysis approach*, *Tourism Management* 2019, Vol. 73, pp. 48-60.

²⁷ K. Lewin, *Constructs in field theory*, [in:] D. Cartwright (ed.), (1951), *Field theory in social science: Selected theoretical papers by Kurt Lewin*, pp. (30-42), Harper & Brothers Publisher, New York.

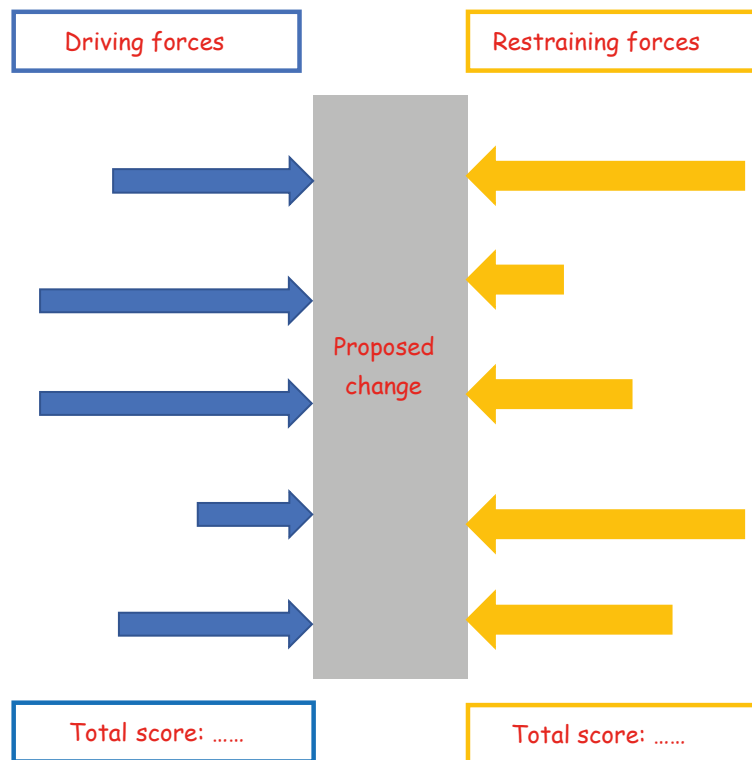


Fig. 13. The idea of Force Field Analysis

Source: own study.

The idea behind Force Field Analysis is that each situation can be perceived as a temporary equilibrium between forces that drive change and others that resist change, as shown in Fig. 13. To make a change or decision, the driving forces must be strengthened or the resisting forces weakened²⁸. The arrow lengths (Fig. 13) represent the strength of the force.

Five main steps of the FFA are presented in Fig. 14.

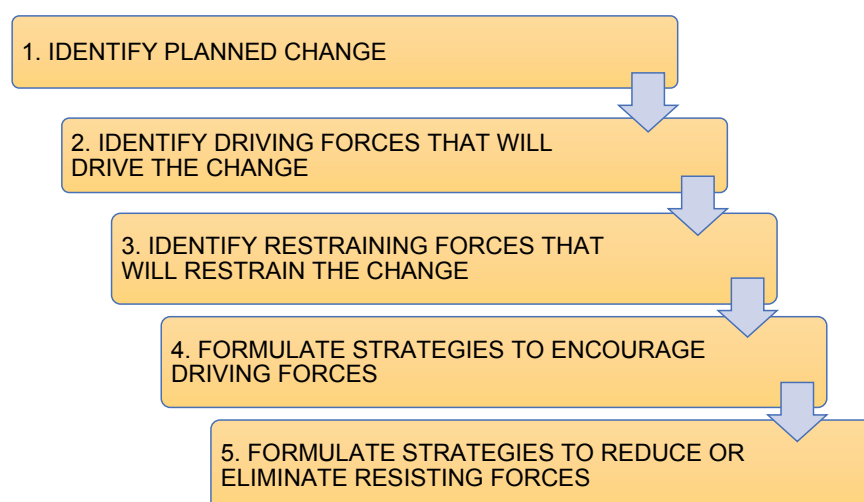


Fig. 14. Main steps of Force Field Analysis

Source: own study.

²⁸ S. Kumar, *Force field analysis: applications in PRA*, PLA Notes 1999, No. 36, pp. 17-23.

Force field analysis is typically used in organisational management to facilitate an in-depth understanding of the forces for and against change, thereby enabling the formulation of strategies for effective change management. FFA is considered an effective tool for identifying the “headwinds” acting against and “tailwinds” pushing for lasting organisational change. According to Lewin, behaviour in an institutional setting is not static but is a dynamic balance of forces working in opposite directions. Accordingly, if a change is to be successfully implemented, it is important to identify the driving forces that will support the change as well as the restraining forces that will inhibit the change. Lewin originally used it in his work as a social psychologist. Today, however, it has been used in diverse fields ranging from organisational change to self-development.

What are Force Field Analysis advantages? To start with...

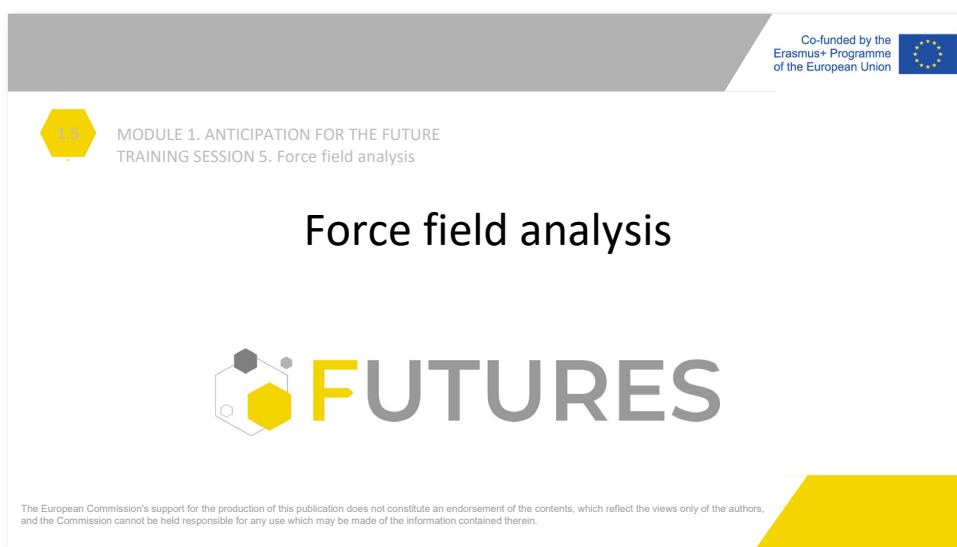
- It presents the positives and negatives of a situation so they are easily comparable.
- It allows you to see the broad determinants of changes.
- It considers all aspects of making the desired change.
- It allows you to predict the factors that should be considered in the implementation phase.
- It can point out helpful measures to solve the problem.


... and surely many others.

To develop future-oriented skills the method presented above may be applied to analyse changes and decisions that future visions imply, assuming that certain scenarios of the future are described. In the next sections, it is explained how the method should be carried out in this context.

3. PRESENTATION ABOUT THE TOPIC (E-LEARNING)


You may use the presentation below to carry out a training session focused on Force Field Analysis for a vision of future-oriented change.

The slide is titled 'Force field analysis' and is part of a training session. It includes the 'FUTURES' logo, a reference to the Erasmus+ Programme, and a disclaimer at the bottom.

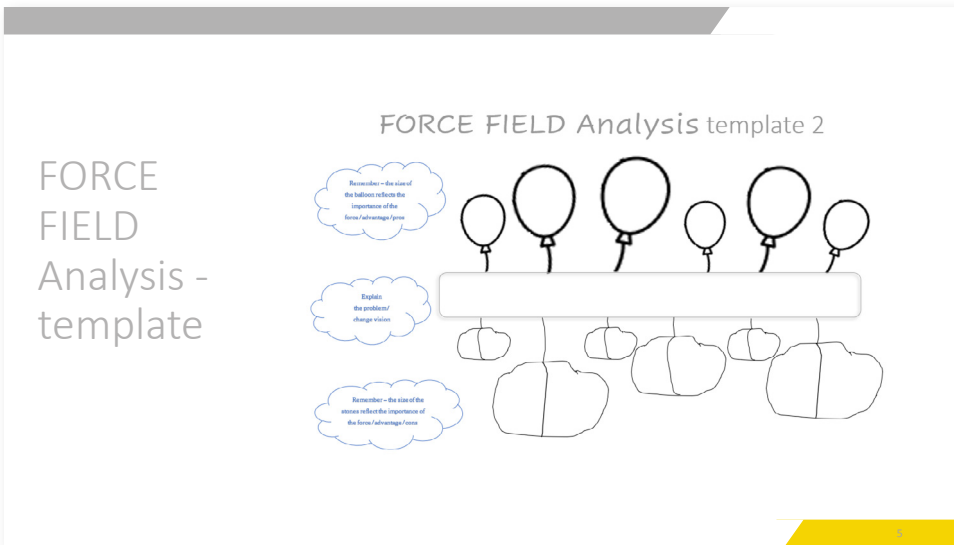
Co-funded by the Erasmus+ Programme of the European Union 

1.5 MODULE 1. ANTICIPATION FOR THE FUTURE
TRAINING SESSION 5. Force field analysis

Force field analysis



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FORCE FIELD Analysis – Step 1

Defining the change vision

Name the change and describe its purpose

idea



FORCE FIELD Analysis – Step 2


Identifying Forces For Change Vision


Think about the kinds of forces that are driving change

Supporting questions:

- ❖ What personal benefit will the change deliver?
- ❖ Who supports the change?
- ❖ Do you have the resources to make the change work?

idea





FORCE FIELD Analysis – Step 3

Identifying Forces Against Change

Brainstorm the forces that resist or are unfavorable to change.

Supporting questions:

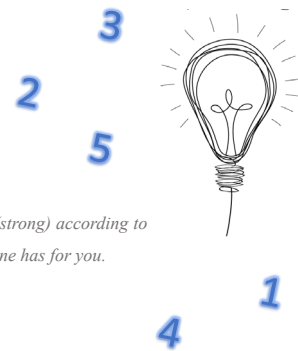
- ❖ What kind of resources do you lack to make the change work?
- ❖ Who is against the change?
- ❖ What do you fear most if you think about the change?
- ❖ What is the cost of the change (time, money, consequences)?



FORCE FIELD Analysis – Step 4

Scores Assigning (weighting)

Score each force, from, e.g. 1 (weak) to 5 (strong) according to the degree of influence or importance each one has for you.



FORCE FIELD Analysis – Step 5

Analyzing and applying

Decide whether or not to move forward with the decision or change

Supporting questions:

- ❖ Which forces prevail?
- ❖ Which supportive forces you can strengthen?
- ❖ Which opposing or resisting forces you can weaken?
- ❖ How to make the change more successful?



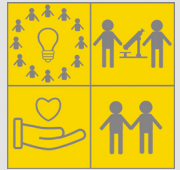
Guidelines to the teacher/trainer:

- Write or draw the desired change vision which the group of participants wants to discuss on a sheet of paper. Try to make the problem as quantifiable as possible.
- Keep the sheet of paper with the future change vision written/depicted on it in front of the participants and ask them to concentrate on the vision. Ask them to visualise the problem situation in a state of temporary equilibrium maintained by two sets of opposing forces – one favouring change (driving forces) and the other opposing them (restraining forces). Using the templates can be helpful.
- Ask participants to list one set of forces first followed by the other. Each of these can be written/depicted on small sticky cards. Different colour cards can be used for driving and restraining forces. Clarify that if a force seems to be made of multiple elements, each component should be listed separately as a force. The use of cards is more flexible than simply listing forces on a sheet of paper. They can also create a more participatory discussion, as with cards, writing/drawing can be done by many, and control is not in the hands of one person.
- Keep the sheet of paper with the future change vision written on it in the centre and draw a line across it. Spread the cards with restraining forces below the line and those with driving forces above the line (as balloons and stones in template 2). Or draw a line vertically and spread the cards with restraining forces on the right side of the line and those with driving forces on the left side of the line.
- Ask the participants to look at the cards and see if they would like to make any changes.
- Next, ask the participants to assign weights to each of the forces. They should position each force card at varying distances from the vision line/present status line in such a way that the distance denotes the strength of the force. The greater the distance, the greater the perceived effect of the force on the problem.
- Check if the participants are satisfied with the diagram, then ask them to discuss how they can change the situation. Which of the driving forces can be reinforced and which restraining forces can be diminished?
- Brainstorming techniques can be used here. Smaller cards preferably of different colours can be used to write down possible interventions for each of the driving/restricting forces to increase/reduce its magnitude. Each of the possible interventions can be further weighed in the light of various factors e.g. available resources, time, ideology of the organisation, etc. The idea is generally to capitalise on those that would bring the greatest change.
- Copy the diagram onto a piece of paper or board.

4. PRACTISE YOUR PATHWAYS

To carry out Force Field Analysis, prepare a blank sheet of paper or a whiteboard, or print one of the templates and follow five steps of the analysis. For some steps supporting questions are pointed out.

You may find a sticky piece of paper useful in this exercise. In template 1 – on the left (green column) write down the driving forces, and in the right column (red headline) write down inhibiting forces. In template 2 pay particular attention to the size of the balloons (representing driving forces) and stones (representing restraining forces). The larger the object, the greater

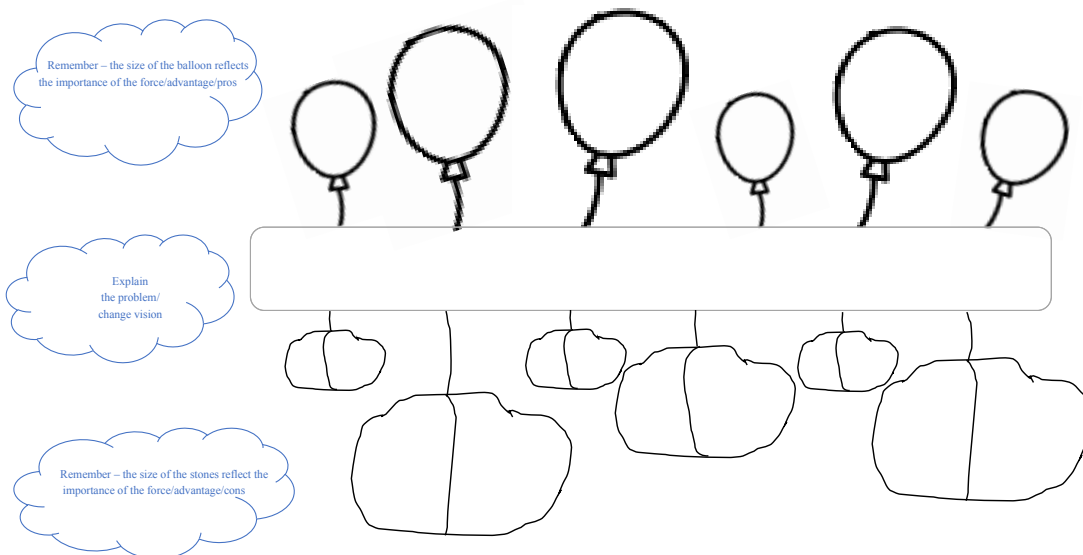


the force importance or influence on the change or desired vision of change.

FORCE FIELD ANALYSIS TEMPLATE 1

Score	Forces for change/ advantages/Pros	change vision	Forces against change/ disadvantages/Cons	Score
Total score:			Total score:.....	

FORCE FIELD ANALYSIS TEMPLATE 2



Step 1: Define the change vision and describe its purpose and/or desired state after the change

You should define your goal or vision for change, and write it down in a box in the middle of the page. Using template 1 write it down in the middle column, in template 2 – in the middle box. Identify what you want to change and do it precisely. Name the action you want to change. The scale of this action does not matter. It can be a simple action that you want to change in your life (e.g. responding to emails promptly) or a complex action (e.g. improving communication and cooperation with the company’s clients).

Step 2: Identify Forces For Change

Think about the kinds of forces that are driving change. Think about both internal and external factors of the change. Internal drivers could include: your natural skills or features, increasing your self-confidence, a need to increase your satisfaction, etc. Your external drivers could include your financial situation, friends, and family support.

Tips for this step: *Remember to write every single action on a separate form. It may happen that while filling in one form concerning a particular action, you will find that you need to fill in another form because you see not one but two/three actions that you want to change. It is important to identify as many factors that will influence the change as you can. Where appropriate, involve other people, such as friends, family members, co-workers, team members, etc.*

The following questions may help you identify forces that will influence the change:

- *What personal benefit will the change deliver?*
- *Who supports the change?*
- *Do you have the resources to make the change work?*



Tools such as the Futures Wheel, Impact Analysis, “What If” Analysis, Stakeholder Analysis, and Brainstorming²⁹ can also help with this step.

Once you have defined a force, write it down on the left side of the table (green cells) of template 1 or in the balloons or use a small sticky piece of paper to make notes and then later choose a proper place for this force.

Step 3: Identify Forces Against Change

Now brainstorm the forces that resist or are unfavourable to change. They may also have internal or external character. Internal resisters and restrainers could include fears of the unknown, and natural skills or features. External factors might be the cost of the change, your obligations toward others, or technical, logistic, or organisational aspects of the change.

Tips for this step: Remember to write every single action on a separate form. It may happen that while filling in one form concerning particular action, you will find that you need to fill in another form because you see not one but two/three actions that you want to change. It is important to identify as many factors that will inhibit the change as you can. Where appropriate, involve other people, such as friends, family members, co-workers, team members, etc.

The following questions may help you to identify forces that will restrain the change:

- What kind of resources do you lack to make the change work?
- Who is against the change?
- What do you fear most if you think about the change?
- What is the cost of the change (time, money, consequences)?

Step 4: Assign Scores (weigh the importance)

Next, score each force, from e.g. 1 (weak) to 5 (strong) or from 1 to 7 according to the degree of influence each one has on the change. For example, if the force is a strong driver, it significantly facilitates the change. If the restraining force is strong, it means that it makes the change almost impossible to happen. The rates can be also somewhat “distributed” among forces – namely, you should assess them while giving consideration to the others. You may also use plus-minus signs to stress the positive or negative influence of the force.

For a visual representation of the influence that each force has, you may draw arrows around them. Use bigger arrows for the forces that will have a greater influence on the change, and smaller arrows for forces that will have a weaker influence. Based on template 2, use the size of balloons and stones to represent the importance of the force or influence on the change.

Step 5: Analyse and Apply

Now you can decide whether or not to move forward with the decision or change.

Tips for this stage: You may determine if the chosen solution is feasible. If YES – prepare an action plan (precise definition of actions: who? what? what? when? where?). If NO – look for another solution.

Supporting questions:

- Which forces prevail?
- Which supportive forces can you strengthen?
- Which opposing or resisting forces can you weaken?
- How to make the change more successful?

²⁹ You may find more information about these methods in other chapters of our manual or e.g.: <https://www.mindtools.com/pages/article/futures-wheel.htm>

CASE STUDY:

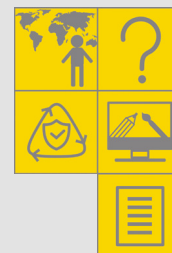
Mr. Young is 20 years old and studies English philology. He planned to be a teacher and English interpreter. However, during the future scenario workshop, he discovers that the scenario “Youth in the virtual world” seems to be more desired and most probable for the 2040 labour market. This means that his job may no longer exist in 10 or 20 years and in his 40s he might be facing unemployment (due to advance technology in translating and teaching). Therefore, he considers the current gaining of new skills in e-marketing or Internet marketing as he is also good with words and has some artistic skills. But he is not at all familiar with graphical software or marketing. So the only way to get new competences is to take up a new course of study in the field of e-marketing or internet marketing. He applies FORCE FIELD ANALYSIS to have a more in-depth understanding of the situation and make this decision.

He uses template 1 for this exercise. First, he formulates the change vision as: “Enhance skills and competences in Internet marketing” and places it in the middle column of the table. Then he discusses the forces for and restraining this change with his family and friends so that he has the entire picture of this situation. He writes down ideas (forces) and thinks about them – which force they represent. In some cases, after a certain idea is given reconsideration, it appears to be a different kind of force (e.g. living longer with parents). He writes down forces on the template and assesses the importance of each of them. The results of his work are presented in Tab. 2.

Tab. 2. Example of use of force field analysis

Score	Forces for change/ advantages	vision of change	Forces against change/ disadvantages	Score
4	I like to learn and take up new challenges	Enhance skills and competences in Internet marketing	I am techno-skeptic, don't like working with technology, and prefer social meetings that computer work	5
2	My friends or family are willing to help		Gaining new knowledge (study marketing) is costly and time-consuming	3
3	I am good with words and have some artistic skills – which should be helpful in marketing		I have an old and slow computer, probably not compatible with highly demanding graphical software	2
			I'd have to stay with my parents for the next few years	4
5	Having 2 possible professional pathways makes me feel more safety		The nearest school offering recommended courses are 2-hour way (by public transport) from my place	3
Total score: 14			Total score: 17	

Source: own study.



The forces that inhibit change prevail. So now Mr. Young is thinking about weakening those forces and strengthening the forces that foster change. He has decided to look for financial programmes which support the development of new computer skills to weaken the forces representing costs. If he could finance his studies himself, he could also move out of his parents' house. In this case, two of five restraining forces are no longer relevant.

5. RECOMMENDATIONS FOR VIRTUAL FORM (OPTIONAL)

FFA may be easily conducted virtually. The main recommendations for virtual form include:

1. If the number of participants is large, one common way is to divide them into smaller groups and then ask them to work on the FFA separately.
2. While using platforms like MS Teams or Zoom, you may create separate rooms or meetings for each group. The findings can be later shared during the final meeting amongst the different groups.
3. Make sure that each group has an observer who is familiar with the FFA method and controls its progress.
4. For filling in the results of the analysis (forces, pros, and cons) you may use interactive boards like <https://miro.com/> or <https://whiteboard.fi/> or any other that can be shared in real-time).
5. Using templates facilitates conducting the training session.

6. RECOMMENDED SUPPLEMENTARY RESOURCES

For more examples or further reading you may find useful:

- Tutorials, e.g. on YouTube channel: <https://www.youtube.com/watch?v=pKR4uf74WWA>, <https://www.youtube.com/watch?v=eT0jyFQvRbQ> or any other
- Online toolbox, e.g. MindTools, https://www.mindtools.com/pages/article/newTED_06.htm, www.mindtools.com/rs/ForceField,
- Online diagram creators, e.g. 4 Amazing Force Field Analysis Examples (edrawsoft.com)
- Theoretical and practical guidelines:
 - online resources, e.g.: <http://www.managingforimpact.org/tool/force-field-analysis-1>; <http://www.mspguide.org/tool/force-field-analysis>;
 - scientific papers, e.g.: Kumar, S. (1999). *Force field analysis: applications in PRA*, PLA Notes No. 36, 17-23; Athena H.N. Mak, Richard C.Y. Chang, *The driving and restraining forces for environmental strategy adoption in the hotel Industry: A force field analysis approach*, Tourism Management, Vol. 73, 2019, pp. 48-60.

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TRAINING SESSION 6: SHAPING PERSONAL DEVELOPMENT AND CAREER PATH WITH THE USE OF THE SCAMPER METHOD



1. OBJECTIVE

The objective of the training session 6 is to explain the assumptions of the SCAMPER method and to indicate the possibilities of applying it to foster personal and professional development among young people and shape their future career path. Training session 6 includes theoretical content related to the fundamentals of the SCAMPER method as well as a proposal of a workshop, including tips for the implementation. You will learn how to apply the SCAMPER method to shape personal and professional development paths, taking into account predispositions, but also giving consideration for competency gaps in this area, in order to meet the challenges posed by the labour market in the future and the very likely scenario of widespread virtualisation and digitalisation of work performed mainly by young people.

2. THEORETICAL INTRODUCTION

Creative thinking and problem-solving are essential parts of the learning process to turn ideas into innovation in order to give ground to creativity. Forcing the mind to think in a specific flow can help innovative ideas to emerge, which will not be possible to reach using a regular thinking flow. Creative thinking and problem-solving can be considered abilities that can be learnt, taught and implemented in the process of considering, shaping and anticipating people's professional and personal development. It is claimed to be applicable in any field, thus it can be used in order to foster personal and professional development among young people.

The SCAMPER method of brainstorming was developed by Bob Eberle, an education expert, who described this technique in his 1971 book, titled *Games for Imagination Development*. He developed this method using the check-list created by Alex Faickney Osborn, founder of the Alex Osborn brainstorming technique. Eberle, inspired by Osborn's questions, aimed at reviving the ingenuity of brainstorming participants, created a structure in the form of the acronym SCAMPER abbreviated from the first letters of words: **S**ubstitute, **C**ombine, **A**dapt, **M**odify (also Magnify or Minify), **P**ut to another use, **E**liminate (also Elaborate) and **R**everse (also Rearrange) (Fig. 15). Eberle made the technique more pragmatic. The SCAMPER technique is claimed to be applicable in any field, thus, also to shape personal development as well as consider and plan the career path. It is claimed as useful not only in organisations and working groups, but also in conflict situations and even in situations of struggle for survival.

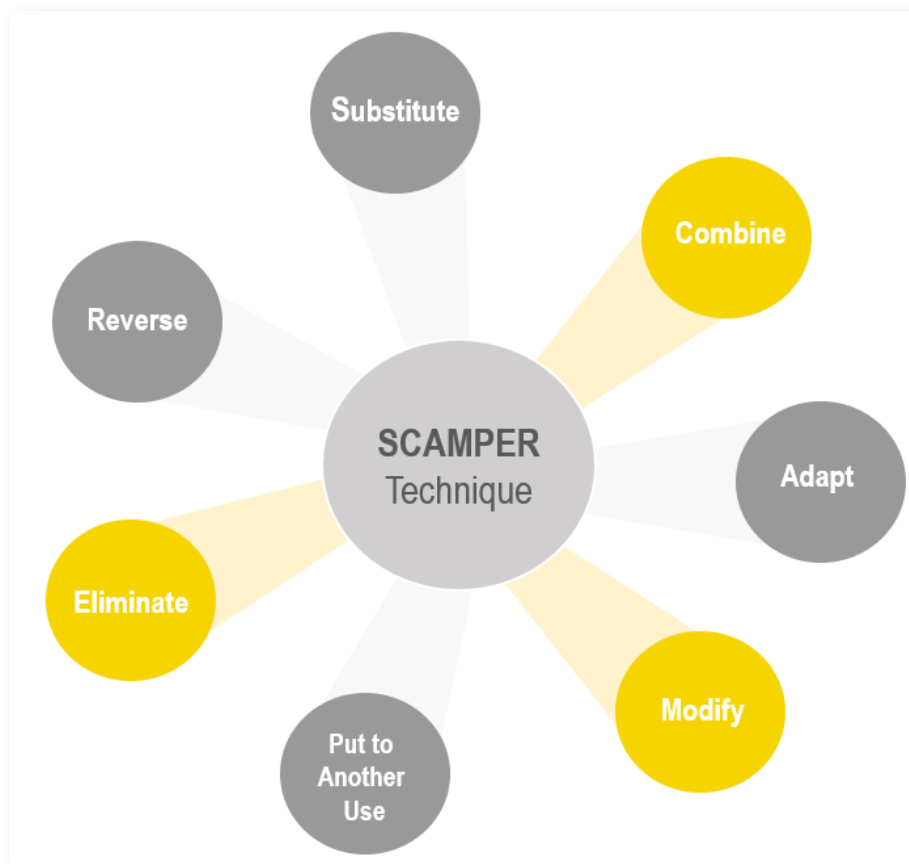


Fig. 15. Seven SCAMPER areas of considerations

Source: own study.

SCAMPER refers to a series of thought sparkers or provocations which help to innovate on an existing product, service or situation by looking through the seven different areas of consideration mentioned above. SCAMPER highlights seven thinking areas using targeted, thought-provoking questions and ideas to boost creativity and help to find innovative answers to problems. This method is based on the belief that all new products, services, ideas etc. are, in fact, modifications of the existing ones. SCAMPER is about carrying out seven steps that help you innovate them. As part of these steps, you should ask yourself as many questions as possible. The fundamental aim is to divert attention from the original purpose of the analysed solution.

How to use SCAMPER?

The first step while using the SCAMPER technique is defining the problem to solve or the idea to develop. The method is widely applicable, that is why it can be anything: a product, a service or a process to improve, a problem to solve (for example low level of product sales) or a challenge in personal life or business (i.e. poor academic performance, health problems, lack of an idea for vacation, etc.). Next, there is a round of questions based on the seven mentioned SCAMPER areas. For each topic, different questions can be useful (some examples are presented in Table 1). The most viable and feasible answers, constituting interesting ideas are collected and examined further. The common milestones of problem solving are (Fig. 16):

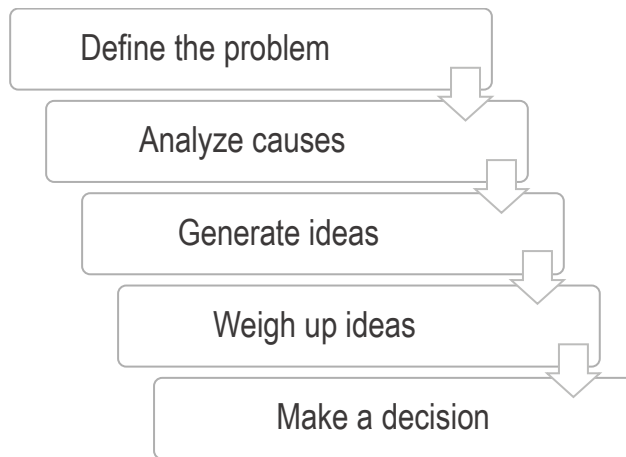


Fig. 16. Basic steps to solve the problem with the use of the SCAMPER technique

Source: own study.

The **SCAMPER** method helps you to generate ideas for new products, services, ideas, phenomena by encouraging to ask seven different types of questions which will help you understand how you can innovate and improve existing products, services, problems and ideas. This method is easy to start using and very efficient in **innovation** and ideation sessions, and aims to provide seven different thinking approaches to find innovative ideas and solutions. The SCAMPER method is based on the belief that all newly manufactured products, services or newly emerged ideas are, in fact, modifications of the existing ones. SCAMPER is about carrying out seven steps that help you innovate an existing product or service or rethink your beliefs, assumptions, expectation. To carry out the SCAMPER technique with an aim to rethink the considered idea/challenge you should try to analyse it taking into account the following areas (Tab. 3):

Table 3. SCAMPER technique steps' description and related questions

SCAMPER technique	Step description		Typical questions
SUBSTITUTE	Think about replacing part of the problem, idea with something else. You can change things: i.e., places, procedures, people, ideas, and even emotions.	<ul style="list-style-type: none"> • <i>Is there any substitute for your solution, idea?</i> • <i>What should you not change?</i> • <i>Has anyone worked on a similar idea?</i> • <i>Can I change my feelings or attitude towards it?</i> • <i>Is there a person I can emulate in this case and want to be equal?</i> 	
COMBINE	Analyse the possibility of merging two ideas in a single, more efficient output.	<ul style="list-style-type: none"> • <i>Can you combine completely different ideas?</i> • <i>How to achieve some synergy?</i> • <i>What ideas can you combine?</i> • <i>Is it possible to collaborate with other people?</i> 	

ADAPT	Think about adapting an existing idea to solve your problem.	<ul style="list-style-type: none"> • <i>Does the problem occur in a different, wider context?</i> • <i>What can be adapted to it?</i> • <i>How to improve the features of the idea?</i> • <i>Has anyone worked on a similar idea?</i> • <i>Is there a solution that we can copy and adapt to your idea?</i> 	
MODIFY	Think about ways to magnify or exaggerate your idea.	<ul style="list-style-type: none"> • <i>Can you add something? Enlarge? Increase the frequency?</i> • <i>Could the idea be simpler? What can be changed?</i> • <i>Can anything change the shape, formula?</i> 	
PUT TO ANOTHER USE	Think of how to put your current idea to other uses.	<ul style="list-style-type: none"> • <i>How could the idea be used?</i> • <i>What other target group could it be of benefit to?</i> • <i>How will the specific target group use it?</i> 	
ELIMINATE	Think of what might happen if you eliminate, simplify, minimise parts of your idea.	<ul style="list-style-type: none"> • <i>What happens if you get rid of the idea completely?</i> • <i>How to simplify an idea?</i> • <i>What parts of it can be eliminated?</i> 	
REVERSE	Think what to do if part of your problem worked in reverse or were done in a different order.	<ul style="list-style-type: none"> • <i>What idea is the reverse of yours?</i> • <i>Can you change the setting to completely random?</i> • <i>How to get the opposite effect to the intended one?</i> • <i>What would happen if we used a mirror image?</i> 	

Source: own study.

3. PRESENTATION ABOUT THE TOPIC (E-LEARNING)

The ability of creative thinking is an invaluable skill for young people, shaping their personal development, considering and planning their career path as well as designing their future. It is important because it helps to look at problems and situations from a fresh perspective. Creative thinking is a way to develop novel solutions that do not depend wholly on past or current solutions. It is a way of clearing your mind so that your thoughts and ideas can transcend what appears to be the limitation to a problem. Creative thinking is a way of moving beyond barriers. Creative thinking is the ability to think about something in a new way and is known as thinking outside the box, as it includes lateral thinking or the ability to perceive unclear patterns in something (slides 2-3).



Shaping personal development and career path with the use of Scamper method



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What is creativity?

„There is no doubt that creativity is the most important human resource of all. Without creativity, there would be no progress, and we would be forever repeating the same patterns“

Edward de Bono



Source: Polina Zimmerman from Pexels

Enhance your creative skills

„Creative thinking is not a talent, it is a skill that can be learnt. It empowers people by adding strength to their natural abilities which improves teamwork, productivity and where appropriate profits“.

Edward de Bono



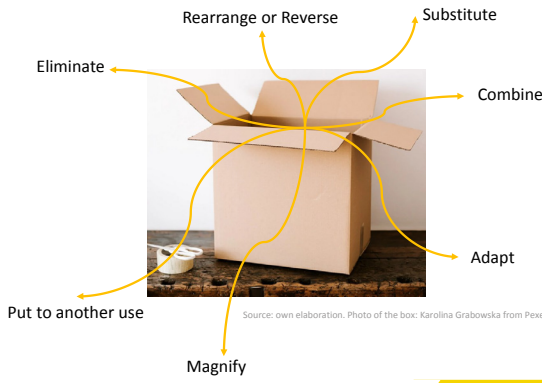
Source: Kaboompics.com from Pexels

While preparing to apply the SCAMPER creative method to consider personal development and your future career path, please use slides 5-6 to follow the main steps

of the analysis.

Using SCAMPER to think outside the box

- ✓ thinking based on the work of Alex Osborn and Bob Eberle
- ✓ designed to activate creativity in any field by swapping out ideas and comparing them to the status quo
- ✓ help people brainstorm new ideas more easily



Source: own elaboration. Photo of the box: Karolina Grabowska from Pexels

How to use SCAMPER?

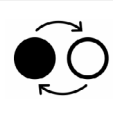
The common milestones of problem solving

- 1 Define the problem
- 2 Analyze causes
- 3 Generate ideas (assess alternatives)
- 4 Weigh up ideas (assess alternatives)
- 5 Make a decision (select a alternative)
- 6 Determine next steps to implement the solution
- 7 Evaluate whether the issue was solved

Source: own elaboration based on O. Serra, The SCAMPER Technique. In Knowledge Solutions. Springer, Singapore 2017

You can find explanations relating to the particular SCAMPER step as well as helper and typical questions, and trigger words in slides 7-13.

SUBSTITUTE



Think about replacing part of the problem with something else. You can change things, places, procedures, people, ideas, and even emotions.

Helper questions:

- ✓ *Is there any substitute for your idea?*
- ✓ *What should you not change?*
- ✓ *Has anyone worked on a similar idea?*
- ✓ *Can I change my feelings or attitude towards it?*
- ✓ *Is there a person you can emulate in this case and want to be equal?*

Trigger words: alternate, exchange, proxy, relieve, rename, repackage, replace, reposition, reserve, shape, swap, switch

ADAPT



Think about adapting an existing idea to solve your problem.
Bear in mind that all new ideas or inventions are borrowed to some degree.



Helper questions?

- ✓ *Does the problem occur in a different, wider context?*
- ✓ *What can be adapted to it?*
- ✓ *How to improve the features of the idea?*
- ✓ *Has anyone worked on a similar idea?*
- ✓ *Is there a solution that you can copy and adapt to your idea?*

Trigger words: adjust, alter, amend, become accustomed, bend, emulate, fit, get a feel for, get used to, incorporate, make suitable

MODIFY/MAGNIFY



Think about ways to magnify or exaggerate your idea.



Helper questions?

- ✓ *Can you add, change, increase something?*
- ✓ *Maybe enlarge? Increase the frequency?*
- ✓ *Could the process be simpler?*

Trigger words: amplify, augment, boost, enlarge, expand, extend, grow, heighten, increase, intensify, multiply, overemphasize, overstress

PUT TO ANOTHER USE



Think of how you might be able to put your current idea to other uses, or think of what you could reuse from somewhere




Helper questions?

- ✓ *How could the idea be used?*
- ✓ *If you knew nothing about it, would you figure out the purpose of this idea?*
- ✓ *Can you use this idea in other markets or industries?*

Trigger words: abuse, apply, bring into play, contextualize, deplete, employ, exercise, exhaust, expend, exploit, get through, handle, make use of, manage, manipulate, operate, reposition, source, spend

ELIMINATE



Think of what might happen if you eliminated or minimized parts of your idea. Simplify, reduce or eliminate components. 

Helper questions?


- ✓ *What happens if you get rid of this idea completely?*
- ✓ *How to simplify an idea?*
- ✓ *What parts of the idea can be eliminated?*
- ✓ *What is too much?*

Trigger words: abolish, disregard, exclude, exterminate, get rid of, limit, lower, reduce, reject, remove, restraint, restrict, shorten

12

REVERSE/REARRANGE



Think of what you would do if part of your problem, product or process worked in reverse or were done in a different order 

Helper questions?

- ✓ *How can you change the idea?*
- ✓ *What would happen if you reverse the idea?*
- ✓ *How can you rearrange the current status for better output?*
- ✓ *What if you consider it backwards?*

Trigger words: change, invalidate, postpone, readjust, rearrange, relocate, reorder, reorganize, reposition, reschedule

13


SCAMPER method – McDonald's example


Let's briefly introduce McDonald's, an American fast-food company, founded as a restaurant operated by brother Richard and Maurice McDonalds in the USA, and explain which parts of the SCAMPER model are evident in its development with regard to its current worldwide success. The first McDonald's restaurant was opened in 1940 and originally was a drive-in that offered a wide selection of items. However, several years later the owners decided to revamp the business and a small restaurant was then redesigned to produce huge quantities of food at low prices. The brothers limited the menu and offered only hamburgers, potato chips (later replaced by French fries), drinks and pies. Moreover, self-service counters were introduced, which led to the elimination of waiters, and customers received their food quickly. During this time the brothers began a franchise programme and that helped to spur McDonald's growth. In the meantime they introduced a mascot named Ronald McDonald; however, a negative perception of clowns resulted in the company largely side-lining the character. In 1968 the company released the Big Mac, the company's top-selling item after French fries. Also in the 1960s

the chain refined its logo, becoming one of the most famous logos in the world. The chain continued to expand domestically and internationally. In 2017 McDonald's proposed its first plant-based hamburger, two years later its vegan counterpart, and announced that no preservatives are used in most of its hamburgers. McDonald's launched a programme to move towards renewable or recycled bags, paper straws etc. McDonald's is active in various charities. There are over 38,000 McDonald's restaurants worldwide.

The story of McDonald's success can be related to the SCAMPER method. The examples of applying the SCAMPER technique are presented in slides 14-18.

SCAMPER model at McDonald's






Source: <https://idasateray.wordpress.com/2015/08/18/idea-development-mcdonalds-scamper/> Source: <https://selinbst.home.blog/2019/08/24/scamper-mcdonalds/>

SCAMPER model at McDonald's

Substitute


- ✓ self-service counters instead of waiters
- ✓ BBQ were changed to burgers and fries
- ✓ glass and porcelain replaced with paper and plastic
- ✓ potato chips substituted with French Fries



Source: Polina Tankilevitch from Pixels.com

Combine

- ✓ "The Circus Wagon Box" for kids - a hamburger with fries, a drink, cookies and a small toy
- ✓ ordering food without entering the restaurant
- ✓ choosing between different things in the menu and combining them



Source: Mark Schaefer from Unsplash

SCAMPER model at McDonald's

Adapt

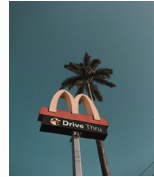
- ✓ very family-friendly restaurant:
 - own mascot
 - own children's menus
 - a playground outside, indoors
- ✓ the menu adapts to where it is located, to different customers



Source: Meghan Hessler from Unsplash

Modify/Magnify

- ✓ the company aspired to be a nation-wide franchise (36 000 restaurants world-wide)
- ✓ the ordering service changed from using normal cashier, to apps and self-service machine
- ✓ WIFI in their restaurants, indoor sitting, a drive through



Source: C. Cagnin from Pexels.com

SCAMPER model at McDonald's

Put to Another Use

- ✓ from a restaurant to a fast food chain
- ✓ Ronald McDonald Charities – a non-profit organisation



Source: Lyman Hansel Gerona from Unsplash

Eliminate

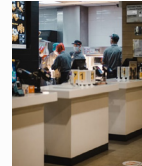
- ✓ bags from recycled paper (cut down on the packaging)
- ✓ no plastic straws



Source: Polina Tankilevich from Pexels.com

Reverse/Rearrange

- ✓ customers pay for the food before they eat it
- ✓ no heating, uncomfortable seats (to make customers leave quickly)



Source: Visual Kansa from Unsplash

4. PRACTISE YOUR PATHWAYS

CASE STUDY:

Please, read the below case study concerning the change to be implemented during the professional and personal career development.

Margaret is a graduate of BA studies in finance and accounting. During her studies, she took part in a student exchange under the Erasmus program and she spent a semester at the Technical University in Dortmund (Germany). During this period, Margaret participated in many projects organised by the university, with the support of large car companies (VW, Audi, BMW). After completing a 3-month graduate internship in Germany, she returned to Poland and works as an accountant in a family company providing accounting services for several local companies. Margaret handles the duties entrusted to her very well, she is very meticulous, precise and has an analytical mind. This profession is not a fulfilment of

her dreams and ambitions, but both her mother and grandmother were accountants and worked in this sector all their lives. Therefore, Margaret has always been persuaded to start learning and studying in this field. That is why her choice of this profession was a natural continuation of family traditions. Her mom and grandmother are convinced that working as an accountant is the perfect occupation for a woman. Margaret is aware that this is not a job that enables earning a lot of money, but according to the elderly, it guarantees stability, peace and allows women to reconcile family and professional life. Mom appreciates Margaret's diligence, exceptional analytical skills and accuracy, so she recently offered her to take over this business. Margaret hesitates whether she should agree to her mother's proposal, because she is aware that work in accountancy is not a profession of the future. Additionally, analysts predict that in the next few years, because of the spread of automation and artificial intelligence, many accountants will lose their jobs. Margaret is considering implementing innovative technologies in her workplace: modern systems of reading invoices, integrators for bank statements, electronic document flow, etc. She is aware that the digitalisation of accounting means that this profession has been undergoing a transformation for several years. She is not afraid of modern, up-to-date, advanced solutions and she is convinced that they can support everyday work, bring many benefits and allow to unleash the real potential and creativity of people. On the other hand, Margaret provides accounting services to a few local companies in a small town, and some of them had to close their activities after the COVID-19 pandemic. Margaret is considering undertaking further studies related to Big Data analysts (data scientist). In Germany, the girl made many study visits to modern machine parks in smart factories, where machines collect large data sets. She is aware that because of the rapid development of artificial intelligence, automation and robotisation, one of the professions of the future is an analyst of such data. Margaret likes learning, she is talented, so she would certainly not have problems with acquiring new skills and modern knowledge. However, she is shy, far from being confident, reluctant to make new friends and she is concerned that she neither has sufficient digital competences, nor experience of working in interdisciplinary teams.

Should Margaret take into account family traditions in her decision and continue working in the company that her mother wants to hand over to her? Maybe she should follow the market trends and take up the challenge to complete a new field of study? Or maybe she should plan her future and professional path completely differently?

Try to imagine that you are Margaret and you are facing a difficult decision about your personal and professional future. Please apply the assumptions of the SCAMPER method and make some considerations about Margaret's professional life to shape her future career path, taking into account her personal predispositions, character, talents, competency gaps as well as family situation and challenges posed by the future-oriented labour market.

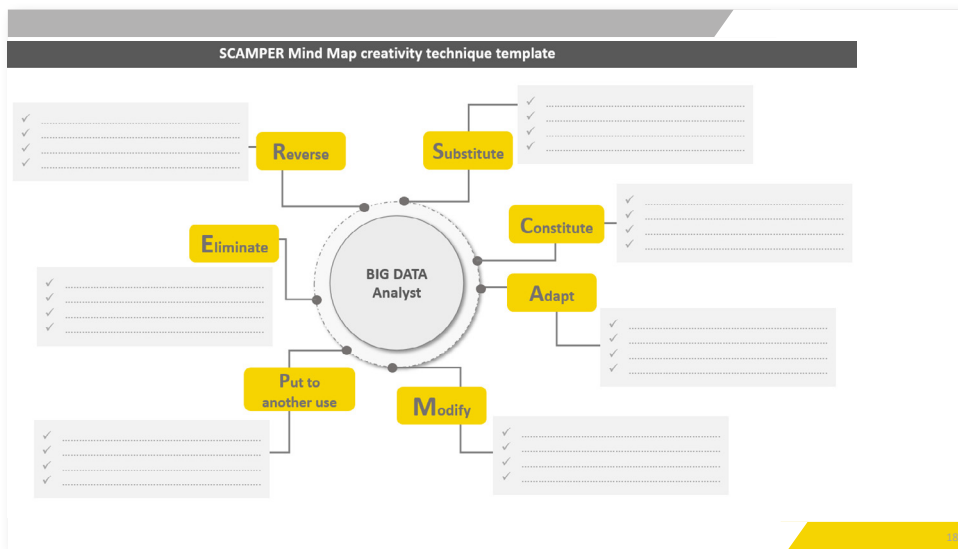
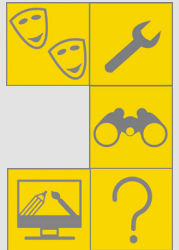
Please run Margaret's idea of becoming a data scientist through the SCAMPER technique steps. The answers will probably be diverse and will typically include ideas that seem to be impractical or even do not suit your circumstances. That's ok and is actually good! The goal is to generate as many ideas as possible – often the most brilliant ideas can come from them. You might also find that you can reduce some of your work, reuse elements of what you already have, recycle ideas into a new purpose or reinvent a solution

based on the old one.

Ask yourself questions based on the SCAMPER method. It is important to disable all interruption stimuli. Avoid the temptation to immediately come up with ideas. Work through each element of the SCAMPER technique, asking helper questions (Table 1) and using trigger words (slides 7-13).

To carry out this method to consider Margaret’s future, prepare a blank sheet of paper or a whiteboard, or use the provided below SCAMPER Mind Map template, and follow the SCAMPER steps. Ask questions related to each solution pattern and start exploring the idea of studying big data analytics using these questions.

To get the greatest benefit, use SCAMPER alongside other creative and lateral thinking techniques.



5. RECOMMENDATIONS FOR VIRTUAL FORM (OPTIONAL)

The SCAMPER method may be easily conducted virtually. The main recommendation for virtual form is related to the results’ evidence. For filling the results of the analysis you may use such interactive boards as <https://miro.com/>.

The editable SCAMPER template is available via the link:
https://miro.com/app/board/o9J_liVMHGg=

6. RECOMMENDED SUPPLEMENTARY RESOURCES

For more examples or further reading you may find useful:

- Tutorials e.g. on YouTube channel:
<https://www.youtube.com/watch?v=G8w0rJhztJ4>
<https://www.youtube.com/watch?v=ru9-74qLXAo>



<https://www.youtube.com/watch?v=qRY-1YAmbY4>

or any other:

<https://litemind.com/scamper/>

- Online diagram creator available at:
[www. https://online.visual-paradigm.com/diagrams/templates/scamper/scamper-method/](http://www.https://online.visual-paradigm.com/diagrams/templates/scamper/scamper-method/)
or
SCAMPER creative problem solving available at Miro Board:
https://miro.com/app/board/o9J_licKTu4=/
or
<https://online.visual-paradigm.com/diagrams/templates/scamper/scamper-method/>
- Theoretical and practical guidelines:
 - Scientific paper: e.g.
 - Lopes R., Malta P., Mamede H., Santos V. (2020), *A Creative Information System Based on the SCAMPER Technique*, [in:] Themistocleous M., Papadaki M., Kamal M.M. (eds) *Information Systems. EMCIS 2020. Lecture Notes in Business Information Processing*, Vol. 402, Springer, Cham. https://doi.org/10.1007/978-3-030-63396-7_40

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6. <https://sivhansen.no/2020/09/03/scamper-method-and-mcdonalds/>
7. <https://amaliewegner.wordpress.com/2019/03/17/the-scamper-method-mcdonalds/>



Source: Frederik Löwer (unsplash.com)

TRAINING SESSION 7: USING DE BONO'S SIX THINKING HATS TECHNIQUE TO SELECT THE DESIRED CAREER DEVELOPMENT SCENARIO

1. OBJECTIVE

Edward de Bono's Six Thinking Hats technique is a thinking framework that allows all aspects of a question to be investigated, one at a time, without letting just one thinking mode dominate the process. Groups and organisations use that technique to enhance creativity and productivity, solve problems, and make decisions. In that session we present how to use that technique to support career development.

The aim of the training session is to present the possibilities of using de Bono's hats technique to select the desired career development scenario, taking into account various styles of thinking and including different professional development perspectives, by conducting group workshops by the facilitator, or supporting individual work of a student or an early-stage researcher. That technique can be also useful for the identification of competences needed in the selected desired career development scenario.

2. THEORETICAL INTRODUCTION

De Bono's Six Thinking Hats technique is one of the methods applicable in planning the future, also in the context of career planning, is the six thinking hats method developed by Edward de Bono. It was based on the separation, in the process of creative problem solving, of six different styles of thinking.

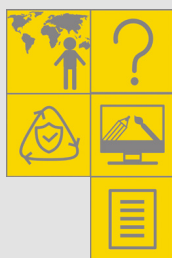
The concept of lateral thinking introduced by de Bono assumes the assessment of a given phenomenon from various points of view. This approach, according to the author, allows for a conscious search for new, alternative solutions by means of creative thinking³⁰.

The author of this method, in order to make it easier to remember and use the different thought styles, assigned each style a hat of the appropriate colour: white, green, yellow, black, red and blue³¹.

- **The white hat** stands for data, facts and information. It is a style of objective, logical, factual thinking. There are facts, numbers, gaps in information, and what information we need in this mindset. "I think we need a little bit of White Hat thinking ..." means – "Let's throw in some arguments and propositions and take a look at the database." The thinker in the white hat is neutral and objective, s/he does not give interpretations and opinions. Thinking in a white hat is a discipline and orientation. It is important to ask specific questions to obtain data or to fill gaps in the information you have.
- **The green hat** symbolises ideas, alternative solutions, propositions, suggestions and

³⁰ E. de Bono, *Lateral thinking: a textbook of creativity*, Penguin Books Ltd, London, 2016.

³¹ E. de Bono, *Six Thinking Hats: The multi-million bestselling guide to running better meetings and making faster decisions*, Penguin Books Ltd, London, 2016.



concepts. This style is about creative thinking. It is a hat of creativity, alternatives, proposals, discovering something interesting, provocation and change. The primary function of thinking in a green hat is to look for alternatives. Provocation is an important part of green hat thinking – it aims to break down existing thinking patterns. The concept of movement replaces the concept of evaluation – we use the idea to see where it will lead us.

- **The yellow hat** indicates benefits, advantages, profits, savings. This style requires a completely rational, logical and optimistic approach to future planning. It carries logical positives. Why something will work and why it will benefit. It can be used especially while waiting for the results of the proposed action, but also – to discover something valuable in something that has already happened. Thinking in a yellow hat is constructive and fertile. In that type of thinking, specific proposals and suggestions come out, it is associated with operability and taking action, its goal is efficiency. Using the yellow hat is all about constructive development of the idea. It is also a positive assessment, looking for benefits and values to support the presented concepts.
- **The black hat** means searching for defects, negative judgments, verifying the facts, and assessing truthfulness. It is a critical thinking style that requires rationality and logic. It is a hat of judgment and caution. It is used to indicate why a suggestion does not correspond to facts, available experience, the system used, or does not fit generally accepted rules. The black hat must always be logical, it helps to find mistakes in the thinking process. It allows you to evaluate an idea through the prism of experience. A thinker in a black hat indicates what is wrong, incorrect, which is at odds with experience and accepted knowledge. S/he explains why something cannot be used, draws attention to risks and threats.
- **The red hat** characterises emotions, feelings, premonitions and intuition. Statements related to this style of thinking do not need to be supported by rational arguments. The red hat allows the thinking person to share his/her intuition without having to judge it. Usually feelings and intuitions are allowed for discussion as long as they are supported by logical arguments. As a rule, the feeling is sincere and the logic is supposed, inauthentic. The red hat allows a person to freely express his feelings about a given topic at a given moment. It lets you say, “what I feel about it”, recognizes impressions and feelings as an important part of the thinking process. It neither justifies its impressions, nor looks for a logical explanation. The red hat includes two types of feelings: 1. ordinary – from strong ones like fear or hatred to more delicate ones like suspicion, and 2. complex judgments, that is, such sensations as premonitions, tastes, preferences or other. Thinking in a red hat entails a question – “do we like the idea so much that we want to move on?” – without enthusiasm it is unlikely that an idea, no matter how best, will be successful.
- **The blue hat** is used to analyse, control and steer the thinking process. This style symbolises related organisational activities with the functioning of the mind of a person using this type of thinking. It is the last step in the thought process. Work usually starts with establishing the structure of the thinking process and elaborating on how to create a picture of the situation through all the hats. Then the blue hat is responsible for following the rules and the settlement of disputes, which allows a person to efficiently follow the established path of consideration. From this level, you can best see the entire process in which we are one of the actors. It is a hat for

a review or process control. By putting on this hat, we do not look at the subject of reflection, but “think” on a given topic.

Each type of thinking is necessary and important – as long as it occurs at the right moment. The task of the facilitator is to make sure that the participants of the creative process do not skip over the stages, e.g. they do not develop ideas before generating more solutions (alternative career paths), are not guided by emotions at the time of “processing the idea”, do not prematurely criticize “murdering ideas” (the time will come for criticism). The hats can be used freely in different sequences. The arrangement in the sequence may depend on the topic of the thought work (Tab. 4).

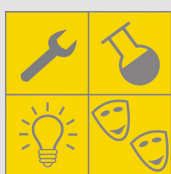
Tab. 4. Questions supporting the thinking process in de Bono’s Six Thinking Hats technique

White hat	Green hat	Yellow hat	Black hat	Red hat	Blue hat
Data and information	Creative effort, new ideas, alternatives and movement	Positive view, benefits and feasibility	Caution and critical judgement	Feelings, intuition, hunches and emotions	Thinking about thinking, Organising and controlling the thinking process
What information is now available to help you think about this matter? What information would you like to have? How might you obtain the information that you feel would be necessary or useful when deciding about this matter?	How can the idea be modified to improve it and to remove obvious faults? How can some of the difficulties pointed out by the Black Hat be overcome? Are there alternative ways of achieving the same objective? What creative ideas do you have in this area?	What are the benefits, values and advantages of this idea? What are the logical positive points? How could this idea be made workable? What are the good things about the suggestion?	What are the points of caution? What are the disadvantages? What are the potential problems? What can go wrong? What are the logical negative points? What are the difficulties surrounding the suggestion?	What does your intuition tell you? What is your gut feeling about the suggestion? What are your simple feelings about the matter? What are your feelings right now on this subject?	How would you summarize the discussion that has taken place? Can you come to a conclusion? If so, what is the conclusion? If you would prefer to do some further thinking, what thinking steps would you now take? What should happen next?

Source: own study based on: http://careerdevelopmentplan.net/wt_chapter6_d_the_six_thinking_hats-328 [12.11.2021].

The benefits of the six thinking hats technique:

- **Improving the quality of your decisions** as you analyse the situation from different perspectives;
- **More organized thinking** as you can be confident that you have considered at every angle, and it helps you to weigh up the information you obtain efficiently and accurately;
- **Improved creativity** as it gets you to step away from your default positions and



approaches. Comparing or combining different perspectives can sometimes spark novel thoughts;

- **Better thinking skills** as it supports such important skills as curiosity and critical thinking;
- **Stronger interpersonal skills** as it encourages you to practice listening, questioning and answering. It can also make you more persuasive, better at spotting when others need support, and more confident to resolve conflicts when they arise;
- **Greater inclusivity in teams** as it supports teamwork by focusing on seeing things from the same perspective for a while. Debate still happens, but it is based on shared understanding – which can help everyone to feel included.

3. PRESENTATION ABOUT THE TOPIC (E-LEARNING)

Workshops scenario





MODULE 1. ANTICIPATION FOR THE FUTURE
TRAINING SESSION 7. de Bono's Six Thinking Hats technique

Co-funded by the
Erasmus+ Programme
of the European Union



Using de Bono's six thinking hats technique to select the desired career development scenario



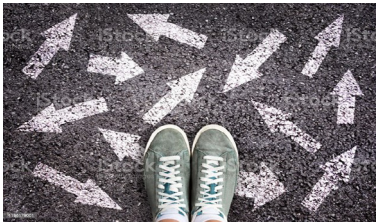
The European Commission's support for the production of this publication does not constitute an endorsement of the contents, which reflect the views only of the authors, and the Commission cannot be held responsible for any use which may be made of the information contained therein.

Stage 1. Use the presentation (slides 1-3) to discuss the need to consider different approaches to career development paths

Variant career development paths

A multi-factor analysis of the professional perspectives, characterized by a significant degree of uncertainty.

Based on the participant's resources, it provides a solution to the problem by taking into account various perspectives (directions of thinking).



Source: www.pexels.com

Stage 2. Introduce the participants to the assumptions of the lateral thinking and de

Bono's Six Thinking Hats technique (presentation – slides 4-17)

Lateral thinking

- ✓ The concept of lateral thinking introduced by **Edward de Bono** assumes the assessment of a given phenomenon from **various points of view**.
- ✓ This approach, according to the author, allows for a conscious search for **new, alternative solutions by means of creative thinking**.



Source: www.pexels.com

The need for lateral thinking

Alternatives

- ✓ learning the 'how to' and value of extracting concepts
- ✓ using concepts to breed new ideas

Challenge

- ✓ Challenging traditional ways constructively
- ✓ Learning to break free of our thinking patterns



Source: www.pexels.com

The need for lateral thinking

Focus

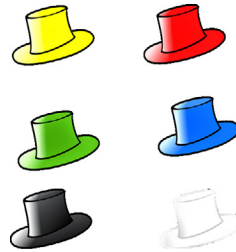
- ✓ shifting from the single focus on problems
- ✓ learning the importance of redefining the focus
- ✓ developing your own creative solutions of the problem



Source: www.pexels.com

De Bono Six Thinking Hats Technique

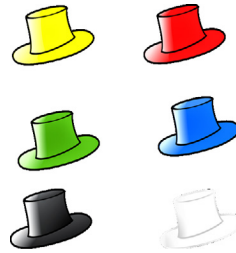
- ✓ In order to make it easier to remember and use that technique, **de Bono assigned each thinking style a hat** of the appropriate color: white, red, yellow, black, green and blue.
- ✓ These hats are not labels for thinking - they are rather **directions in which thinking goes**.



Source: www.pexels.com

De Bono Six Thinking Hats Technique

- ✓ It promotes the participation of more people in the creation process (**ideal for group work**).
- ✓ It **supports the action** without strengthening the personality's defenses.
- ✓ People can express themselves "**underneath every hat**" even if they only put on one initially.



Source: www.pexels.com

De Bono Six Thinking Hats Technique

- ✓ When we put on a hat, we assume a certain type of thinking.
- ✓ Hats cannot be used to assign people to a given category.
- ✓ During group work, everyone wears the same hat at the same time.

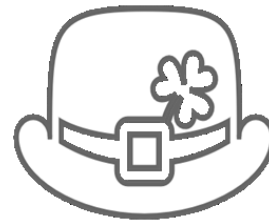


Source: www.pexels.com

White - the facts

Facts, Figures, Data, Information

- ✓What do we know?
- ✓What data do we need to get?
- ✓What are the specifics?



Green - creativity

Investigating possibilities, inquiry, searching, suggestions, propositions, ideas, innovations, alternative solutions

- ✓What can you do?
- ✓Can it be done in a different way?



Yellow - optimism

Benefits, advantages, profits, savings

- ✓Why is it worth doing this?
- ✓What will be the benefits?
- ✓Why will it pay off?



Black - pessimism

Caution, assessing the truthfulness,
judging, checking, verifying the facts

- ✓ Will it work?
- ✓ Will it be safe?
- ✓ Is it possible?



Red - emotions

Emotions, feelings, premonitions,
intuition

- ✓ What do we feel about this matter
when we think about it?



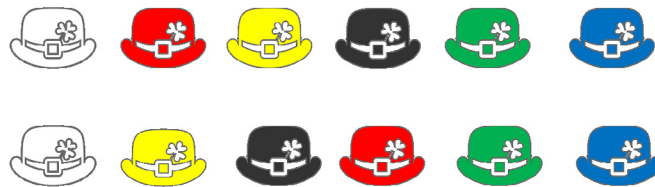
Blue - summary

Control of the thinking process, summary

- ✓ Where have we come?
- ✓ What action should be taken?
- ✓ What is the procedure to solve the
problem?



Hat sequence suggestions



De Bono technique and career development

- ✓ Taking into account various variants of the occupational situation burdened with a significant degree of uncertainty.
- ✓ Development of action plans based on a comprehensive analysis.



Source: www.pexels.com

- Stage 3.** Following de Bono's Six Thinking Hats technique, identify different approaches to the desired scenario of the labour market development (activity from the Practice your pathways part)
- Stage 4.** Define the desired career development scenario based on the desired scenario of the labour market development
- Stage 5.** Identify your resources - competences (activity from the Practice your pathways part)
- Stage 6.** Identify your competency gap (activity from the Practice your pathways part)
- Stage 7.** Work out the individual action plan to fill the competency gap (activity from the Practice your pathways part)

4. PRACTICE YOUR PATHWAYS

Are you stuck in a rut with a career decision? Just starting to plan your career and trying to follow trends on the labour market? Whatever your dilemma, de Bono's Six Thinking



Hats technique can support you in the decision process.

Look at your problem from different perspectives, using six different thinking hats. This helps you find factors that could be missed using your own typical thinking style, giving you a more complete picture of the decision.

Using de Bono’s technique, you can develop your career in the context of the scenarios of the labour market development in terms of identification of your resources and competency gaps, following the procedure below (Fig. 17).



Fig. 17. Stages of career development using the six thinking hats technique

Source: own study.

Let’s continue the work you have made from the previous session on the scenarios of the labour market development. Using the six thinking hats technique, you can analyse four scenarios from different perspectives and select the one which is the most desired. Use the questions from Tab. 5.

With the White Hat on, you will focus on available data and the data required. With the Red Hat, you will gather the intuitive opinions on possibilities of development the scenarios of the labour market, which is based on hunches and individual opinions. The Yellow Hat may be introduced at this stage and focus on the tangible and intangible benefits of a certain scenario. The Black Hat may be brought in now – concerns are raised on the credibility of the projections for the scenario. Wearing the Green Hat, you encourage ideas for innovative thinking – alternate approaches to analyse the scenarios of labour market development. The Blue Hat is worn by the person facilitating the thought process, encouraging the ideas to flow and directing the switching of the thought process from one perspective to the next.

When the desired scenario of labour market development is selected, it can be possible to define the career development scenario. The selected scenario “High level of work virtualisation/Dominance of young people among the professionally active” determines the professional perspective. One more time you can use the six thinking hats technique to analyse career development in the selected scenario from different perspectives – in the way it is presented in Tab. 6.



Tab. 5. Identification of different approaches to the desired scenario of the labour market development

White hat	Red hat	Yellow hat	Black hat	Green hat	Blue hat
<p>What information is now available to help you think about the scenarios?</p> <p>What information would you like to have?</p> <p>How might you obtain the information that you feel would be necessary or useful when deciding about selection of the desired scenario?</p>	<p>What does your intuition tell you about the scenario?</p> <p>What is your gut feeling about the scenario?</p> <p>What are your simple feelings about the scenario?</p> <p>What are your feelings right now on the scenario?</p>	<p>What are the benefits, values and advantages of the scenario of labour market development?</p> <p>What are the logical positive points?</p> <p>What are the good things about the scenario?</p>	<p>What are points of caution?</p> <p>What are the disadvantages?</p> <p>What are the potential problems?</p> <p>What can go wrong?</p> <p>What are the logical negative points?</p> <p>What are the difficulties surrounding the suggestion?</p>	<p>What creative ideas do you have in the area of scenario development?</p>	<p>How would you summarize the discussion that has taken place?</p> <p>Can you come to a conclusion in terms of desired scenario of labour market development?</p> <p>If so, what is the conclusion?</p> <p>If you would prefer to do some further thinking, what thinking steps would you now take?</p> <p>What should happen next?</p>

Source: own study based on: http://careerdevelopmentplan.net/wt_chapter6_d_the_six_thinking_hats-328 [14.11.2021].

Tab. 6. Identification of career development

White hat	Red hat	Yellow hat	Black hat	Green hat	Blue hat
<p>45% of organisations are actively assessing or already planning to move their entire server virtualisation environment to the cloud.</p>	<p>Distance is not a limitation for employment.</p> <p>Professional duties will be flexible.</p>	<p>Many possibilities for professional development.</p>	<p>High competition on the labour market.</p> <p>Employer labour market.</p>	<p>The multicultural environment will provide new opportunities for professional development.</p>	<p>The professional career will be based on flexible forms of employment and high level of mobility, working in multicultural teams. On the other hand, as there will be high labour supply, it will be more demanding to compete on the labour market.</p>

Source: own study.

Identification of your resources – competences

Identify your resources – the competences that fit into the labour market scenario and a certain career perspective.

What are my competences in terms of desired scenario of the labour market?

Possible answers:

- digital literacy,
- analytical thinking,
- active learning,
- creativity,
- fluent use of a foreign language,
-

It is possible to deepen the discussion by the following questions:

How do I already use these competences at work?

How do I already use these competences out of work?

In which professions can I use my competences?

How can I use these competences in my future work?

Identify your competency gap

Before you diagnose gaps in your competences you need to determine professional goals in the context of the desired scenario of the labour market. Write a list of professional goals accompanied by a list of your current skills and proficiencies and another list of the skills you think will be required to achieve your goals. From there, you can narrow down the most pressing skills that you need to develop. To avoid getting overwhelmed, try to prioritise these skills in order of urgency, and work through your list at a methodical pace (Tab. 7).

Tab. 7. Professional goals and competences.

Professional goals	My current competences	Competences which need to be developed	Competences prioritisation (5 – very urgent, 1 – not urgent)

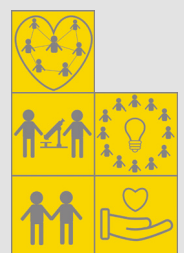
Source: own study.

Individual Action Plan

As a support for the process of filling the competences' gap, it will be useful to develop an individual action plan. An action plan is a checklist for the steps or tasks you need to complete in order to achieve the goals you have set. In that activity you determine the tasks/steps to complete, to fill the competency gap.

Components of an action plan include:

- a well-defined description of the competencies you need to obtain,
- tasks/ steps that need to be carried out to reach the goal,



- people who can support you to realise each task,
- when will these tasks be completed (deadlines and milestones),
- resources needed to complete the tasks,
- measures to evaluate progress.

It is useful to have everything listed down as that makes it easier to track progress and effectively plan stages of execution.

In working out your goals in terms of filling the competency gap, it can be advantageous to use SMART criteria. Be sure that your goals are:

Specific – well-defined and clear,

Measurable – including measurable indicators to track progress,

Attainable – realistic and achievable within the resources, time, money, experience, etc. you have,

Relevant – aligning with your other goals.

Timely – having a finishing date.

5. USEFUL AREAS OF EXPERTISE/EXPERTS (OPTIONAL)

The facilitator can be needed to support both the group working process as well as individual work. Professional counsellors expertise can be needed for the identification of competency gaps as well as working out individual action plans.

The selection of the desired scenario of the labour market can involve using other creative methods described in the next sessions, such as Force Field Analysis or SCAMPER technique.

6. RECOMMENDATIONS FOR VIRTUAL FORM (OPTIONAL)

The training session can be easily adopted to the online version. The main recommendations for virtual form include:

1. If the number of participants is large, one common way is to divide them into smaller groups and then ask them to work on the activity separately.
2. Using such platforms as MS Teams or Zoom, you may create separate rooms or meetings for each group. The findings can be later shared at a joint meeting gathering all the participants.
3. Make sure that each group has a facilitator who keeps the time and monitors the steps of the activity.

7. RECOMMENDED SUPPLEMENTARY RESOURCES

For more examples or further reading you may find useful:

1. De Bono, E. (2016), *Lateral thinking: a textbook of creativity*, Penguin Books Ltd, London.
2. De Bono E. (2016), *Six Thinking Hats: The multi-million bestselling guide to running better meetings and making faster decisions*, Penguin Books Ltd, London.



3. M. Baltov, E. Glińska, V. Jecheva, R. Jodienė, R. Kavoliūnienė, A. Pelenienė, I. Kotāne, G. Marzano, I. Mietule, K. Mineva, S. Murinska, A. Pellegrino, E. Rollnik-Sadowska, U. Ryciuk, S. Zorzi, A. Zvaigzne, T. Riekstiņa (2021), *Mentoring Handbook*, Rēzeknes Tehnoloģiju Akadēmija, Rēzeknes.

<https://firsthand.co/blogs/workplace-issues/put-on-your-thinking-cap-change-your-career-with-the-six-thinking-hats>

<https://www.youtube.com/watch?v=Nb9Oe83ruUw>

<https://creately.com/blog/diagrams/how-to-write-an-action-plan/>

The background features a complex abstract design. It includes a solid yellow vertical bar on the left and a solid yellow horizontal bar at the bottom. The central area is a light grey field with several overlapping, semi-transparent grey shapes of various sizes and orientations. Thin white lines crisscross the grey area, some following the curves of the shapes. A prominent yellow hexagon is located in the upper right quadrant. In the bottom left corner, there is a yellow circular shape with several concentric white lines radiating from its center.

ANTICIPATION FOR EMERGENCE

MODULE OBJECTIVE

When people ‘use-the-future’, what is the future that they are using?
*Or as we shall see: what are the futures, plural, that they are using?*³²

INTRODUCTION

The question above forms the key to this Module, in which you as a participant resp. facilitator will be introduced to Futures Literacy³³ as the capability to consciously ‘use-the-future’ for different purposes and in different contexts. As (training of) this capability will probably be new to most of you, this manual is designed as a train-the-trainer guide: in the role of participant you will first learn (training of) the capability yourself, in the role of facilitator you will train students.

In this module you will be introduced to the capability through what Miller (2018) calls ‘walking on two legs’: navigating between different anticipatory systems, knowing when to use what. By walking on two legs you alternate between:

1. Imagining the later-than-now for the purpose of planning and preparation, i.e. you ‘use the future’ in the conventional and familiar but also predominantly closed way of ‘Anticipation for the Future’ (AfF);
2. Imagining the later-than-now in a plural and open way integrating spontaneity and improvisation, i.e. you ‘use the future’ in a new alternative way of ‘Anticipation for Emergence’ (AfE).

By ‘walking on two legs’ (AfF and AfE) you learn to switch between a deterministic view on the future (planning and preparation in order to ‘engineer the future’/‘make a difference’) and, on the other, a non-deterministic and open view on the later-than-now - reality as a complex emergent universe. In switching between AfF and AfE, you learn to use different anticipatory systems and processes. One way to illustrate this is to imagine that these systems and processes are like special ‘anticipatory filters’ that when changed also alter what we can see, name, and invent³⁴:

A Futures Illiterate person, unaware that they use anticipatory filters, can not explicitly choose from familiar ones or explicitly attempt to invent new ones. Someone who becomes Futures Literate, by acquiring the capacity to select and create anticipatory assumptions, is not only aware of the filters but is able to decide why, how and when to change filter.

In summary, Futures Literacy (FL) is about empowerment, as illustrated in Fig. 18 below. In relation to professional and personal development, FL is about moving beyond a dependency on the illusion of certainty and the fragilities this creates. By mastering FL³⁵, you and the participants in your courses will be invited to develop an *enhanced perception*, to embrace *complexity* and to discover a *new sense of agency*: how to take advantage of change and appreciate uncertainty.

³² R. Miller, Transforming the future. *Anticipation in the 21st century*. Routledge, 2018.

³³ Information retrieved from the UNESCO website, 2021, <https://en.unesco.org/futuresliteracy/about>

³⁴ R. Miller, R. Sandford, Futures Literacy: The Capacity to Diversify Conscious Human Anticipation [in:] Poli R. (ed.), *Handbook of Anticipation. Theoretical and Applied Aspects of the Use of Future in Decision Making*, Springer, Cham, 2019

³⁵ E. Kazemier, L. Damhof, J. Gulmans, P. Cremers, *Mastering Futures Literacy in Higher Education: an evaluation of learning outcomes and instructional design of a faculty development program*, *Futures* 2021, 132(3). doi: 10.1016/j.futures.2021.102814.



Fig. 18. Potential of developing Futures Literacy (UNESCO, 2021)

Source: Information retrieved from the UNESCO website, 2021, <https://en.unesco.org/futuresliteracy/about>

AIM AND DESIGN

“The future of AfE is one that is not a goal or target meant to structure the making of preparatory and planning bets. The later-than-now imagined in AfE is a disposable construct, a throwaway non-goal that need not be constrained by probability or desirability”³⁶.

The aim of this module is two-fold:

1. To familiarize facilitators and educators with Anticipation for Emergence (AfE): learning to sense and make sense of novelty in the present to help them see their personal and professional development with new eyes and/ or a new sense of agency.
2. To equip facilitators and educators with tools and offer them the opportunities to apply this capability to their own context of students and junior researchers.

To make sure both overarching aims are met, the course module is designed on the basis of the ‘learning arches’ methodology³⁷. As depicted in Fig. 19, the larger the arch, the broader the time frame and more ambitious the learning objective.

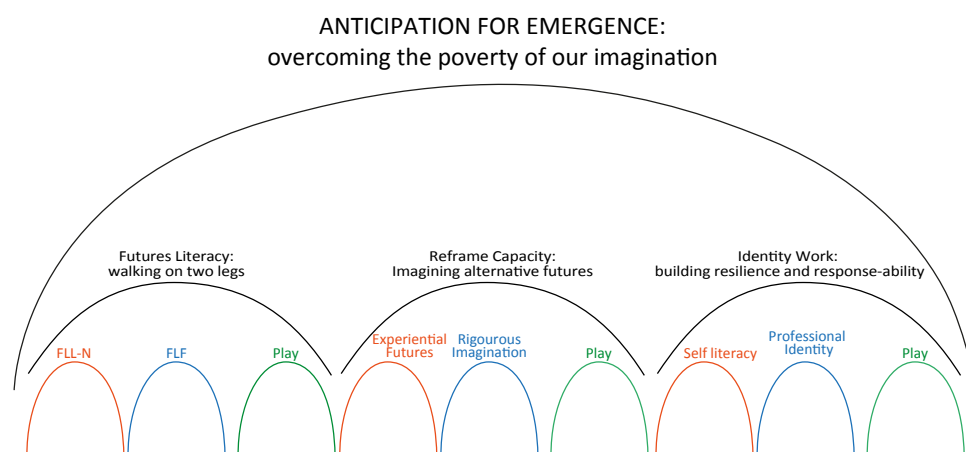


Fig. 19. Overview of Learning Arches within the AfE Module.

Source: S. Kavanagh, *Learning Arch Design*, 2019. Retrieved from https://www.academia.edu/40605001/LEARNING_ARCH_DESIGN_USERS_MANUAL

³⁶ R. Miller, (ed.), *Transforming the future: anticipation in the 21st century*, United Nations Educational, Scientific and Cultural Organisation (UNESCO) 2018, Paris, p.20.

³⁷ S. Kavanagh, *Learning Arch Design*, 2019. Retrieved from https://www.academia.edu/40605001/LEARNING_ARCH_DESIGN_USERS_MANUAL

As shown, the AfE module comprises three overall learning arches:

- 1) Futures Literacy: walking on two legs
- 2) Reframe Capacity: imagining alternative futures
- 3) Identity Work: building resilience and respond-ability

Each of these arches consists of three training sessions, following the same structure:

- Each first two training sessions (**orange & blue**) are designed to equip facilitators and educators with the experience and theory to fully grasp the concept of Anticipation of Emergence
- Each last training session (**green**) offers the opportunity to apply this acquired knowledge to the target group of university students and junior researchers. While both target groups (facilitators/educators AND students/researchers/youth) will be introduced to Futures Literacy and the overarching aim of overcoming the poverty of imagination, the direct learning goals as described in this module are directed towards facilitators.

In line with the 7Cs of curriculum design (Fig. 20), the focus of each first training session is on **experience**. This focus is deliberately chosen to make room for the first three Cs of connections, conditions and context, before diving into the content in the subsequent **foundation** training session. In each last training session the focus is on **experimentation**, addressing the latter three Cs of craft, character and confidence.

In the following chapters, each of these learning arches and training sessions will be described in detail.

WHAT ARE THE 7Cs

The 7Cs are the key sequential list for how to set and create for transformational learning that maximise **connection**, **conditions** and **context** between the learners & the learning journey first **before content**. This shifts the focus from content as king and opens the way for personal connection and ownership of the content, subject or discipline. It sets the platform for an emotional connection to the team of students and invites for personal and professional development and commitment, core to delivering the 'The Hidden Curriculum' and the 'unknown' below the LA time line.

1. CONNECTION

Make a connection with the students and meet them where they are at (knowledge, social, professional & emotional).

2. CONDITIONS

Set the conditions for how you will try to work together, the learning styles you will explore and how you will collaborate by clarifying expectations.

3. CONTEXT

Make the case for what the students are about to learn and why it is useful, relevant, emerging and even powerful.

4. CONTENT

Adjust, unfold & unpack the content based on the need, level and ambition of the students and your design. Define what success is and then aim to over deliver...

5. CRAFT

Unfold and increase the learning, challenge (practice) and measurement to support risk and a deeper understanding of the subject and craft (methods supported by theory). As the teacher leaves the stage, the students step up and perform through application, (self)reflection, analysis and leadership.

6. CHARACTER

Should grow as their understanding deepens through increased complexity of tasks, alternating contexts and delivery within-groups of peers whilst seeking to create sustainable impact & value.

7. CONFIDENCE

The student's ability to set their own targets beyond their current expectations. To define and take more control of their (learning) potential, behaviour, actions and direction.



Fig. 20. 7Cs

Source: S. Kavanagh, *Learning Arch Design*, 2019. Retrieved from https://www.academia.edu/40605001/LEARNING_ARCH_DESIGN_USERS_MANUAL

INVITATION TO FACILITATORS/EDUCATORS

How do you imagine your personal and professional future? How do you see the way you live and work 40 years from now? What do you think that will happen? What do you hope for?

In this module you will not only explore these questions yourself, you will experiment with tools and activities to engage university students and junior researchers in exploring these questions. We all use the future everyday: we predict, we dream, we fear. Yet we know very little about how we use the future. In this module you will learn different ways and reasons to ‘use the future’ by training your **Futures Literacy**: an essential skill that will help you to better understand the role of the future in what you see and do in the present. By becoming aware of this you learn to “walk on two legs”: to use the future not only for preparation and planning, but also to use it in a much more open way: for spontaneity, emergence. By becoming more futures literate yourself, you are **better equipped** to design and facilitate courses and activities for university students and junior researchers (meet them where they are/ practice what you preach = visuals design principles IO1)

In this module **Anticipation for Emergence** we focus on the latter by actively training your muscles of imagination. Although these muscles potentially can make us feel really strong and powerful, most of us are unaware of them or don’t use them often. In this module you’ll learn the basics of how and when to use these muscles, so they can grow over time. By practicing each day, Futures Literacy helps you to enhance your perception, embrace complexity and discover a new sense of agency: how to take advantage of change and appreciate uncertainty³⁸.

Curious to know more? Watch this video

³⁸ E. Kazemier, L. Damhof, J. Gulmans, P.H.M. Cremers P.H.M., *Mastering futures literacy in higher education: An evaluation of learning outcomes and instructional design of a faculty development program*, *Futures* 2021, 132(3).

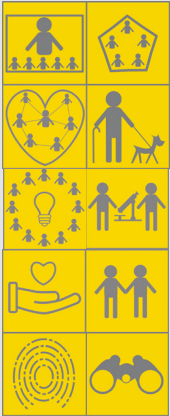


<https://www.youtube.com/watch?app=desktop&v=SBGuWa3MmLE>



TRAINING SESSION 1

FUTURES LITERACY: WALKING ON TWO LEGS



1. OBJECTIVE

In this first training session of the Module Anticipation for Emergence you will be introduced to the capability of Futures Literacy, using the methodology of a Futures Literacy Lab. This practical tool aims to let trainees experience various ways of ‘using the future’ by guiding them through three phases: Reveal, Reframe, Rethink.

2. THEORETICAL INTRODUCTION

Futures literacy (FL) is a capability that helps us understand why and how we use, imagine, and diversify futures in different contexts³⁹. The most common way we use futures is through what we call Anticipation for the Future (AfF): we plan (to reach goals and ambitions) or prepare (for what we expect that will happen). Another way to use the future is through what we call Anticipation for Emergence (AfE): to explore alternative futures so we can detect novelty in the present, to see the present differently. The main distinction between AfF and AfE is why we use futures, this determines our choice of anticipatory systems and processes. If we understand when we anticipate and for what purpose, we are futures literate.

One way to illustrate this concept is to see anticipatory systems and processes as visual filters that, when changed, also alter what we can see, name, and invent⁴⁰:

- A Futures Illiterate person, unaware that they use anticipatory filters cannot explicitly choose from amongst familiar ones or explicitly attempt to invent new ones.
- Someone who becomes Futures Literate, by acquiring the capacity to select and create anticipatory assumptions, is not only aware of the filters but is able to decide why, how and when to change filter.

Being ‘Futures Literate’ means that you are able to **walk on two legs** (AfF and AfE) in different contexts. This capability is of crucial importance, especially for students and early stage researchers, as they are in the process of starting their profession/ career path. According to UNESCO⁴¹, developing Futures Literacy (FL) as a capability enables them to discover the sources of their hopes and fears in their history, culture, context and aspirations

³⁹ R. Miller, Sensing and Making-Sense of Futures Literacy: Towards a Futures Literacy Framework (FLF), [in:] R. Miller (eds.), *Transforming the Future: Anticipation in the 21st Century*, 2018, Routledge, pp. 15-50. Retrieved from <https://www.taylorfrancis.com/chapters/oa-edit/10.4324/9781351048002-2/sensing-making-sense-futures-literacy-riel-miller>

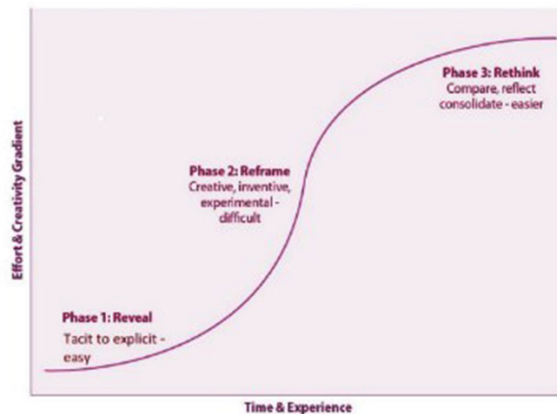
⁴⁰ R. Miller, R. Sandford, *Futures Literacy: The Capacity to Diversify...*, op. cit.

⁴¹ Information retrieved from the UNESCO website, 2021, <https://en.unesco.org/futuresliteracy/about>



One of the tools to build this capability is through Futures Literacy Laboratories (FLL) in which mixed group of participants experience both legs of using the future (AfF and AFE), resulting in an increased awareness of their anticipatory assumptions and ‘why and how they use the future’ in the present.

Three Phases of the Learning Cycle⁴²



A Futures Literacy Laboratory consists of three phases:

Phase 1: *Reveal “tacit to explicit” anticipatory assumptions of the future*

Participants make their existing anticipatory assumptions explicit by discussing their hopes and predictions concerning the chosen theme of the Lab (e.g. ‘the future of work in 2070’) This phase refers to anticipation for the future: we plan for something we hope for, and we prepare for something we think might happen: a prediction.

This phase involves activities that allow participants to reveal their initial assumptions, perceptions and imaginations of the future. The outcome of this phase makes participants:

- doubt their perspectives or ways of knowing the future (hopes and fears, imaginations, images, expectations, predictions, etc.),
- question their assumptions of the future;
- question their ways of perceiving what or why is real or imagined or vice-versa.

Phase 2: *Reframing –Playing with Anticipatory Assumptions of the Future.*

This learning phase is where participants:

- learn the different and diverse anticipatory systems and processes;
- learning by doing it or learning how to use-the-future through the application of anticipatory tools and techniques (creative, critical, interpretive, anticipatory action-learning methods) to innovate in the present and create and imagine alternatives and preferred futures;
- learn the value of perception, assumptions or context; learn the value of stories and storytelling in the creation and deepening of alternative future worlds and identifying and transforming preferred futures through reflection and emergence.

In this phase, participants are provoked and disturbed, and Aha-moments might occur in this phase.

Participants will often learn that they have little experience “using the future” other than preparation and planning. This phase may be a bit challenging as traditional way of perceiving and understanding the future are further questioned. Here, participants immerse and attempt to concretize a previously abstract or unknown alternative future

⁴² R. Miller, *Futures Literacy Labs (FLL) in practice. An overview of key design and implementation issues*, [in:] Miller, R. (eds.), *Transforming the Future: Anticipation in the 21st Century*, Routledge, London, 2018, pp. 95-109. Retrieved from <https://www.taylorfrancis.com/chapters/oa-edit/10.4324/9781351048002-5/futures-literacylaboratories-fll-practice-riel-miller>

environment. At this phase, they begin to experience what it is like to be futures literate, in an intensive exercise in creative thinking. Proof of concepts are built and participants gain a better appreciation of the need to challenge or question their assumptions of the future through collective intelligence and knowledge creation.

Phase 3: Rethink, Reflect, Consolidate – New Questions and Next Steps

Participants are invited to compare their anticipatory assumptions from the previous two phases and identify insights and ways of seeing potential futures in the present.

From 'knowing' the future to gaining the skills and the capacity to use the future to reinvent ways of innovating in the present, this phase is designed to enable participants to rethink and reflect:

- on the context, purpose and processes of futures thinking and literacy to discover and create the invisible;
- on the value of questioning used and default assumptions of the future;
- on imagined alternative future environments and identifying what's plausible (preferred) and emergent (transformed futures);
- on the process of concretizing abstract future thoughts or imaginations through the application of tools and techniques.

In addition to the key design principles described by Miller (2018)⁴ we highlight here three design principles specified by Balcolm Raleigh et al (2018) which are specific for students:

- Keeping the future open – By not overemphasizing the organizers' views of the future, students can come to the process from their own starting points.*
- Students steer their own learning – The structure should de-emphasize lecturing in favor of conversation, discussion and student-led inquiry. Students should be given avenues to shape the process before it occurs.
- Boosting and combining creativity and criticality – When students are supported in being creative and critical at the same time, they are better able to immerse themselves in rich futures.

3. PRACTISE YOUR PATHWAYS

In this session you will facilitate a Futures Literacy Laboratory (Tab. 8) for university students and junior researchers. The timeframe allocated for this experiment is 3 hours, and before you start, you may decide upon three principles first:

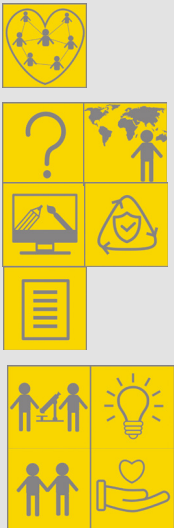
- Who am I designing and facilitating for?
- What futures do I want to explore? What is the theme or the topic?
- What do I want to practice myself?

The outline below and the attached powerpoint presentation take you through the facilitation process step-by-step, and the decisions you need to make, in which you can find inspiration from other Laboratories as described by Miller (2018)⁴³.

After the Lab, you're advised to assemble insights from the participants and to reflect on the experience:

- What worked well?

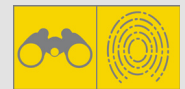
⁴³ N.A. Balcolm Raleigh, L. Pouru, E. Leino-Richert, M. Parkkinen, M. Wilenius, *Futures Literacy Lab for education*, Writers & Finland Futures Research Centre, University of Turku, 2018. Retrieved from https://www.utupub.fi/bitstream/handle/10024/147415/FFRC_eBook_3-2018.pdf?sequence=1&isAllowed=y



- What could work better?
- What would you do differently?

Tab. 8. Futures Literacy Laboratory (3 hours) - The Future of Work

Time	Activity	Notes for the facilitator
0h00	<p>Intro Futures Literacy</p> <p><i>Futures Literacy</i> is a capability that enhances our imagination and diversifies futures. We use those Futures to see things differently in the present.</p> <p><i>The Futures Literacy Laboratory</i> is a tool, a methodology to practice the capability.</p>	<p><i>Keep it short and simple.</i></p> <p><i>Explain that there are three phases and that the Lab is the tool to practice the capability of Futures Literacy</i></p> <p><i>Feel free to use your own words!</i></p>
0h05	<p>The Polak Game⁴⁴</p> <p>Introduce the first axe that represents:</p> <p><i>Future is bright vs Future is bleak</i></p> <p>Ask participants to take a physical stand on an imaginary line on the floor.</p> <p>Ask them to stay where they are. Then introduce another perpendicular imaginary line that represents ‘Agency’.</p> <p><i>I can influence the future vs bigger forces are at play</i></p> <p>Participants move back or forward on this line as well. You should have four quadrants now, of four different future visions.</p> <p>They share briefly with each other why they choose this position. Ask for a few responses.</p>	<p><i>The Polak makes very explicit the differences in futures and demonstrates that there is data on how people move as well, besides using words.</i></p> <p><i>It is also a good warm up to start thinking about futures.</i></p> <p><i>During this warm up we don't use a specific theme or timeframe. It is the general approach towards the future</i></p>
0h15	<p>Phase 1a Reveal: The Probable Future</p> <p>Participants close their eyes and wake up in 2070. They describe from a day in the life perspective: what does work look like in a probable future, one that they would make a bet on?</p> <p>Working silently, on their own, participants have 5 minutes to jot down ideas on post its</p> <p>15 minutes in total – 2 minutes per participant – each member of the group shares their thoughts with a bit of discussion.</p>	<p><i>Describing probable futures is about depicting, painting a picture, of a world you would bet on – what you most expect. Think of a snapshot, not a movie. This is not about the road to 2070, it's about describing as it is. You are there, describe things in the <u>present tense</u>.</i></p>



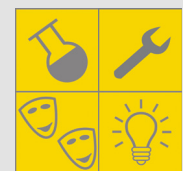
⁴⁴ P. Hayward, S. Candy, *The Polak Game, or: Where do you stand?*, Journal of Futures Studies, 2017, 22(2), pp. 5-14.

⁴⁵ S. Inayatullah, *Causal Layered Analysis. Prospective and Strategic Foresight Toolbox*, 2017. Retrieved from <https://www.futuribles.com/en/group/prospective-and-strategic-foresight-toolbox/document/causal-layeredanalysis/>



0h30	<p>Basic explanation of layers in Causal Layered Analysis⁴⁵</p> <p>Eye – Litany – stands for the visible: the tangible, the numbers and other data and the headlines</p> <p>Cogs – Systems – stands for the ways in which we operate: our systems, organizations, markets, schedules, tests</p> <p>Head – Worldview – stands for the ways our collective convictions influence systems and litany: economical, sociological, philosophical mainstream frames on the world, such as capitalism, social constructivism or existentialism.</p>	<p><i>Try to keep it simple. Explain that this is about unpacking their futures, not about putting the right post it on the right layer</i></p>
	<p>Heart – Myths – stands for the metaphors that feed our world views, the tacit emotional collective narratives, f.e. Mammon,</p> <p>Using CLA in groups, posters on the table in the middle of the group – each participant takes its individual turn to place the post-its.</p>	
0h50	<p>Phase 1b Reveal: Desirable Future</p> <p>Participants close their eyes and imagine a desirable future of work in 2070. Again, this is a snapshot, a photo, not a movie. Focus on day in the life activities – what it is like when they wake up in the morning. What do they do?</p> <p>Working silently, on their own, participants have 5 minutes to jot down ideas.</p> <p>15 minutes in total – 2 minutes per participant – each member of the group shares their thoughts with a bit of discussion.</p>	<p><i>Try to stretch their imagination by emphasizing this is the world of endless possibilities!</i></p> <p><i>There is no right or wrong!</i></p>
1h05	<p>Participants work on the Iceberg with their desirable futures</p> <p>10 minutes max</p>	
1h15	<p>Compare and share</p> <p>Each group gives a short presentation of their findings.</p> <p>What are some of the differences or similarities between the icebergs?</p>	<p><i>2 minutes max per group!</i></p>

1h25	<p>Phase 2a: Reframe</p> <p>This is a short story that is a non-probable, non-desirable future that defines work in an unexpected way. Outside of predictions and preferences that are usually why and how we create images of the future.</p> <p>Ask participants to think about these two questions: What is your first response? What makes you curious about this future? What did you take for granted?</p>	<p><i>Try to come up with a reframe that challenges their thinking and their assumptions on the future of work.</i></p> <p><i>For example:</i></p> <p><i>In 2070 development of technology has halted.</i></p> <p><i>Or: trust in technology has eroded</i></p> <p><i>Or: you only get paid for leisure time, and work is for free.</i></p>
1h30	<p>After an individual reflection of 5 minutes, participants share their thoughts within their groups.</p>	<p><i>It is important that everybody has the space and time to share without judgement or discussion</i></p>
1h45	<p>Phase 2b Prototype the reframe</p> <p>Within your group, try to 'build' a 3D sculpture of the reframe world, without too much discussion. Use all the material available! Purpose is to beyond words, and to see what other assumptions come up when doing this.</p>	<p><i>Make sure you have enough material: paperclips, paper, balloons, cups etc...</i></p>
1h55	<p>After ten minutes, participants share their prototypes with the other groups.</p>	<p><i>Online: participants can post images and or add audio</i></p>
2h05	<p>Phase 3 Rethink: New Questions</p> <p>Explore compare/contrast Phase 1's probable/desirable futures and Phase 2's reframed future.</p> <p><i>We are back in the present.</i></p> <p>Are there any sources and uses of work that you had not noticed before? Are there any different ways of working that you did not think of before?</p>	<p><i>Make sure that participants go back to the present.</i></p> <p><i>For the new questions take into the following two requirements:</i></p> <p>It's an open question for which you don't have an answer yet</p> <p>The question has emerged from the workshop</p>
2h15	<p>Are there things that you thought were important for X before the exercise but seem less important now in light of exploring other images of the future, and vice versa?</p> <p>Participants individually make a list of new questions and prepare 3 to share in the group.</p> <p>In the groups, negotiate the three most pressing questions. Write them down</p> <p>Share the new questions with the other groups</p>	
2h30	<p>Recap of the process of the Lab.</p> <p>What have we done today? Go over the learning curve and explain the three phases.</p>	<p><i>Make sure you give a recap of the process, and point out the three phases.</i></p>
2h45	<p>Check out</p> <p><i>In the future I want to.....</i></p>	<p><i>You can alternate this check out.</i></p> <p><i>Capture the workshop in one word for example</i></p>



4. PRESENTATION ABOUT THE TOPIC (E-LEARNING)

Based on the outline above, the following slides offer a step-by-step guide for a Futures Literacy Lab of three hours.

Co-funded by the Erasmus+ Programme of the European Union 

2.1 MODULE 2. ANTICIPATION FOR EMERGENCE
TRAINING SESSION 1. Futures Literacy Laboratory

Futures Literacy Laboratory



The European Commission's support for the production of this publication does not constitute an endorsement of the contents, which reflect the views only of the authors, and the Commission cannot be held responsible for any use which may be made of the information contained therein.

The Polak Game: where do you stand? *(10 minutes)*

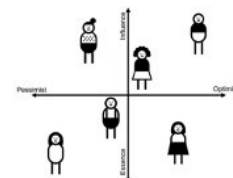
The Future is Bright vs The Future is Bleak

Take a position on this imaginary line between two extremes

I can influence the future vs bigger forces are at play

Take a position on this imaginary line

In what quadrant are you? Why?



The Future of Work

Three hour workshop

Futures Literacy Laboratory: an experiment with different futures in three phases

- **Reveal:** making your probable and desirable futures explicit
- **Reframe:** playing with an alternative future
- **Rethink:** seeing the present differently

The Probable Future: phase 1 *(15 minutes)*

We go on a journey to the year 2070:

*What do you **expect** work looks like? **How** do we work? **Where**?*

*Write down your predictions *(5 minutes)**

Be specific!

*Share your future visions! *(10 minutes)**

The Iceberg *(20 minutes)*

Layer your future visions

What do you see/hear/notice?



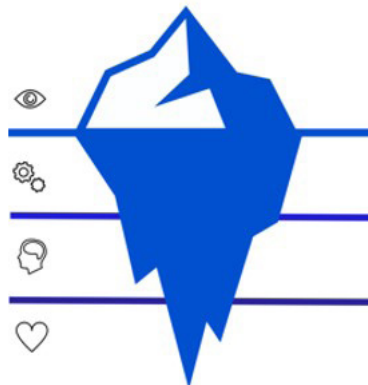
What systems are supporting this scenario?



What worldview do people have in this future? (think of norms, culture)



What do people believe in that is expressed through an image or symbol? (core value)



The Desirable Future *(15 minutes)*

We stay in the year 2070.
But now in a world full of endless possibilities!

*What do you **hope** work looks like?*

Where and how? What would make you very happy?

*Write down your dreams... *(5 minutes)**

Be specific!

*Share your future visions! *(10 minutes)**

The Iceberg (10 minutes)

Layer your future visions

What do you see/hear/notice?



What systems are supporting this scenario?



What worldview do people have in this future? (think of norms, culture)



What do people believe in that is expressed through an image or symbol? (core value)



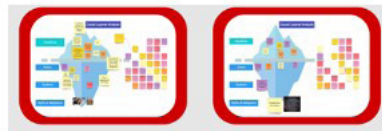
Compare and share

Give a short recap per group about your findings

Did you notice any differences between the probable and desirable future?

Why/why not?

What are your main ideas?



Reframe: phase 2

An alternative future of work....

Reflect (5 minutes):

What is your first response?

What makes you curious about this future?

What did you take for granted?

Share (15 minutes)

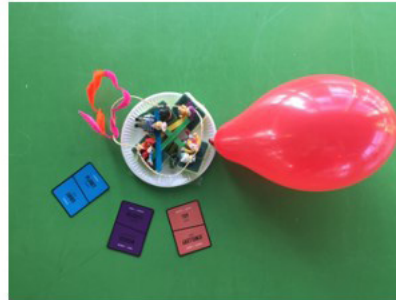


Build the reframe world (10 minutes)

Use all available material to build a 3D sculpture of this future

*Don't discuss or overthink,
just start making!*

Share with all the groups



Rethink: phase 3

We go back to the present.

After visiting and exploring three different futures, what questions emerge about **the present of work**? Think of 3 new questions (10 minutes)

Questions that:

- Do not have answers yet
- Have emerged from this workshop



New Questions

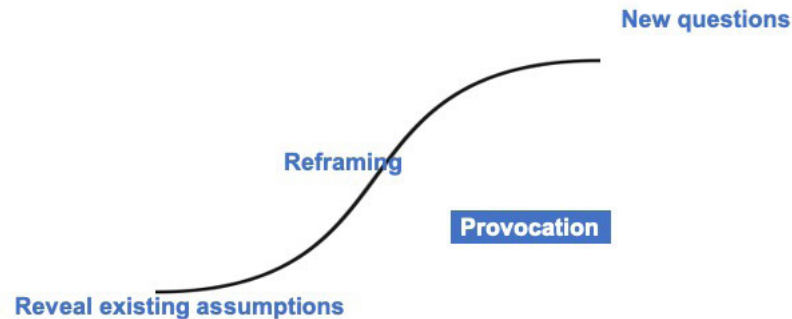
Share your new questions in your group.

Try to come up with a list of **three new questions on the future of work** that reflect the individual ones. (15 minutes)

Share plenary

Futures Literacy Laboratory: the Process

Using collective intelligence:
sense making as learning



Source: Riel Miller, 2015

Check out

Finish this sentence:

In the future I want to be.....

5. USEFUL AREAS OF EXPERTISE/EXPERTS

When facilitating collective intelligence knowledge creation processes, the following sources might be useful:

- Using the design principles of [The ValueWeb](#)
- Using [Learning arches](#) by Kaos pilots
- Read [The Art Of Gathering](#)
- Or watch how now-here does it

6. RECOMMENDATIONS FOR VIRTUAL FORM

When facilitating a Futures Literacy Lab in a virtual environment, the following guidelines are recommended:

- Use a virtual platform that is congruent with the organization you are working with. Zoom and Microsoft Teams are the most common virtual collaborative environments,

but this may differ regarding the context. Make sure the option for break out rooms exist, for each group to discuss among themselves

- Make time for an ice breaker and introduction to create an open and safe environment
- Use an open canvas for participants to work on. It should be user friendly with plenty of possibilities to be creative. Commonly used platforms are MIRO or Mural. Make sure participants are able to practice using this platform beforehand
- Physical exercises like the Polak-game⁴⁶ can be translated to the online environment. By allowing participants to ‘move’ along virtual axes on the platform or slide.
- Make a clear distinction between time allotted for the break out groups and the plenary sessions. Allow for groups to present their work plenary.
- Instead of the 3D sculpture, ask participants to use images and audio instead. Try to go beyond words and find other entry points to imagine the future.

7. RECOMMENDED SUPPLEMENTARY RESOURCES

In addition to the references included in paragraphs above, the following sources offer additional background information on Futures Literacy as a capability as well as the tools and techniques used in the Futures Literacy Laboratory.

[To get started on Futures Literacy](#)⁴⁷

[What is Futures Literacy and why is it important?](#) Larssen, Kæseler Mortensen & Miller⁴⁸

[The Futures Literacy Laboratory-Novelty \(FLL-N\) case studies.](#) Bergheim⁴⁹

[Global Futures Literacy Design Forum](#)⁵⁰

⁴⁶ P. Hayward, S. Candy, *The Polak Game ...*, op. cit.

⁴⁷ UNESCO, *Resources – To get started on Futures Literacy*, 2021. Retrieved from <https://en.unesco.org/futuresliteracy/resources>

⁴⁸ N. Larssen, M. Kæseler Mortensen, R. Miller, *What Is ‘Futures Literacy’ and Why Is It Important? On overcoming blind resistance to change and poverty of the imagination*, 2020. Retrieved from <https://medium.com/copenhagen-institute-for-futures-studies/what-is-futures-literacy-and-why-is-it-important-a27f24b983d8>

⁴⁹ S. Bergheim (eds.), *The Futures Literacy Laboratory-Novelty (FLL-N) case studies*, [in:] *Transforming the future*, Routledge, London, 2018, pp. 110-229.

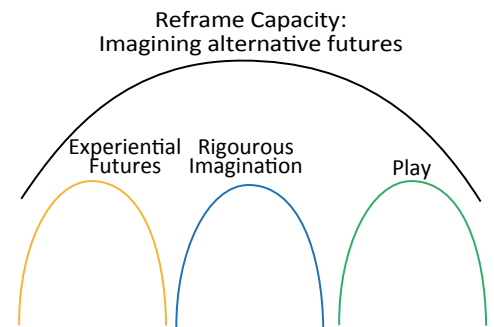
⁵⁰ UNESCO, *Global Futures Literacy Design Forum: catalogue of learning-by-doing labs*, 2019. Retrieved from <https://unesdoc.unesco.org/ark:/48223/pf0000372250>

TRAINING SESSION 2

REFRAME CAPACITY: IMAGINING ALTERNATIVE FUTURES

1. OBJECTIVE

In this part of the AfE module we dive deeper into the capacity to reframe. The reframe itself is a powerful tool (it is the steep learning curve in a Futures Literacy Lab) while using the future for exploration: it forces us to stretch the boundaries of our imagination. The objective of this module is to experience a reframe or alternative future, to engage in rigorous imagination by exploring alternative futures and to design experiential futures that are applicable to the targetgroup.



RIGOROUS IMAGINATION

In this session you will practice your own rigorous imagination by designing reframe scenarios and experiential futures for junior researchers. We differentiate here between **reframes vs. experiential futures**.

Reframes

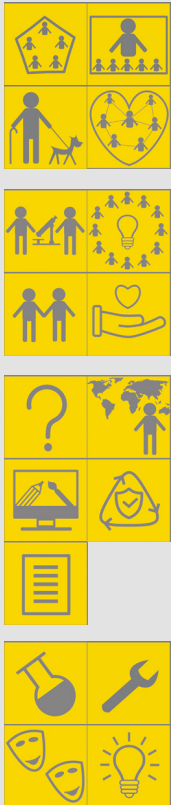
A *reframe scenario* is part of the learning curve of a Futures Literacy Lab (see module 1) and is supposed to challenge our assumptions on continuity and discontinuity. When designing a Lab, we can either use the *dynamic reframe technique*, or a beforehand carefully designed reframe that fits the purpose of the Lab. The dynamic reframe is constructed after phase 1 in a Lab is based on the assumptions that were revealed in the desirable and probable futures. When listening to the futures of participants in Phase 1, try to detect the main assumptions they are making. Is it about technology? About money or how to make a profit? About the nature of humanity? About equality? Then make those assumptions the main narrative in your reframe scenario.

A *multilayered, pre-designed reframe* is often based on the aim of the Lab, and disregards the futures in the first phase of a Lab. When a Lab is designed with a specific purpose in mind, you might want to think beforehand about the assumptions participants might have. In a pre-designed reframe you want to incorporate as many layers of society as possible. Think of the DESTEP: demographic changes, economy, society, technology, ecological, political. Can you construct a fictitious world that touches upon all these layers?

Both reframes require *rigorous imagination*.

Experiential Futures

The emergence of the term *experiential scenarios* can be traced back to the lifework



of Jim Dator and the creation of the Hawaii Research Centre for Futures Studies (HRCFS). *Hawaii 2000* was described as a wide public participation project that aimed at collecting public opinion on what Hawaii should be like by 2000 research⁵¹ r⁵². Any experiential future can differ in scale, target audience and purpose. In the example above the scope is larger and stretches over a longer period of time. For practice you are referred back to the examples in the first session. Please feel encouraged to try out a small experiment that involves an alternative future (neither a desirable, nor a probable one).

PLAYGROUND

In this final session you apply your design of an experiential future to your target audience – junior researchers. The time allocated for this is 3 hours. To start, it is crucial to define the parameters of this design:

- Who is the target group?
- In what context do you want to practice?
- What future do you want to explore?

When these parameters are clear, you can design your own workshop step by step.

2. THEORETICAL INTRODUCTION

Experiential Futures (XF) refer to a set of approaches to make alternative futures more present⁵³. The juxtaposition of ‘experience’ and ‘future’ seems like a contradiction: how can one experience something that hasn’t happened yet? But this contradiction is on purpose: we explore the friction between the senses in the now and yet-to-come, and tend to harvest that energy. You are invited to play with time, to sense what doesn’t make sense yet. By including absent and distant futures into our present physical experiences, we can reflect on what this might teach us. An experiential scenario is a future brought to life. It’s a tangible ‘what if’ scenario and a way of thinking out loud, materially or performatively, or maybe even both.

Candy and Dunagan intuitively hypothesized that an embodied experience of a future scenario could enable people to deal with the *unimaginable utopia* and the *unthinkable dystopia*.

By getting rid of the temporal distance between the experience in the now and the distant later than now, XF angles for ‘what ifs’ real enough to trick our mind and body into taking them seriously. The parameters are almost endless, taking in “the gamut of approaches involving the design of situations and stuff from the future to catalyse insight

The Experiential Turn*

by Stuart Candy and Jake Dunagan

*This is an edited excerpt of a full-length article and case study of an experiential futures project undertaken by the authors at Arizona State University's inaugural Emergent Festival (Candy and Dunagan, 2016). The original piece appeared in a special issue of the journal *Futures* on ‘Experiencing Futures’, guest edited by Cornelia Dathem and Kerstin Ouhf.

For futures studies to impact mainstream culture and contribute to civilisation-scale “social foresight” it must be capable of bridging the “experiential gulf” between abstract possible futures, and life as it is directly apprehended in the embodied present.

Candy & Dunagan (2016)²

⁵¹ Blane in Dator et al., 1999

⁵² C. Garduño García, I. Gaziulusoy, *Designing future experiences of the everyday: Pointers for methodical expansion of sustainability transitions research*, *Futures* 2021, 127 (102702).

⁵³ S. Candy, I. Dunagan, *The experiential turn*, *Human Futures* 2016, 1, 26–29.

and change”⁵⁴. XF “involves designing and staging interventions that exploit the continuum of human experience, the full array of sensory and semiotic vectors, in order to enable a different and deeper engagement in thought and discussion about one or more futures, than has traditionally been possible through textual and statistical means of representing scenarios”⁵⁵.

Experiential futures is an emerging research and practice field that deals with creating real memories of virtual events by combining futures inquiry methods such as scenarios with human-centred, experiential, empathy-evoking and performative approaches of artistic and design research. Methods used in experiential futures research focus on humans and future systems and the meaning derived through that experience.

Experiential futures projects have been used to scrutinise proposed futures, however, their use has been through singular, short-term installations and they have not yet been systematically utilised in sustainability transition projects which are long-term, and underlined by high complexity and uncertainty.¹

3. PRACTICE YOUR PATHWAYS

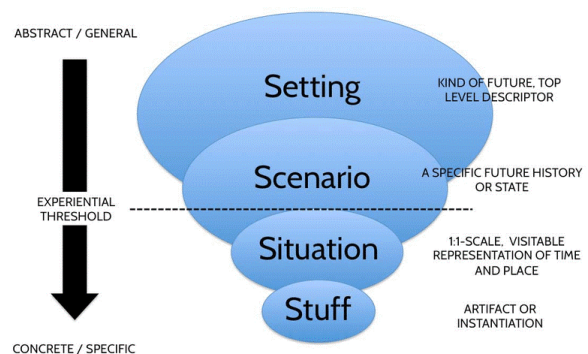
For participants to have a meaningful Experiential Future, it is important to sketch their frame of reference before you start designing. One good way to do this, is by mapping their futures visions on a certain topic, for example the future of work. By making their probable and preferable futures explicit, you have access to important data; the assumptions on which their base their futures.

To broaden that perspective, a next step could be to brainstorm several alternative futures that challenge those assumptions. Try to include these futures into the present, by describing those futures *in the present tense*. What does it look like? Who plays a role in these scenarios?

These steps have a similar structure as the Reframe, phase 2 in a Futures Literacy Lab. The next step into an Experiential Future, is the translation to the physical, the presentable: the more immersive and tangible the better. You can use the Experiential Futures Ladder to move from setting to stuff, adding more detail as you go. This can be done in collaboration with the participants, or designed beforehand.

Then turn this scenario into an experience, using directions, audio, multimedia, signs on the streets. Try to simulate this future as realistic as you can. Duration or scale are up to you.

The Experiential Futures Ladder



Candy & Dunagan (2016)

⁵⁴ S. Candy, *Gaming futures literacy: The thing from the future*, [in:] *Transforming the future : Anticipation in the 21st Century*, Routledge, London, 2018, pp. 233–246.

⁵⁵ S. Candy, *The futures of everyday life: Politics and the design of experiential scenarios* (PhDDissertation), 2010, Department of Political Science, University of Hawaii at Manoa.

The last step is the most important one: capture the learning in this process. Through observation and note-taking, interviews or surveys, try to capture the responses and the reflections of the participants.

Without too much information beforehand, invite participants to explore these questions during the experience:

- What happens to you when you are experiencing this future? Observe and note down your first response.
- What questions arise? What makes you curious? What makes you wonder?

To design an effective reframe, make sure to follow these principles:

- Construct a story that is neither probable nor desirable
- Take one major assumption and either enlarge it, or diminish it
- Do not aim for shock and awe: people need to feel encouraged to explore
- Make sure the reframe challenges relationships between the theme and the assumptions

Practice with reframes

Don't be discouraged when you are encountering the boundaries of your own imagination. It is not an easy thing to do. Think of it as a muscle you need to stretch and exercise: it takes time! The only way to keep that muscle warm and flexible, is to practice. These three low-threshold activities are meant to start easy.

Activity #1. What if...?

Ask your self questions that start with.. *What if..?*

Try to write down ten questions that challenge assumptions you have about:
Technology – Relationships - Learning and Education – Work – Religion - Etc.

Activity #2 Take-home task based on interpretation.

- Instruction: 'write the longest story you can ever write. On one page.'
- The only instruction is not to write more than one page (maybe less?)

Activity#3 Improbability Dive

Improbable futures: What is the most improbable future you can imagine?

- Give participants a certain year (and topic?)
- Purpose is unconsciously merge probable and desirable futures
- Rigorous imagination!

Practice with Experiential Futures

The purpose of Experiential Futures in this module is to enhance the imagination, and to become more open for emergence. By playing with time and including the later than now INTO the now, we are invited to think beyond the obvious. Experiential futures may be dystopian or utopian, and they most likely will evoke some reaction. These responses give us data too: what we find important or acceptable, or not.

For this module you are invited to practice with the facilitation of the following



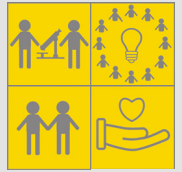
workshop: experiencing future cities. Part of the workshop is to let participants design an experiential future for their peers.

The outline below is for three hours, including an icebreaker and reflection (Tab. 9).

Tab. 9. Experiential Futures Workshop (3 hours)



Time	Activity	Notes for the facilitator
0h00	<p>Icebreaker</p> <p>Have participants walk through the room at their own pace. Ask them to imagine they are walking through their favorite city. They need to name something they cannot see.</p>	Participants are encouraged to feel comfortable with the idea of experience, and to use other senses.
0h10	<p>Intro of Experiential futures</p> <p>Participants are about to <i>have</i> an experience, and <i>design</i> and experience. Use some quotes about imagination, and explain what experiential futures has to do with the capacity to reframe.</p> <p>It is not about experiencing a realistic future, but to reflect on what you take for granted.</p>	<i>Try not to explain too much, but let it be about the experience</i>
0h15	<p>Start of the workshop regarding Designing new cities</p> <p>For this activity participants need to take their classmates into an immersive experience.</p> <p>They can use music, sounds, videos, images, objects, such a magazine, poster, artifact, role playing or any tool that can create the environment on how will it be like to live in that future?</p> <p>Imagination is the most important, how can you involve all the participants into the exercise?</p> <p>Some guiding principles:</p> <p>You want you to use an experiential future by taking the other groups on an immersive, sensory tour of the city! (<i>you can use music, sounds, videos, images, objects, such a magazine, poster, artifact, role playing or any tool</i>)</p> <p>Invoke an emotion: how do you want the visitors to feel when they walk through your city?</p> <p>Imagination is the most important, how can you involve all the participants?</p> <p>The tour must include a specific place of work which you will visit</p>	Encourage them to use sensory experiences... Do not allow for a merely presentation
0h20	<p>Part 1:</p> <p><i>Dive a little bit in what might be impacting cities in 2070...</i></p> <p>What trends will impact the living conditions?</p> <p>What concepts, ideas and paradigms are prevalent?</p> <p>What goods & services do we create and/or institutions we set up? What technology will we use?</p> <p>Write a small constitution for your city. Which are the principles that will rule your city?</p>	Let them pick three elements form the figure on the PP. Encourage them to use their imaginations, be specific



0h55	<p>Design round</p> <p>1.- Visiting the City of the Future</p> <p><i>Participants choose an alternative future and Name for their city</i></p> <p>What does it look like?</p> <p>What does your city feel like? Is it cold, warm?</p>	<p><i>Allow for enough time if they are not ready. You might want to include a break</i></p>
	<p>What sounds we can hear in the city?</p> <p>Write a small constitution for the city, which are the principles that will rule the city?</p> <p><i>Add at least 3 to 4 principles. I.e. Jim Dator 3 laws for the future, and 3 laws of Arthur C. Clarke (see PP slides)</i></p>	
1h35	<p>The Tours</p> <p>2.- Welcome to _____ the City of the Future</p> <p>In this step each group is a tourist guide, they'll need to introduce your city to the group.</p> <p>Remember their main goal is to give them an experience, what sounds, images, stories will they see, hear, feel?</p> <p>What do you want them to take away from their city?</p> <p>Is it a souvenir, food, drink, principles, believes?</p>	<p>Each group takes a turn in giving the tour</p>
2h00	<p>Participants in their groups reflect on their own city</p> <p>Which are the cracks of their imaginary city, what did it miss?</p> <p>Is it possible to live in their City of the Future?</p> <p>If the answer is Yes, what will be something that they can start to do today to accomplish that future?</p> <p>If the answer is NO, what is missing to get there?</p> <p>If they are not sure, share questions.</p>	<p>Make sure each participant has individual time to reflect and take notes, then discuss within the group, then plenary</p>
2h20	<p>Participants reflect on their experience of the other cities</p> <p>How did you feel after experiencing this alternative Cities of the Future?</p> <p>What are your takes of this Experiential Futures activity?</p> <p>Share plenary</p>	<p><i>Make sure each participant has individual time to reflect and take notes, then discuss within the group, then plenary</i></p>
2h40	<p>Check out for the participants</p> <p>What question will you ask yourself/ What will you pay attention to when you move around your own city in the present?</p> <p>Individual reflection (if desired sharing in group)</p>	<p>Stimulate participants to stay in an open state (divergent thinking instead of convergent thinking)</p>



4. PRESENTATION ABOUT THE TOPIC (E-LEARNING)

Co-funded by the Erasmus+ Programme of the European Union 

2.2 MODULE 2. ANTICIPATION FOR EMERGENCE
TRAINING SESSION 2. Reframe Capacity

Experiential Futures



The European Commission's support for the production of this publication does not constitute an endorsement of the contents, which reflect the views only of the authors, and the Commission cannot be held responsible for any use which may be made of the information contained therein.

Some thoughts on future and design....

JIM DATOR

"The future cannot be predicted because the future does not exist."

"Any useful idea about the futures should appear to be ridiculous."

"We shape our tools and thereafter our tools shape us."

ARTHUR C CLARKE

"When a scientist states that something is possible, they are almost certainly right. When they state that something is impossible, they are very probably wrong."

"The only way of discovering the limits of the possible is to venture a little way past them into the impossible".

"Any sufficiently advanced technology is indistinguishable from magic."

Cities of the Future

Welcome to this workshop experiential futures. In three hours you will:

- **Design** a future city
- **Take** your peers on a tour
- **Go** on a tour through a future city...
- **Reflect** on your experience...

Design a city of the Future!

Some guiding principles...

- We want you to use an experiential future by taking the other groups on an **immersive, sensory tour of the city!**
- *(you can use music, sounds, videos, images, objects, such a magazine, poster, artifact, role playing or any tool)*
- **Invoke an emotion:** how do you want the visitors to feel when they walk through your city?
- **Imagination** is the most important, how can you involved all the participants into the exercise.

Remember.....

- In your tour of 5 minutes (!) you will be the guide: you will need to introduce your city to the other groups.
- The main goal is to give them an experience:
 - what sounds, images, stories will they see, hear, feel?
 - what do you want them to take away from your city? Is it a souvenir, food, drink, principles, beliefs?
 - Try to include a **specific place of work** which you will visit

Don't forget to welcome the participants, with a welcome kit!

Have fun and good luck! *(40 minutes for design)*

Start here....

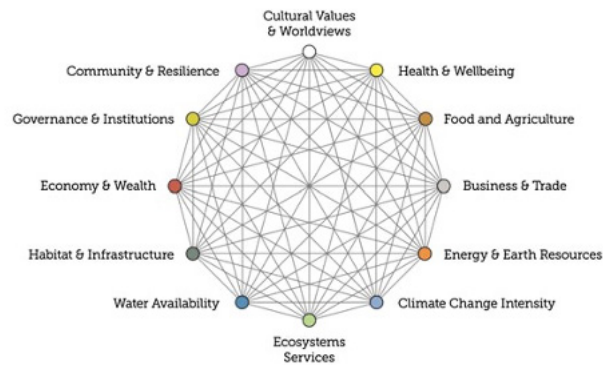
Dive a little bit in what might be impacting cities in 2070... (10 minutes)

- What trends will impact the living conditions?
- What concepts, ideas and paradigms are prevalent?
- What goods & services do we create and/or institutions we set up? What technology will we use?

Write a small constitution for your city (10 minutes)

Which are the principles that will rule your city?

Since there are so many factors influencing these trends and developments, we ask you to **pick 3 components in the figure below.**



The City of the Present: reflect on the city

Discuss these questions in your group (15 minutes)

Which are the cracks of your imaginary city. What is it missing?

Write them down

- Is it possible to live in your City of the Future?
- If your answer is **Yes**, what will be something that you can start to do today to accomplish that future?
- If your answer is **NO**, what is missing to get there?
- If you are not sure, share with the group your questions.

Reflect on the experience

First individual (notes, 5 minutes) then plenary sharing (10 minutes):

1. How did you feel after experiencing these alternative Cities of the Future?
2. How did you feel when you were moving through this city? Did you fit in? Why or why not?
3. What do you take away from this Experiential Futures activity?

Source: A. Hodgson, *Transdisciplinary World Model*, Systems Research and Behavioral Science 2012, 29(5), pp. 517–526, <https://doi.org/10.1002/SRES.2154>.

Checkout

- What question will you ask yourself/what will you pay attention to when you move around your own city in the present?

5. USEFUL AREAS OF EXPERTISE/EXPERTS

For more information on Experiential Futures, please check out the work of these experts:

Jim Dator: <https://master-foresight-innovation.fr/team/jim-dator/>

Leah Zaidi: <https://www.multiversedesign.com/>

Stuart Candy: <https://futuryst.blogspot.com/2018/10/experiential-futures-brief-outline.html>

6. RECOMMENDATIONS FOR VIRTUAL FORM

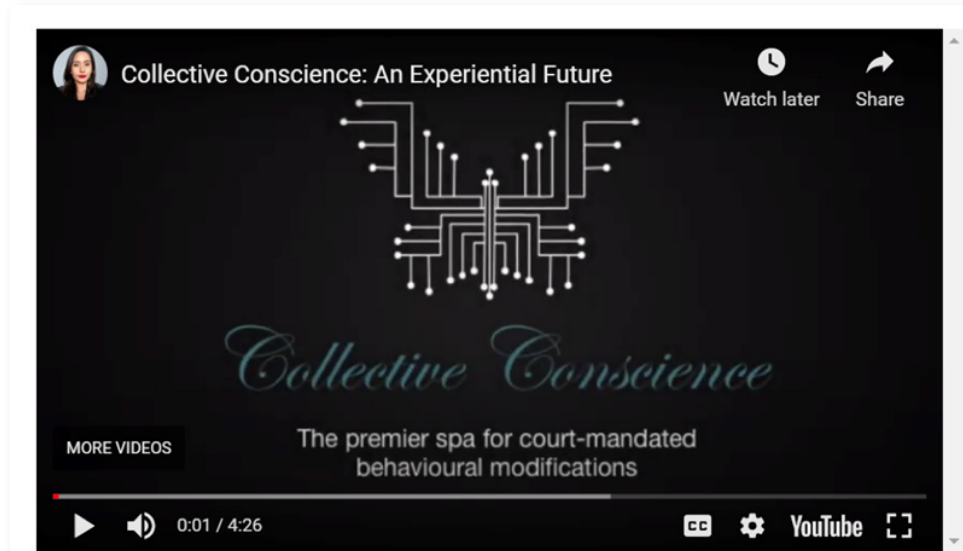
When facilitating an Experiential futures workshop in a virtual environment, the following suggestions are recommended:

- Use a virtual platform that is in agreement with the organization you are working with. Zoom and Microsoft Teams are the most common virtual collaborative environments, but this may differ regarding the context. Make sure the option for break out rooms exists, for each group to discuss among themselves
- Make time for an ice breaker and introduction to create an open and safe environment
- Use an open canvas for participants to work on. It should be user friendly with plenty of possibilities to be creative. Commonly used platforms are MIRO or Mural. Make sure participants are able to practice using this platform beforehand
- Physical exercises like the tours can be translated to the online environment, but it more important to use different senses. Audio and images are of course the most common, but also might encourage participants to use their own environment, or material form that context.
- Make a clear distinction between the break out groups and the plenary sessions. Allow for groups to present their work.

7. RECOMMENDED SUPPLEMENTARY RESOURCES

The following resources are useful examples of Reframes and experiential futures. Use them as inspiration of for your classes!

Experiential Future 'Collective Conscience'⁵⁶



Design Develop Transform | June 2017 | v1.0 | Feedback welcome

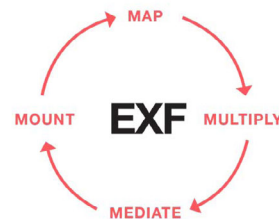
Stuart Candy @futuryst | Kelly Kornet @kellykornet

A Field Guide by Stuart Candy and Kelly Kornet

ETHNOGRAPHIC EXPERIENTIAL FUTURES

MATERIALS NEEDED

- An individual, group or culture whose images of the future you are interested in understanding, surfacing and deepening
- Media for the creation of rapid and/or high-fidelity prototypes.
- This may be 2D (as simple as pen and paper), 3D (simple construction materials, or found products/objects to hack) or 4D (video, animation).



Ethnographic Experiential Futures is a design-driven, hybrid approach to foresight aimed at increasing the accessibility, variety and depth of available images of the future.

INSTRUCTIONS

1

MAP: Inquire into and record people's actual or existing images of the future (e.g. possible; probable; preferred; a combination)

- Choose an individual or group to work with: scale could vary from personal (e.g. Greyson, Making the Futures Present) to large groups such as a neighbourhood (e.g. Candy & Dunagan, Foundfutures), company, or country.
- Select a suitable time horizon for inquiry (between, say, 10-50 years).
- Images of the future may be elicited via formal and face-to-face processes such as Textor's Ethnographic Futures Research interviews (e.g. Kornet, Causing an Effect).
- Alternatively, less formal processes could be used, such as unstructured interviews (e.g. Candy and Dunagan, Foundfutures); direct observation (say, at a corporate strategy conference).

2

MULTIPLY: Generate alternative images (scenarios) to challenge or extend existing thinking (optional step, but recommended)

- Here you may choose to diversify the researched images of the future through generating alternatives, such as by complementing the usual EFR categories by adding 'unexpected' on top of 'expected' (e.g. Greyson, Making the Futures Present).
- This might be done in collaboration with the research subjects or by the futurist/researcher herself.
- Omit if primary research goal is to deepen existing futures (e.g. Causing an Effect) or if diversity of original inputs meets requirements (e.g. Situation Lab/Extrapolation Factory).

3

MEDIATE: Translation of these ideas about the future/s into experiences: tangible, immersive, visual or interactive representations

- The key to this step is moving from vague ideas about the future to more specific ones. You could use a tool such as the Experiential Futures Ladder to get from a Setting (vague concept of a future) to a Scenario (particular hypothetical), and onward to ideas for 1:1 scale Situations or Stuff (artifacts).
- You may opt to serve as a 'facilitator', so participants generate their own materials (e.g. 1-888-FUTURES).
- Or, you may serve as a 'designer' and do the translating yourself (e.g. Causing an Effect; Foundfutures).
- A hybrid approach is also available, co-creating artifacts or prototypes with the participant/s (e.g. Making the Futures Present).

4

MOUNT: Stage experiential scenario/s to encounter for the original subject/s, or others (or both)

- The experiential scenario(s) may be shared in a scripted environment like a public exhibition (e.g. Causing an Effect), or one-on-one workshop (e.g. Making the Futures Present).
- Alternatively, the encounter could be staged in an unscripted context, such as a 'guerrilla futures' installation in a city street (e.g. Foundfutures).
- Mixed contexts of encounter are also possible, such as the posting of future artifacts in the mail or online (e.g. 1-888-FUTURES).

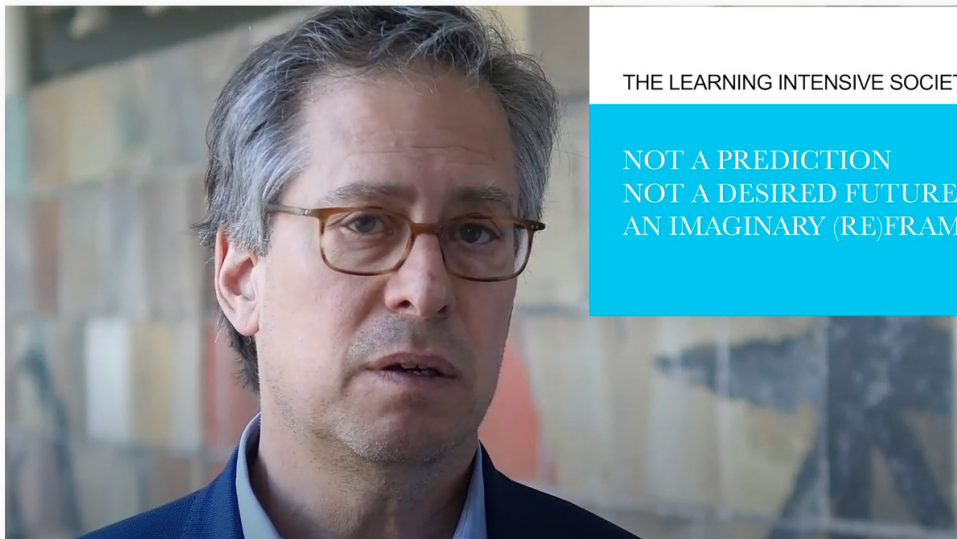
5

MAP: (second iteration) Inquire into and record responses to the experiential future/s

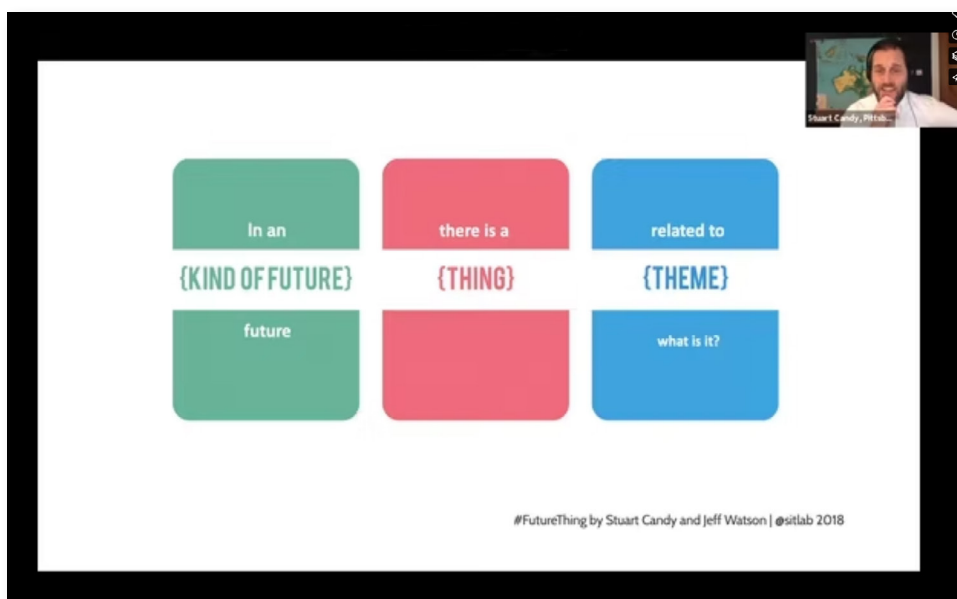
- This iteration of the 'mapping' stage completes a cycle. It is not identical to the first mapping task, as this time you are recording responses and reactions to design outcomes that you have shaped, rather than describing what is 'found'.
- A formal version of this process may use semi-structured interviews with the people whose images were mapped originally (e.g. Causing an Effect, Making the Futures Present).
- A more informal process could use something like direct observation of people encountering the experiential scenarios (e.g. Foundfutures), or online conversations and responses.
- You may choose to continue the process again from here, or even institutionalise it as ongoing.

⁵⁶ Source of video: L. Zaidi, 2018 https://www.youtube.com/watch?v=f7046Ze_fzE Retrieved from <https://www.linkedin.com/pulse/experiencing-future-method-changemaking-leah-zaidi/>

A Fieldguide for Ethnographic Experiential Futures⁵⁷.



A Reframe Scenario called **The Learning Intensive Society**, as explained by Miller⁵⁸.



From the Futures - Ignite Talk by Candy (2020)⁵⁹

⁵⁷ S. Candy, K. Kornet, *A Field Guide to Ethnographic Experiential Futures*, 2017. Retrieved from https://www.researchgate.net/publication/317837102_A_Field_Guide_to_Ethnographic_Experiential_Futures

⁵⁸ R. Miller, Resilience Frontiers. Retrieved from https://www.youtube.com/watch?v=_WgvTfR7TLI

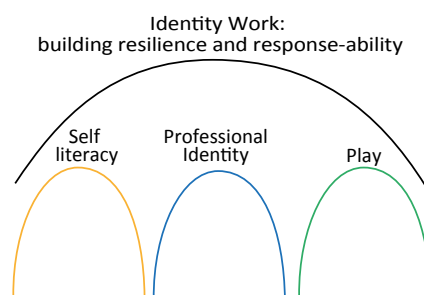
⁵⁹ Source of video: <https://vimeo.com/406248377>

TRAINING SESSION 3

IDENTITY WORK: BUILDING RESILIENCE & RESPONSE-ABILITY

1. OBJECTIVE

In this last session of the AfE module, the objective is to strengthen the capability of Futures Literacy through *Identity Work*. Participants start with 2 times 1,5 hour Self Literacy workshops, applying the *Futures Triangle* and *Causal Layered Analysis*⁶⁰ in relation to themselves. Subsequently participants are invited to explore their professional identity in a three hour workshop. Finally participants are invited to play and experiment with their learnings in relation to their future profession/ context.



2. THEORETICAL INTRODUCTION

Developing Futures Literacy is an invitation to develop an *enhanced perception*, to embrace *complexity* and to discover a *new sense of agency*: how to take advantage of change and appreciate uncertainty. This opening-up perspectives on reality and moving beyond the illusion of certainty often involves a shift of paradigms and transformative learning⁶¹. This deeper form of learning is described by Mezirow as “an enhanced level of awareness of the context of one’s beliefs and feelings, a critique of their assumptions and particularly premises, an assessment of alternative perspectives, a decision to negate an old perspective in favor of a new one or to make a synthesis of old and new, an ability to take action based upon the new perspective, and a desire to fit the new perspective into the broader context of one’s life”⁶².

A powerful vehicle to facilitate and stimulate these processes of transformative learning, is to integrate Identity Work (IW) in Futures Literacy training programs. Although multiple perspectives on IW exist⁶³ for the purpose of this training session we describe IW as „the range of activities individuals engage in for “forming, repairing, maintaining, strengthening or revising” their self-meanings⁶⁴ in the context of their occupations and organizations”⁶⁵. The grey core description is applicable to the broad range of this Module’s target group: university students and early stage researchers, whether or not employed

⁶⁰ S. Inayatullah, *Six pillars: Futures thinking for transforming*, Foresight 2008, vol. 10, no. 1, pp. 4-21.

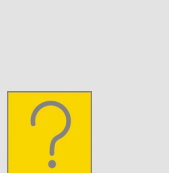
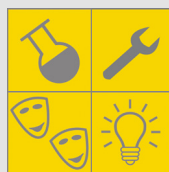
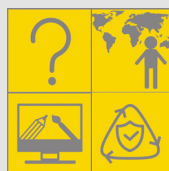
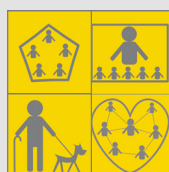
⁶¹ E. Kazemier, L. Damhof, J. Gulmans, P. Cremers, *Mastering Futures Literacy...*, op.cit.

⁶² J. Mezirow, *Transformative dimensions of Adult Learning*, San Francisco: Jossey-Bass Higher and Adult Education Series 1991, p. 161. Retrieved from <https://eric.ed.gov/?id=ED353469>

⁶³ A.D. Brown, *Identities in and around organizations: Towards an identity work perspective*, Human Relations 2022, 75(7), pp. 1205–1237, <https://doi.org/10.1177/0018726721993910>

⁶⁴ M. Alvesson, H.G. Willmott, *Identity Regulation As Organizational Control: Producing the Appropriate Individual*, Journal of Management Studies 2002, vol. 39(5), pp. 626.

⁶⁵ B.B. Caza, H. Vough, H. Puranik, *Identity work in organizations and occupations: Definitions, theories, and pathways forward*, Journal of Organizational Behavior 2018, 39(7), pp. 889–910, <https://doi.org/10.1002/job.2318>



in an occupation or organization. By ‘forming, repairing, maintaining, strengthening or revising their self-meanings’ Identity Work can help them to build resilience and response-ability in current and future (work) contexts.

In the context of this module, Identity Work is approached through a futures thinking perspective. Relevant work in this respect is of Inayatullah and colleagues. *Narrative Foresight* moves futures thinking from a focus on new technologies and the question of what’s next, to an exploration of worldviews and myths that underlie possible, probable and preferred futures⁶⁶. In the *Six Pillar approach*⁶⁷ six foundational concepts (used future, disowned future, alternative futures, alignment, models of social change, and uses of the future), six questions (will, fear, missing, alternatives, wish, and next steps as related to the future) and six pillars (mapping, anticipating, timing, deepening, creating alternatives, and transforming) are presented. Recently this approach has been extended in *Stage Theory of the uses of the Future*^{68,69} in which seven stages (nonlinear, spiral) are described. The first is perceived injustice—“it is not fair.” The second is risk mitigation. The third is creating alternative futures. The fourth is directionality, the vision. The fifth is “making the vision real.” The sixth is metaphor. The final state is personal and focused on using the mantra technique to transform the narrative.

All these approaches can be both applied to external reality and to inner worlds, given the purpose of Identity Work we will focus on the latter. Participants are introduced to the Six Pillars by letting them experience *mapping* (Futures Triangle) and *deepening* (Causal Layered Analysis). Both pillars prompt in-depth reflection, and stimulate participants to become aware of one biases and to discover their new narrative. By making explicit the current stories they tell themselves participants are stimulated to explore or create new narratives so that they may represent desired (professional) futures more effectively.

In this Identity Work session, participants not only explore their narratives. They are also invited to explore their professional identity⁷⁰: the connection between who they are with their (future) profession and (future) context. By exploring recurring patterns in their narrarives they discover the seeds of their professional identity. By making these seeds explicit, participants will be able to find ways to express them more often in their (future) work context. By following their unique fingerprint they will strengten their resilience and response-ability.

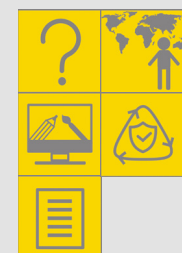
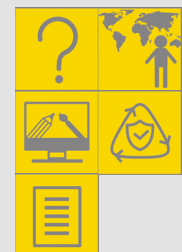
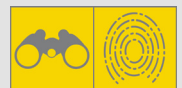
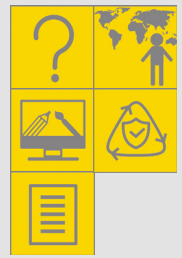
⁶⁶ I.Milojević, S. Inayatullah, *Narrative foresight*, Futures 2015, vol. 73, pp. 151-162, <https://doi.org/10.1016/j.futures.2015.08.007>

⁶⁷ S. Inayatullah, 2008. Retrieved from <https://www.benlandau.com/wp-content/uploads/2015/06/Inayatullah-2008-Six-Pillars.pdf>


⁶⁸ S. Inayatullah, *Anticipation to Emancipation: Toward a Stage Theory of the Uses of the Future*, Journal of Futures Studies 2022.

⁶⁹ S. Inayatullah, *A Castle Surrounded by Hungry Wolves: Toward a Stage Theory of the Uses of the Future*, World Futures Review 2020, 12(1), pp. 40–54, <https://doi.org/10.1177/1946756719878792>

⁷⁰ T.P.A. van Oeffelt, M.C.P. Ruijters, A.A.J.C. van Hees, P. R-J. Simons, *Professional Identity, a Neglected Core Concept of Professional Development*, [in:] M. Lee, K. Black, R. Warhurst, S. Corlett (eds.), (2017), Identity as a Foundation for Human Resource Development, Routledge, New York.




3. PRESENTATION ABOUT THE TOPIC (E-LEARNING)

Co-funded by the
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2.3.1 MODULE 2. ANTICIPATION FOR EMERGENCE
TRAINING SESSION 3.1. Identity Work. Futures triangle

Identity Work. Futures triangle



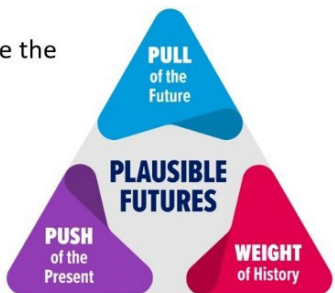
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Identity Work #1 *Futures Triangle*

In this workshop of 1,5 hour you will experience the **Futures Triangle** to explore

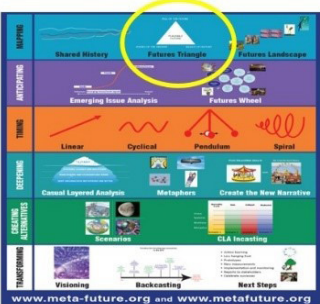
- Pull of the Future
- Push of the Present
- Weight of History

and discover your **Plausible Futures**



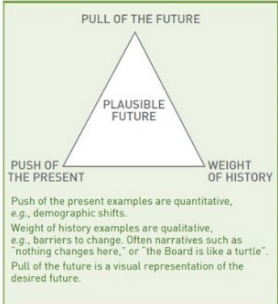
Source: Futures Thinking Now: Drivers of Change and Futures Triangle - KnowledgeWorks

Futures Triangle ([Inayatullah, 2008](#))



Source: "Six Pillars" Model Summarised - Metafuture: Futures Studies by Sohail Inayatullah and Ivana Milojevic

- is a tool for mapping the future - one of the [Six Pillars](#) in futures thinking
- can be used to map both external reality as well as inner worlds- in this workshop we focus on the latter



Source: Inayatullah, 2017 fig. 2 on p.6 - Prospective and Strategic Foresight Toolbox (futuribles.com)

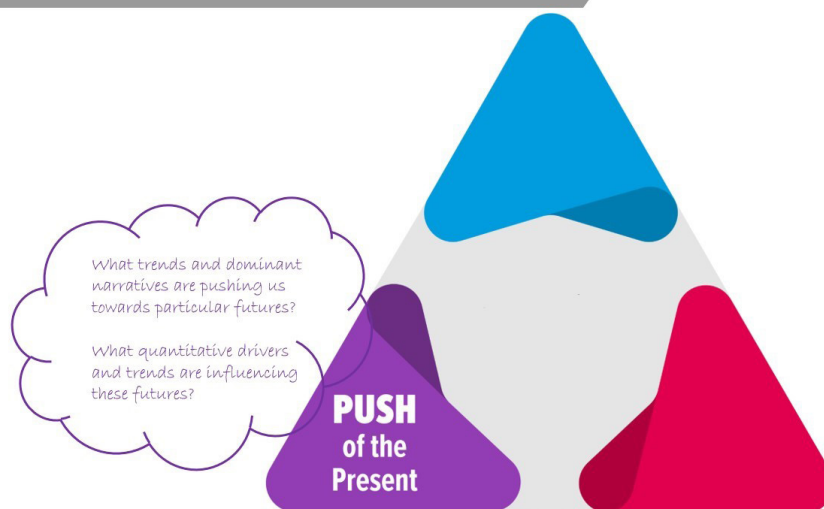
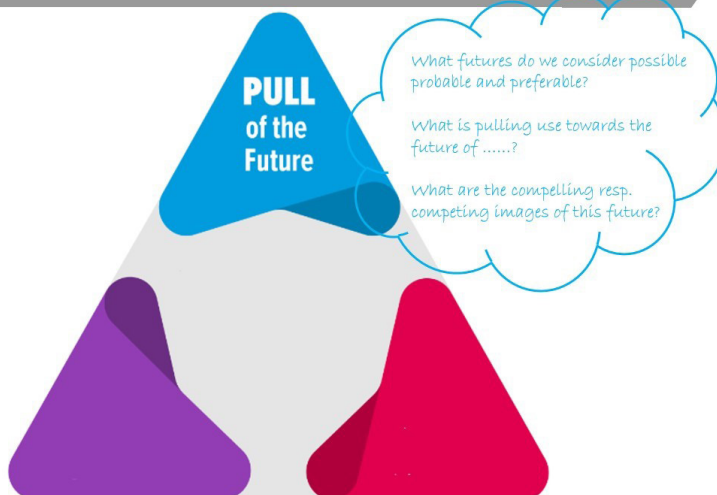
Option #1 In Groups

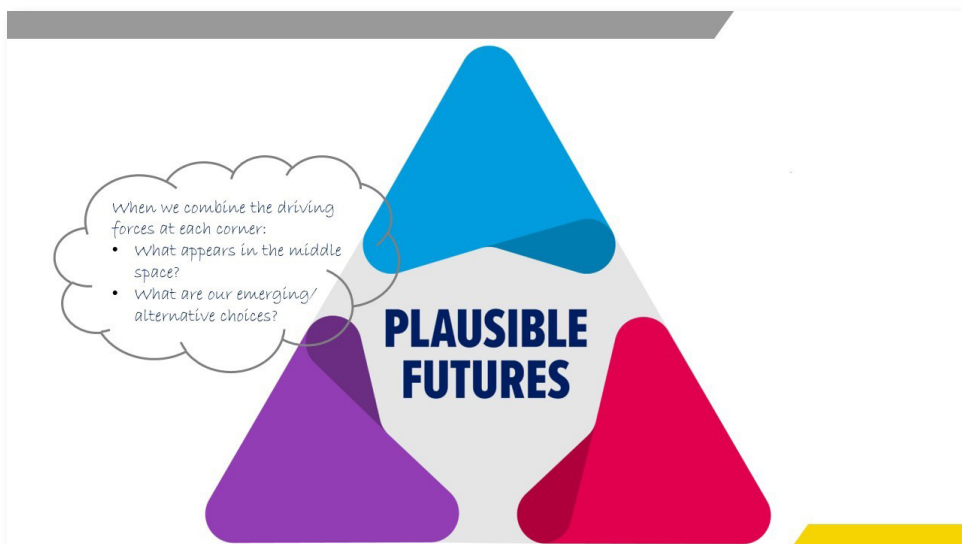
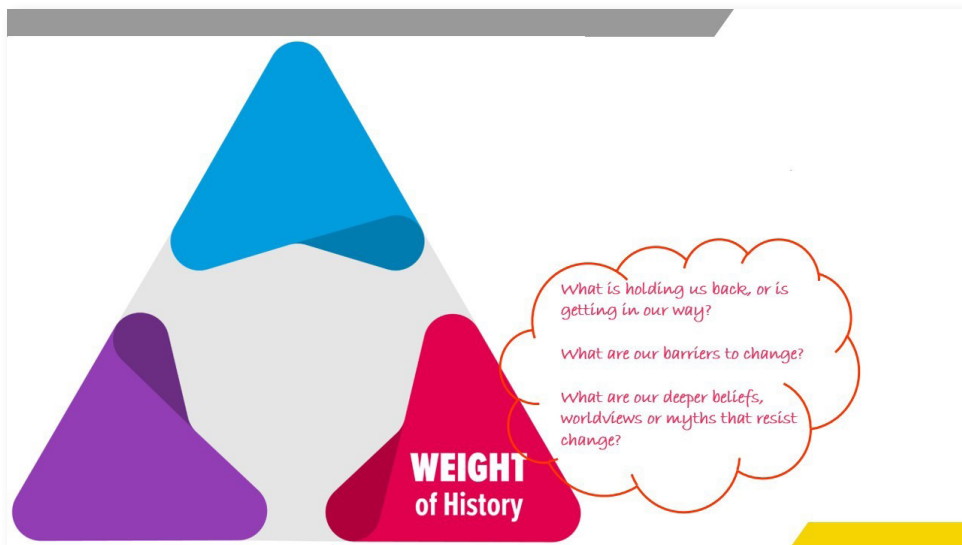
Form small groups and gather around a table

Draw an empty triangle on a large flap

Have a dialogue in which you take:

- 20 minutes for each corner
- 10 minutes for the middle





Option #2 Individual

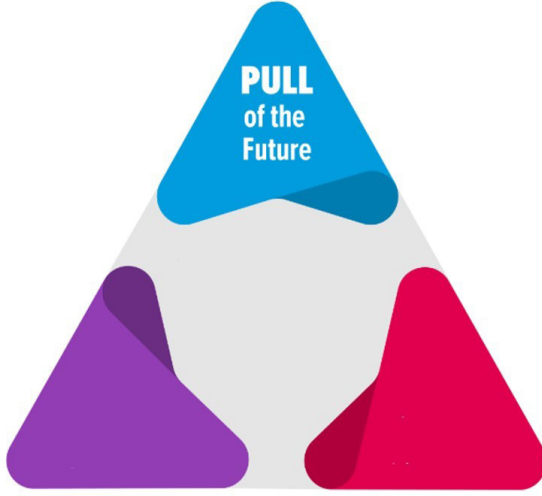
Draw an empty triangle on a large piece of paper

Reflect on each question and take notes of your answers in the corresponding part of the triangle

Keep track of time:

- 20 minutes for each corner
- 10 minutes for the middle



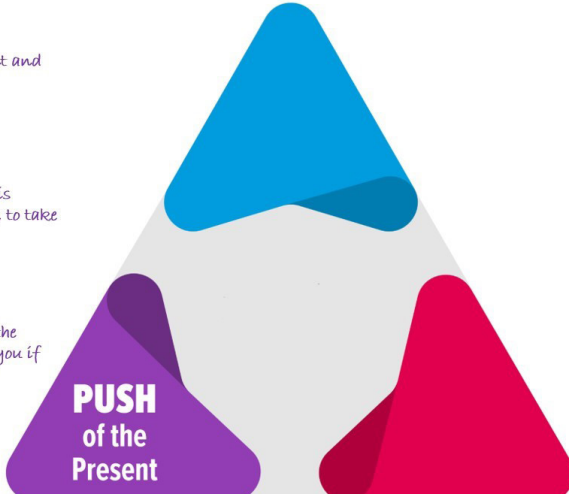


PULL of the Future

Chrystal Ball - Which 'dot on the horizon' are you addressing? What moment in the future is this about?

Fairy tale - If every thing turns out perfectly, what would the future look like? What do you truly hope to achieve?

Bad dream - if things wouldn't work out at all, what would the future look like? What do you want to avoid, what do you fear?




Question - What makes your question relevant and important enough to think about right now?

Hurdle - What makes it difficult to answer this question or take this decision about the future, to take steps or to tie the knot?

Fruits - What expectations do you have about the situation in the future? What will it mean to you if you make the right decision?

PUSH of the Present



Roots - What characterizes you? What type of person are you, what values do you hold dear?

Habits - How do you relate to uncertainty and change?

Wisdom - What can you learn from failed or successful decisions in your past?

WEIGHT of History

When you combine the driving forces at each corner:

- Which plausible future(s) appear in the middle space?
- What are your emerging/alternative choices to help you towards this future?



Checkout

Reflect on these sentences and share your reflections in your group



2.3.2 MODULE 2. ANTICIPATION FOR EMERGENCE
TRAINING SESSION 3.2. Identity Work. Causal Layered Analysis

Identity Work. Causal Layered Analysis

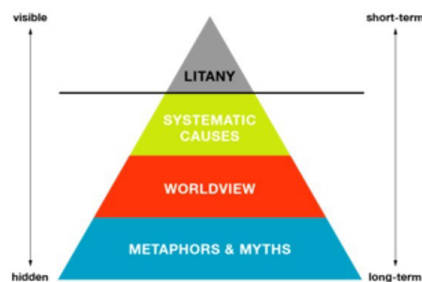


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Identity Work #2 *Causal Layered Analysis*

In this 1,5 hour workshop we will use the **Causal Layered Analysis** to explore our current and future narratives through layering of:

- Litany
- Systematic causes
- Worldview
- Metaphors & Myths



[IFTE: Using Causal Layered Analysis for Transformational Change](#)

Causal Layered Analysis ([Inayatullah, 2008](#))



Source: "Six Pillars" Model Summarised - Metafuture: Futures Studies by Sohail Inayatullah and Ivana Milojevic

- is a tool for deepening the future - one of the [Six Pillars](#) in futures thinking
- can be used for both external reality as well as inner worlds- in this workshop we focus on the latter by exposing current stories we tell ourselves and exploring/ creating new narratives

Option #1 Group Dialogue

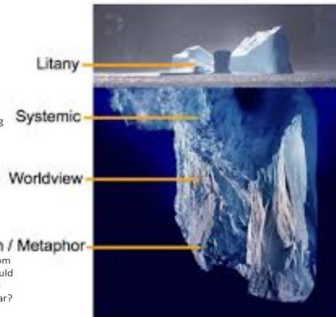
Inayatullah (2009)

What are my litanies: how do I represent myself to the world? Do I use age, gender, ethnicity, or nation?

What are the systems of my mind: which are the multiple selves that create my inner constellation, which self is dominant in this system – the vulnerable child, the rebellious teenager, the working adult, the old wise person, for example

What is my inner worldview? How does one construct the world – is it the egoic model, a transpersonal model, a medical model? What identities would result if one utilized different worldviews to create selves: what is my feminine self? My Western self? Indic self? Planetary self?

What are the inner stories "I" tell myself. Is life a struggle? Is life bliss? Is this the way things really are? Or, 'yes but the bottom line is...! A genealogical gloss of the evolution of these stories would help as well: do the core stories come from childhood fairy tales – Snow White or the Three Little Pigs, or Aladdin, or Berbil and Akbar? Or?



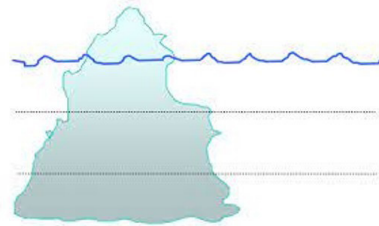
p.11-12 [Inayatullah](#), 2009

Option #2 Individual reflection

Draw an empty iceberg on a large flap

Reflect on each question* and take notes of your answers in the corresponding layer

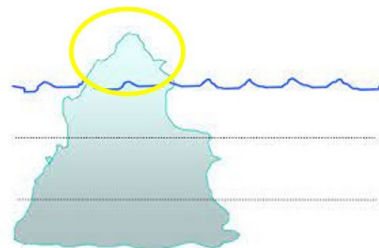
Keep track of time:
15 minutes for each layer



* Questions based on [Inayatullah](#) (p.18-19)

LITANY What are the things I say over and over about:
the way the external world is?
how I feel about the world?

Note your answers on top of the iceberg

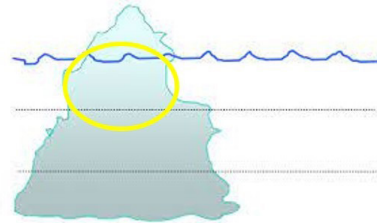


SYSTEMIC CAUSES

Reflect on your answers on the top of the iceberg:

- What is 'disowned' in my view of the world: what do I push away?
- Which parts of myself do I see as less important?
- What behaviors in others irritate and upset me?
- What insights arise in relation to my 'disowned selves'?

Note your answers below the water line

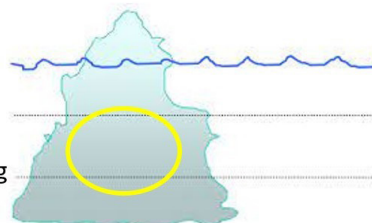


WORLDVIEW

Reflect on your previous responses:

- What are the origins of your way of seeing the world?
- Are there any trigger events that have created this overarching inner worldview about the ways things are or should be?

Note your answers in the middle of the iceberg



METAPHORS & MYTHS

Reflect on all your previous responses:

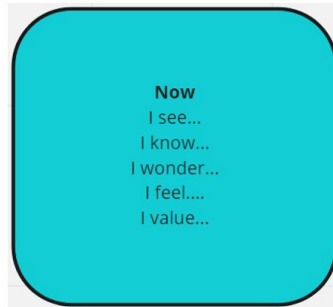
- Is there a **core metaphor** that describes your narrative?
- What might be a new story, a **different metaphor** that can reduce or transform any tensions in your narrative?
- How can this new metaphor be supported by behavior and practice?
- What new indicators or measurements lead forward from this new behavior?

Note your answers on the bottom of the iceberg



Checkout

Reflect on these sentences and share your reflections in your group



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MODULE 2. ANTICIPATION FOR EMERGENCE
TRAINING SESSION 3.3. Identity Work. Professional Identity

Identity Work. Professional Identity



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Identity Work #3 *Professional Identity*

In this 3 hour workshop you will discover your **Professional Identity** through three subsequent exercises:

1. Find your Values: Prioritizing most important values in your life
2. Feel your Backbone: Exploring patterns in your personal/ professional life
3. Follow your Fingerprint: Identifying the seeds of your Professional Identity

#1 Find your Values (half hour)

Examine the list of professional values on the subsequent slide:

10 minutes: Individually

- Pick 5 values that resonate with you in your study or (future) work
- Prioritize them in a top 5 (1 = most important to you)

20 minutes: In pairs

- Share your top 5: What similarities and differences do you notice?
- Which examples (from your study or work) illustrate your values?

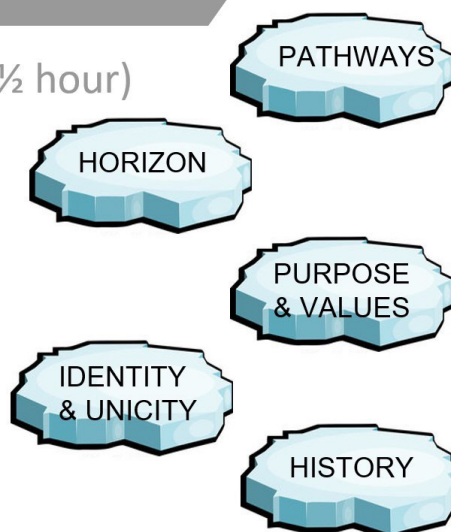
Accuracy	Excellence	Leadership	Self-respect
Ambition	Excitement	Love	Sensitivity
Autonomy	Family	Loyalty	Serenity
Balance	Friendship	Meaning	Sharing
Beauty	Goodness	Modesty	Simplicity
Belonging	Growth	Peacefulness	Sincerity
Challenge	Harmony	Power	Spirituality
Collaboration	Health	Pragmatism	Stability
Commitment	Honesty	Profit	Strength
Competence	Humor	Prosperity	Success
Conformity	Independence	Quality	Trust
Control	Individuality	Recognition	Understanding
Creativity	Intimacy	Respect	Well-being
Curiosity	Joy	Relaxation	Willpower
Dignity	Kindness	Reliability	Winning
Effectivity	Knowledge	Safety	Wisdom

List of professional values – Based on “The life priorities calculator/ Paul Wilson 2005 | nla.gov.au

#2 Feel your Backbone (1 ½ hour)

Form small groups of 3 – choose partners with whom you feel comfortable sharing about your personal life

Print 5 tiles (see aside) in A3 or A4 format and put them on the floor ('history' at the bottom – 'pathways' at the top)



Engage in a dialogue (3 x half hour) in which each of you takes in turn one of the three roles:

Interviewer prompts questions (on handout)

Narrator moves from one tile to the other while responding to questions belonging to that tile

Reporter observes & takes notes (on handout)

Self Literacy - Facilitating questions (if helpful) in creating a narrative

History	Where are you from? What is your background? Which values were important in your family? What were the most crucial moments in your life?
Identity & uniqueness	What shapes you in what you are today? How do others perceive you and what do they see in you? Which are your (professional) strengths? How do you experience yourself? How do you give shape to what's essential to you? How do you "stand out"?
Purpose & values	Who are you? What makes you proud? What do you mean to others? What is your (social) purpose? Which values are important to you and which values are already incorporated in the way you lead your life? Which values do you want to live and be an example of?
Horizon	Visualize yourself in the deep future. The years from now, living your purpose. What are you doing? With whom? How are you behaving? How do you live? Try to make an image of the situation and experience this image (for a moment). How do you feel in the present: what is your emotion, your horizon?
Pathways	Reflect on the question how to get to your horizon. What decisions are making your (social) profession, reputation, etc. relevant to you, how and in what way do you want to contribute? What will your practice be like? How much time will this take? What will be realistic?

Further instructions & guiding principles

Narrator close your eyes and feel the tile beneath you. Be open to what emerges (thoughts, sensations, emotions etc.). Only share what you want/ feel comfortable to share: stay the owner of your story

Interviewer stand/ walk aside the narrator, don't be afraid of silence/ pauses. be alert what the narrator shares: is it still about the tile on which narrator is standing? If no, lightly invite/ guide the narrator to another tile that fits with the dialogue

Reporter observe dialogue & process and note down key words/ phrases/ metaphors/ drawings etc.

#3 Follow your Fingerprint (1 hour)

Reflect on the previous exercise: do you notice a certain value or characteristic that regularly popped up in your answers?

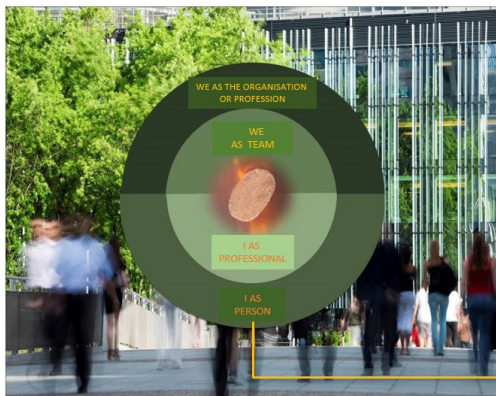
If so, use this value or characteristic for this last exercise: a first exploration of your professional identity ([Van Oeffelt et al, 2017](#))

1. Start



1. START. A comfortable starting point to explore your professional identity is to identify a characteristic of yourself that you have, somewhat consciously, been carrying with you for some time (for example: I know of myself that I have some rebellious tendencies).

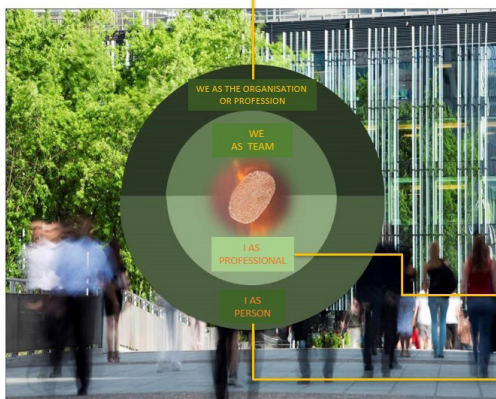
Step 2



1. START. A comfortable starting point to explore your professional identity is to identify a characteristic of yourself that you have, somewhat consciously, been carrying with you for some time (for example: I know of myself that I have some rebellious tendencies).

STEP 2. Think about how this characteristic manifested itself in your *personal* life. What lessons have you learnt about this characteristic? Who did you learn these lessons from?

Step 3

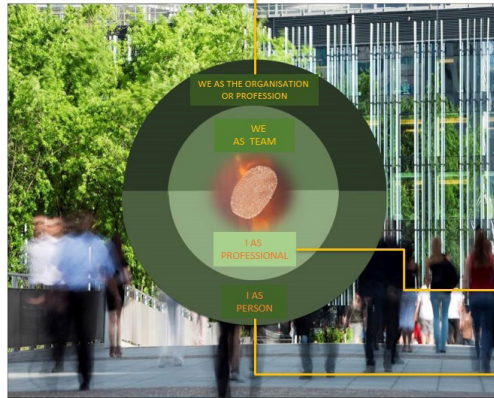


STEP 3. Think about this characteristic in relation to your (future) organization/ work context. In what ways do you see this characteristic in the organisation where you work? What is the perception of this characteristic (for example: rebellion is appreciated)?

1. START. A comfortable starting point to explore your professional identity is to identify a characteristic of yourself that you have, somewhat consciously, been carrying with you for some time (for example: I know of myself that I have some rebellious tendencies).

STEP 2. Think about how this characteristic manifested itself in your *personal* life. What lessons have you learnt about this characteristic? Who did you learn these lessons from?

Step 4



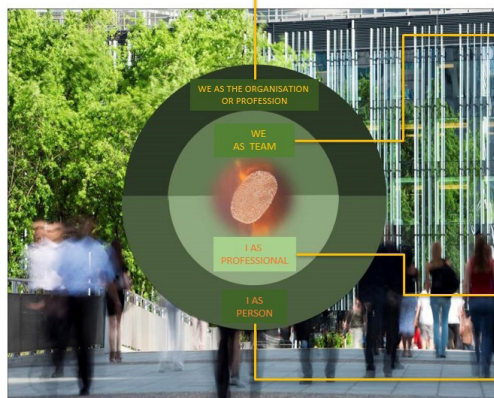
STEP 3. Think about this characteristic in relation to your (future) organization/ work context. In what ways do you see this characteristic in the organisation where you work? What is the perception of this characteristic (for example: rebellion is appreciated)?

1. START. A comfortable starting point to explore your professional identity is to identify a characteristic of yourself that you have, somewhat consciously, been carrying with you for some time (for example: I know of myself that I have some rebellious tendencies).

STEP 4. Think about this characteristic in relation to your (future) profession. Does it help you? Does it hinder you in your relationship with others? Are you proud of it? How do you want to go about showing the best of yourself?

STEP 2. Think about how this characteristic manifested itself in your personal life. What lessons have you learnt about this characteristic? Who did you learn these lessons from?

Step 5



STEP 3. Think about this characteristic in relation to your (future) organization/ work context. In what ways do you see this characteristic in the organisation where you work? What is the perception of this characteristic (for example: rebellion is appreciated)?

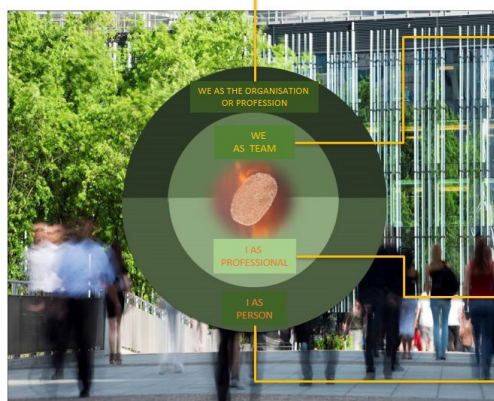
STEP 5. What role does this characteristic play in your (future) team? Do you recognize it in others? Do you contribute something with this characteristic? When is it of added value, when is it disruptive?

1. START. A comfortable starting point to explore your professional identity is to identify a characteristic of yourself that you have, somewhat consciously, been carrying with you for some time (for example: I know of myself that I have some rebellious tendencies).

STEP 4. Think about this characteristic in relation to your (future) profession. Does it help you? Does it hinder you in your relationship with others? Are you proud of it? How do you want to go about showing the best of yourself?

STEP 2. Think about how this characteristic manifested itself in your personal life. What lessons have you learnt about this characteristic? Who did you learn these lessons from?

6. Wrap-up



STEP 3. Think about this characteristic in relation to your (future) organization/ work context. In what ways do you see this characteristic in the organisation where you work? What is the perception of this characteristic (for example: rebellion is appreciated)?

STEP 5. What role does this characteristic play in your (future) team? Do you recognize it in others? Do you contribute something with this characteristic? When is it of added value, when is it disruptive?

1. START. A comfortable starting point to explore your professional identity is to identify a characteristic of yourself that you have, somewhat consciously, been carrying with you for some time (for example: I know of myself that I have some rebellious tendencies).

6. WRAP UP. You revisit your answers on the previous questions: what patterns do you see returning in your stories?

STEP 4. Think about this characteristic in relation to your (future) profession. Does it help you? Does it hinder you in your relationship with others? Are you proud of it? How do you want to go about showing the best of yourself?

STEP 2. Think about how this characteristic manifested itself in your personal life. What lessons have you learnt about this characteristic? Who did you learn these lessons from?

Dialogue in pairs

What patterns did you discover across the various steps?

Share with each other these seeds of your professional identity and ways in which you could express them in your (future) work context.

Following your fingerprint will strengthen your resilience and response-ability



4. RECOMMENDED SUPPLEMENTARY RESOURCES

Handout Session#3 Professional Identity - Facilitating questions exercise “Feeling your Backbone” (Tab. 10).

Tab. 10. Professional Identity - Facilitating questions exercise “Feeling your Backbone” (

History	Where are you from? What is your background? Which values were important in your family? What were the most crucial moments in your life?
Identity & unicity	What shaped you in what you are today? How do others perceive you and what do they appreciate? What are your (professional) roles? How do you express yourself? How do you give shape to what is essential to you? How do you ‘stand out’?
Purpose & values	Who are you? What makes you proud? What do you mean to others? What is your (unique) purpose? Which values are important to you and which values are already incorporated in the way you lead your life? Which values do you want to live and be an example of?
Horizon	Visualize: you’re in the ideal future, five years from now, living your purpose. What are you doing? With whom? How are you behaving? How do you feel? Try to make an image of the situation and experience this image for a moment. Now get back to the present: what is your ambition, your horizon?
Pathways	Brainstorm on the question how to get to your horizon. What fascinates and inspires you? Which significant relationships and networks do you have and to whom do you want to commit? What will your practice be like? How much time will this take? What will be realistic?

Source: own study.

Theoretical Background for Professional Identity:

https://www.researchgate.net/publication/345544524_Professional_Identity_a_Neglected_Core_Concept_of_Professional_Development

SUPPLEMENTARY RESOURCES



Futures Thinking Workshop: Personal and Professional Development

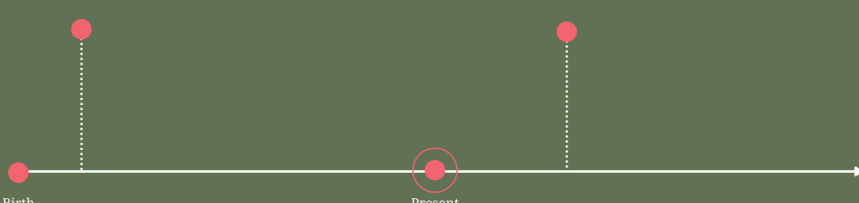
*Androniki Papaterpou
Ioannis Andronikidis
Dr. George Profitiliotis*

praxi » help-forward network

FORTH
FOUNDATION FOR RESEARCH AND TECHNOLOGY - HELLAS







Please write down those events in your *past* which played a significant part in your life.

Please write down those events in your *future* which you believe will play a significant part in your life.

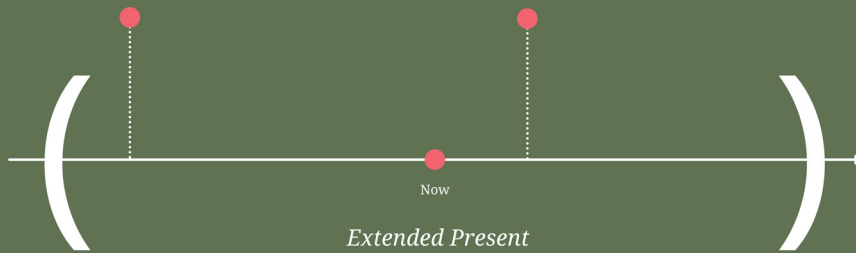


Please sort each event from your past in one of the following categories.




Please sort each event from your future in one of the following categories.

Anchors 	Blended 	Boosters 	“Should” 	“Want” 	“Will” 
--	--	---	--	---	---

Please write down those events in your recent past and in your immediate future which may affect your life.

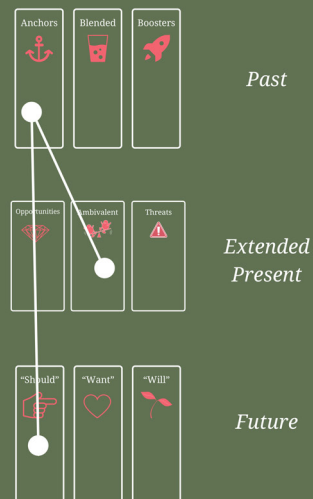


Please sort each event from your extended present in one of the following categories.

<p>Opportunities</p> 	<p>Ambivalent</p> 	<p>Threats</p> 
--	---	--

Please reflect on the events from your future. For each event, try to find any other events from your extended present and/or your past which may affect it.

Please reflect on the connections you created. Which event categories seem to play the most prominent part in affecting your future?



Please reflect on the events from your extended present. For each event, try to find any other events from your future which may be acting as attractors that shape the way you perceive its qualities.

Please reflect on the connections you created. Which event categories from your future seem to play the most prominent part in shaping the way you perceive your extended present?

Imagine you are immediately transported to the future. This is now the year 2035. The world in 2035 is defined by the followings factors:

All companies are bound by law to provide wellbeing services to their employees along with other basic rights like salary and paid time off.

Students are allocated to specific academic disciplines in accordance with their personality traits.

Young adults are given the opportunity to stay in public housing that is provided for free by the state.

A visual language that has descended from emojis is being used as the primary means of communication in the virtual world.

Regular and coordinated eco-terrorist attacks target meat supply chains in major cities around the world.

Imagine a person living and thriving in this unfamiliar future (2035). Please describe this person's personal and professional traits.

Name
Age
Gender
Ethnicity
Religion
Current Location

Profession
Hobbies & Interests
Hopes
Fears
Desires
"Family"

Imagine being the person you created.
Imagine encountering the following situations in this unfamiliar future.

1st Condition

July 14th:

As a young adult, you receive your unique NFT Ownership Certificate, authorized by the State. According to your Certificate, you have been given permission to move into a 25 sq.m. apartment in one of the main Public Housing Areas. Only a month in your new apartment and seventeen middle-aged public employees have showed up on your doorstep demanding that they enter their apartment. Although taken aback by their demand, all public employees provide you with supporting material (including an identical NFT Ownership Certificate, only the name of the beneficiary changed) proving the apartment is also owned by each one of them.



What will your character do to overcome this challenge?

2nd Condition

You receive the curriculum for your next semester in Meta-Linguistics. For the past few months, you have been wondering whether the academic/vocational field that has been assigned to you corresponds to your personal beliefs and desires. All the while, you are aware of the strict regulations of the educational system: if one decides to change their field of study, one necessarily has to swap places with another student from the respective field – a decision that is irreversible.



What will your character do to overcome this challenge?

3rd Condition

While at work, you suddenly feel dizzy. You decide to descend to the 21st floor to undertake a stamina test at the RJC (Rejuvenation Center). Dr. Young, who is in charge of the Stamina Department of the RJC, informs you of the pertinent steps you need to go through for the 15-min examination. You return to work, on the 54th floor, expecting the results. Your manager sends you an urgent message asking you to lead a project for a high-profile client. You start getting anxious, realizing that you will have to work overtime. A little after that, you receive the examination results, where it is clearly stated that you will need to take some time off work to avoid burn out.



Dr. Young

What will your character do to overcome this challenge?

4th Condition

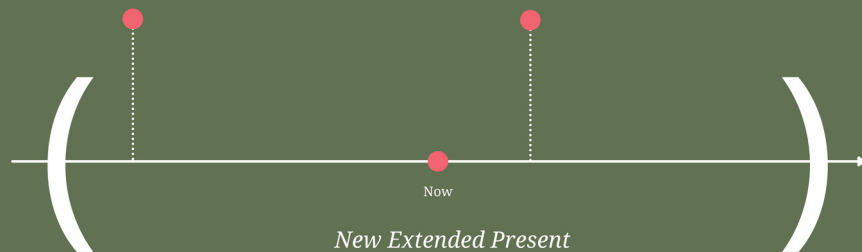
There is an eco-terrorist attack in the Meat Trade Association you work in. Distressing messages, advocating the exclusive consumption of plant-based products and the abolition of meat are broadcasted all around the Association through loudspeakers. Eco-terrorists threaten they will move to further, more direct, attacks to both physical and virtual livestock industry spaces as well as targeting family members and friends of the employees, in case the company does not conform to the demands.



What will your character do to overcome this challenge?

How did your character change from engaging with all those situations? Did they experience any difficulties in overcoming these challenges?

You are now back to today and you are your own self. Please reflect on the image of your extended present that you created before. Are there any other events you may have missed before which you would like to add?

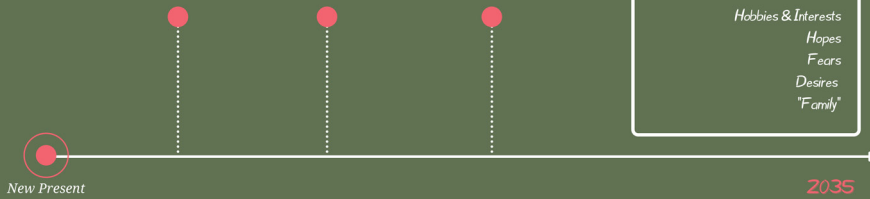


Please sort each event from your new extended present in one of the following categories once again.

Opportunities	Ambivalent	Threats

Please close your eyes. It is the year 2035. Imagine yourself in your most desirable state. Please describe your personal and professional traits at this point in time.

Moving backwards from 2035 step-by-step in three-years intervals, please write down any events in your future which you believe will play an important part in achieving your most desirable state.



Aspirations



Name
Gender
Ethnicity
Religion
Current Location


Profession
Hobbies & Interests
Hopes
Fears
Desires
"Family"

New Present

2035

Please reflect on the image of your desirable future that you created before. Please contemplate on each event from the “opportunities” and “threats” categories of your *New Extended Present* that you created before. Which opportunities can you actively pursue and which threats can you actively avoid to realize your desirable future. How?

Opportunities



Threats



To Do

- —
- —
- —

INSTRUCTIONS – FUTURES THINKING WORKSHOP: PERSONAL AND PROFESSIONAL DEVELOPMENT

ACTIVITY 1 (p. 2)

DURATION: 15 MIN.

The educator introduces the 'Timeline' slide to the students, explaining that each student's timeline represents their life's story, starting at the student's birth and extending into an open future.

The students are then asked to fill in their own timelines individually by reflecting on the following questions:

- Please write down those events in your past which played a significant part in your life.
- Please write down those events in your future which you believe will play a significant part in your life.

If the students are unsure about what kind of events should be placed on the timeline, the educator explains that anything considered subjectively meaningful by the student can be placed on an individual timeline.

ACTIVITY 2 (p. 3)

DURATION: 10 MIN.

The educator introduces the 'Timeline-Sorting' slide to the students, explaining that the events included in each student's timeline are usually placed implicitly and automatically into overarching categories by the student's internal thought processes.

The students are then asked to make this process of categorization explicit by sorting their timeline's events into one of the provided categories, using the following prompts:

- Please sort each event from your past in one of the following categories.
- Please sort each event from your future in one of the following categories.

ACTIVITY 3 (p. 4)

DURATION: 10 MIN.

The educator introduces the 'Extended Present' slide to the students, which is essentially a magnified portion of the extended present point in the original 'Timeline' slide, explaining that the extended present represents those significant events in each student's life that have recently occurred and those that are anticipated to occur soon.

The students are then asked to fill in this specific portion of their own timelines individually by reflecting on the following question:

- Please write down those events in your recent past and in your immediate future which may affect your life.

ACTIVITY 4 (p. 5)

DURATION: 10 MIN.

The educator introduces the 'Extended Present Sorting' slide to the students, explaining that the events included in each student's extended present are usually placed implicitly and automatically into overarching categories by the student's internal thought processes.

The students are then asked to make this process of categorization explicit by sorting their extended present's events into one of the provided categories, using the following prompt:

- Please sort each event from your extended present in one of the following categories.

ACTIVITY 5 (p. 6)

DURATION: 30 MIN.

The educator introduces the 'Past-Extended Present-Future' slide to the students, explaining that some of the past events in each student's timeline may be causally related to their extended present events, which, in turn, may be causally related to future events.

The students are then asked to make these relations explicit by creating connections first from their extended present events to their future events, and then from their past events to their extended present events. For example, a PhD thesis defense that may have occurred or may be expected in a student's extended present may enable a student's future application for a postdoctoral position. In turn, the PhD thesis defense itself was enabled by the past event of graduating from university. The following prompt can be used:

- Please reflect on the events from your future. For each event, try to find any other events from your extended present and/or your past which may affect it.

Afterwards, the students are encouraged to contemplate on the overarching categories of their past and extended present events that seem to play the most important role in influencing their future, by reflecting on the following prompt:

- Please reflect on the connections you created. Which event categories seem to play the most prominent part in affecting your future?

ACTIVITY 6 (p. 7)

DURATION: 15 MIN.

The educator introduces the 'Extended Present-Future' slide to the students, explaining that the way they perceive their extended present events is implicitly influenced by the future events they imagine.

The students are then asked to make these relations explicit by creating connections from their future events to their extended present events. For example, a student might 'want' to participate in a future underwater archaeology fieldwork, which can be enabled by leveraging an 'opportunity' to take lessons for scuba diving certification in the student's extended present. The following prompt can be used:

- Please reflect on the events from your extended present. For each event, try to find any other events from your future which may be acting as attractors that shape the way you perceive its qualities.

Afterwards, the students are encouraged to contemplate on the overarching categories of their future events that seem to play the most important role in influencing the way they perceive their extended present, by reflecting on the following prompt:

- Please reflect on the connections you created. Which event categories from your future seem to play the most prominent part in shaping the way you perceive your extended present?

ACTIVITY 7 (p. 8)

DURATION: 2 MIN.

The educator introduces the students to the main attributes of an unfamiliar future world which the students must take for granted for the following activity. The following prompt can be used:

Imagine you are immediately transported to the future. This is now the year 2035. The world in 2035 is defined by the followings factors:

- All companies are bound by law to provide wellbeing services to their employees along with other basic rights like salary and paid time off.
- Students are allocated to specific academic disciplines in accordance with their personality traits.
- Young adults are given the opportunity to stay in public housing that is provided for free by the state.
- A visual language that has descended from emojis is being used as the primary means of communication in the virtual world.
- Regular and coordinated eco-terrorist attacks target meat supply chains in major cities around the world.

(p. 9)

DURATION: 8 MIN.

The educator asks the students to imagine a person succeeding in life and at work in this unfamiliar world of 2035 that was described by the factors mentioned before. Each student is asked to individually describe this imaginary person by writing down this person's personal and professional traits. The following prompt can be used:

- Imagine a person succeeding in life and at work in this unfamiliar future (2035). Please describe this person's personal and professional traits;
- (Name, Age, Gender, Ethnicity, Religion, Current Location, Profession, Hobbies & Interests, Hopes, Fears, Desires, 'Family')

Afterwards, each student is asked to imagine being this imaginary person they described before. They are also asked to put themselves in their imaginary person's shoes and imagine encountering a series of strange situations in this unfamiliar world of 2035. The following prompts can be used:

- Imagine being the person you created.
- Imagine encountering the following situations in this unfamiliar future.

ACTIVITY 8 (p. 10)

DURATION: 5 MIN.

The educator asks the students to individually imagine being their imaginary person and encountering the following situation:

1st Condition

July 14th:

As a young adult, you receive your unique NFT Ownership Certificate, authorized by the State. According to your Certificate, you have been given permission to move into a 25 sq.m. apartment in one of the main Public Housing Areas. Only a month in your new apartment and seventeen middle-aged public employees have

showed up on your doorstep demanding that they enter their apartment. Although taken aback by their demand, all public employees provide you with supporting material (including an identical NFT Ownership Certificate, only the name of the beneficiary changed) proving the apartment is also owned by each one of them. Afterwards, each student is asked to imagine how their imaginary person would react in this situation. The following prompt can be used:

- What will your character do to overcome this challenge?

p. 11

DURATION: 5 MIN.

The educator asks the students to individually imagine themselves being their imaginary person and encountering the following situation, after encountering the previous one:

2nd Condition

You receive the curriculum for your next semester in Meta-Linguistics. For the past few months, you have been wondering whether the academic/vocational field that has been assigned to you corresponds to your personal beliefs and desires. All the while, you are aware of the strict regulations of the educational system: if one decides to change their field of study, one necessarily has to swap places with another student from the respective field – a decision that is irreversible.

Afterwards, each student is asked to imagine how their imaginary person would react in this situation. The following prompt can be used:

- What will your character do to overcome this challenge?

p. 12

DURATION: 5 MIN.

The educator asks the students to individually imagine themselves being their imaginary person and encountering the following situation, after encountering the previous one:

3rd Condition

While at work, you suddenly feel dizzy. You decide to descend to the 21st floor to undertake a stamina test at the RJC (Rejuvenation Center). Dr. Young, who is in charge of the Stamina Department of the RJC, informs you of the pertinent steps you need to go through for the 15-min examination. You return to work, on the 54th floor, expecting the results. Your manager sends you an urgent message asking you to lead a project for a high-profile client. You start getting anxious, realizing that you will have to work overtime. A little after that, you receive the examination results, where it is clearly stated that you will need to take some time off work to avoid burnout.

Afterwards, each student is asked to imagine how their imaginary person would react in this situation. The following prompt can be used:

- What will your character do to overcome this challenge?

p. 13

DURATION: 20 MIN.

The educator asks the students to individually imagine themselves being their imaginary

person and encountering the following situation, after encountering the previous one:

4th Condition

There is an eco-terrorist attack in the Meat Trade Association you work in. Distressing messages, advocating the exclusive consumption of plant-based products and the abolition of meat are broadcasted all around the Association through loudspeakers. Eco-terrorists threaten they will move to further, more direct, attacks to both physical and virtual livestock industry spaces as well as targeting family members and friends of the employees, in case the company does not conform to the demands.

Afterwards, each student is asked to imagine how their imaginary person would react in this situation. The following prompt can be used:

- What will your character do to overcome this challenge?

After going through the four conditions mentioned before, each student is asked to explain to the other students how their imaginary person changed from engaging with those situations and whether their imaginary person experienced any difficulties in overcoming these challenges.

ACTIVITY 9 (p. 14)

DURATION: 10 MIN.

The educator asks the students to return to today and to be their own selves. The educator reminds the students of the 'Extended Present' slide, which is essentially a magnified portion of the extended present point in the original 'Timeline' slide, mentioning again that the extended present represents those significant events in each student's life that have recently occurred and those that are anticipated to occur soon.

The students are then asked to fill in this specific portion of their own timelines individually with new events they may have originally missed, by reflecting on the following question:

- You are now back to today, and you are your own self. Please reflect on the image of your extended present that you created before. Are there any other events you may have missed before which you would like to add?

ACTIVITY 11 (p. 15)

DURATION: 10 MIN.

The educator reminds the students of the 'Extended Present-Sorting' slide, mentioning again that the events included in each student's extended present are usually placed implicitly and automatically into overarching categories by the student's internal thought processes.

The students are then asked to make this process of categorization explicit by sorting all their extended present's events (both the original ones and the newly-added ones) once again into one of the provided categories, using the following prompt:

PLEASE SORT EACH EVENT FROM YOUR NEW EXTENDED PRESENT IN ONE OF THE FOLLOWING CATEGORIES ONCE AGAIN.

ACTIVITY 12 (p. 16)

DURATION: 15 MIN.

The educator asks the students to imagine their own self in their most desirable state, succeeding in life and at work, in 2035. Each student is asked to individually describe their own future desirable self by writing down their personal and professional traits at this point in time. The following prompt can be used:

- Please close your eyes. It is the year 2035. Imagine yourself in your most desirable state. Please describe your personal and professional traits at this point in time.
- Name, Gender, Ethnicity, Religion, Current Location, Profession, Hobbies & Interests, Hopes, Fears, Desires, 'Family'.

Afterwards, the students are asked to imagine moving backwards from 2035 step-by-step in three-years intervals and write down any events in those intervals that they believe will play an important part in enabling the occurrence of the events that follow, ultimately helping them achieve their most desirable state. For example, a student's desirable professional trait in 2035 might be 'Associate Professor'. Going backwards one three-year step from 2035 to 2032, the student may identify 'Being promoted to Associate Professor' as an important event that must take place within these years that will lead to the student being an Associate Professor in 2035. Going backwards a second three-year step from 2032 to 2029, the student may identify 'Being promoted to Assistant Professor' as an important event that must take place within these years that will lead to the student getting promoted to Associate Professor in 2032-2035. The following prompt can be used:

- Moving backwards from 2035 step-by-step in three-years intervals, please write down any events in your future which you believe will play an important part in achieving your most desirable state.

ACTIVITY 13 (p. 17)

DURATION: 10 MIN.

The educator asks the students to reflect on the image of their desirable future that they created before. Keeping their future desirable self in mind, each student is asked to individually consider the events from the "opportunities" and "threats" categories of their new extended present slide (p.14) that they created before. Each student is encouraged to identify opportunities that can be pursued now and threats that can be actively avoided now to enable the realization of the step-by-step plan towards their desirable future. The following prompt can be used:

- Please reflect on the image of your desirable future that you created before. Please contemplate on each event from the "opportunities" and "threats" categories of your *New Extended Present* that you created before. Which opportunities can you actively pursue and which threats can you actively avoid to realize your desirable future. How?

The background features a complex abstract design. It includes a solid yellow vertical bar on the left and horizontal bars at the top and bottom. The central area is light grey, overlaid with various grey and white shapes: large organic, wavy forms, a hexagon, and thin white lines. A yellow circular pattern with concentric lines is visible in the bottom left corner.

PERFORMANCE FOR FUTURES

MODULE OBJECTIVE

Welcome to Performance for Futures! The aim of this module is to acquaint you with some concepts and ideas from the world of theatre and performance, which can be applied to thinking about your futures in ways that will help your personal and professional development. You will understand how theatre and performance can be useful in fostering your skills in *anticipation for the future* and in *anticipation for emergence*, overall helping you become more **futures-literate**. These futures of course don't exist yet, so it's up to you to create them – and there are many pathways you can take. Theatre and performance are play; and so, this module has a playful structure, which is to say there isn't just one way to engage with it. In fact, there are at least 6 possible pathways through the different elements of this module. There are three acts (training sessions) in this module; each should last approximately 2 hours, but the order in which you take them is up to you, so the numbers you see (Act 1, Act 2 and Act 3) are just for the purposes of indexing. This means that in this module, the learning arches combine to form a rosette, as you will see below! Each act broadly introduces a concept or approach from theatre and performance practices, and suggests ways in which these can be 'translated' and applied to futures-thinking, with a particular focus on personal and professional development. The concepts from futures studies that are addressed are also given a broad overview. Our three acts are (Fig. 21):

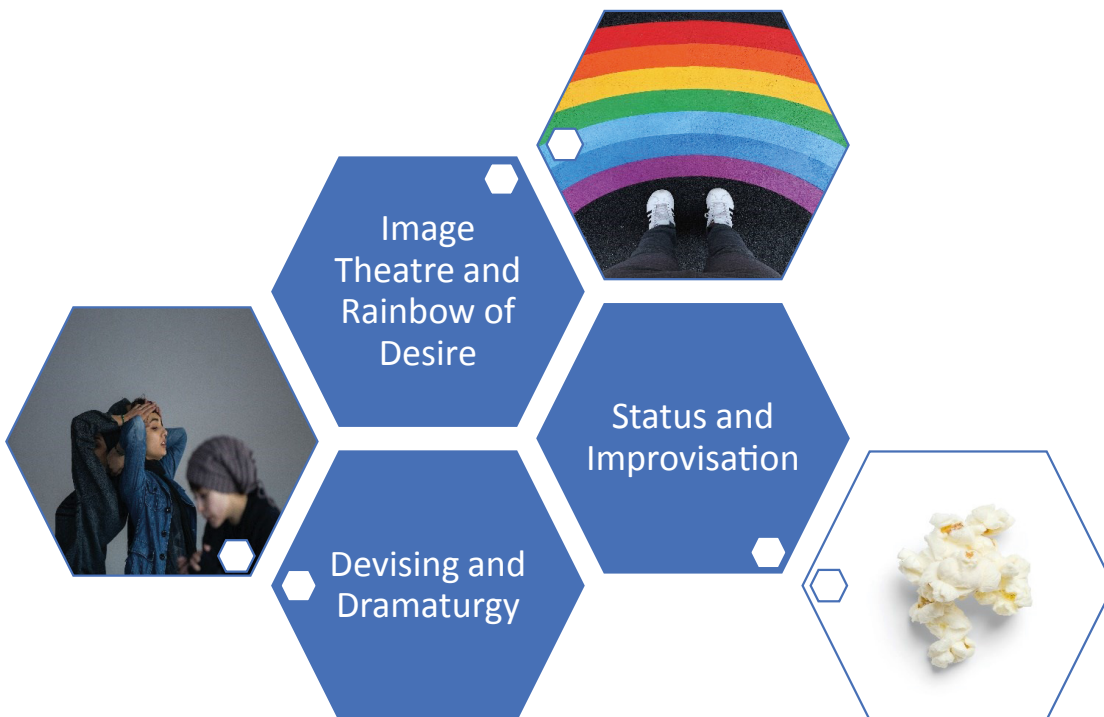


Fig. 21. Three acts of Performance for Futures module

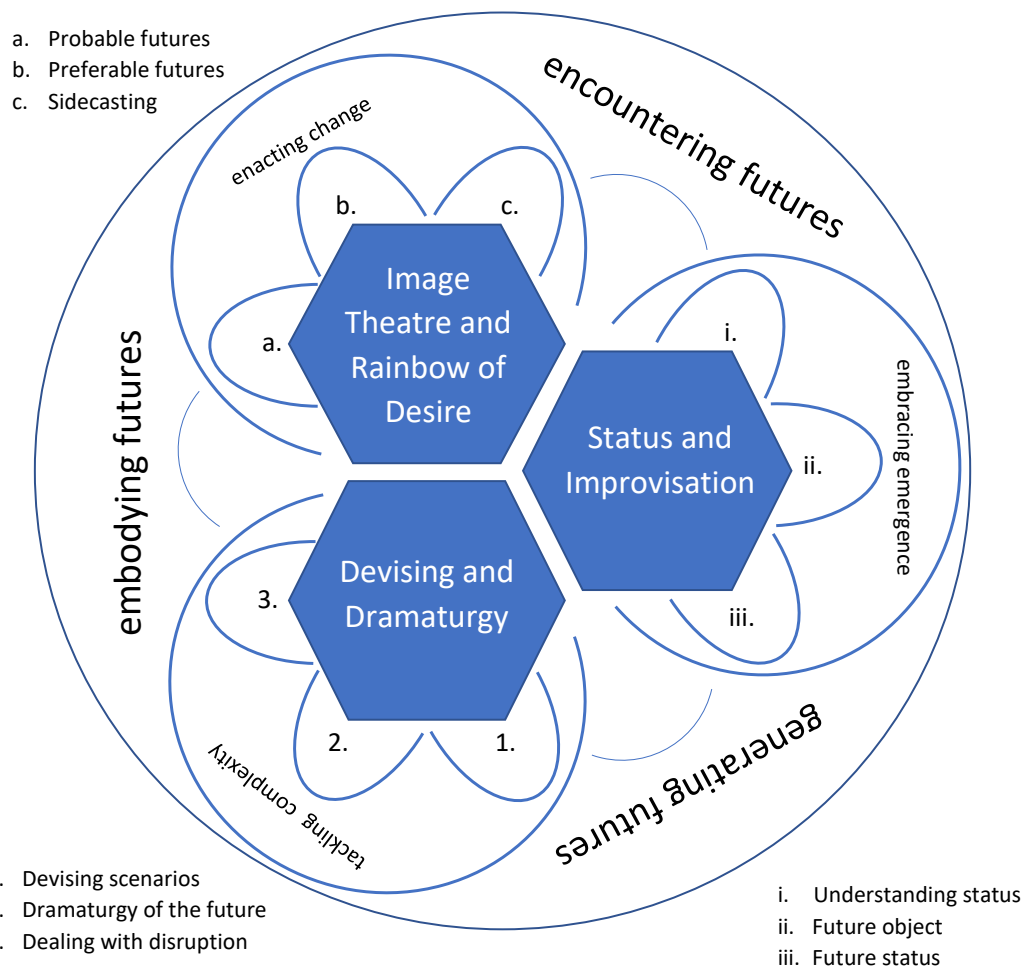
Source: own study with photos by Carlos de Toro (rainbow); Mockup Graphics (popcorn); and Mostafa Meraji (performers) on Unsplash

You can start with whichever one you want, or maybe just play with one or two of them. All three are designed to be enjoyed, and to give you different tools to think about

how you relate to your possible futures. 'Image Theatre and Rainbow of Desire' deals with the images you have of the future, and starts to look into what you think may happen (probable futures), what you want to happen (desirable futures), and how you position yourself in relation to those. 'Status and improvisation' helps you develop an awareness of how you might face future situations, finding tools that allow you to respond to new situations as they arise (embracing emergence). 'Devising and Dramaturgy' addresses the possibility of writing futures into existence (scenario generation) but also understanding that there are many variables affecting your future pathways (tackling complexity). None of them are about the future *per se* but about how we relate to the images of the future we hold.

As with everything that happens in time, each act also has a 'before' and an 'after': activities for you to perform in preparation for playing, and activities for you to perform in reflection, following each session. We hope you will enjoy exploring the many pathways this module sets out for you to practice – and making your own pathways!

Performance for Futures



ACT 1 – IMAGE THEATRE AND RAINBOW OF DESIRE

1. ACT 1 OBJECTIVE

In this act you will be introduced to performance techniques inspired by Brazilian theatre director Augusto Boal (1931-2009), which will help you get ‘out of your head’ and ‘into your body’. They will help you materialise and embody the Images of the Future you may have (whether you are aware of them or not), and will also allow you to give actual, physical shape to your emotions and feelings in relation to those images. Importantly, these techniques will help you enact change, by showing you that other images are also possible. In other words, you will be able to play and replay your future! This in an act that will help you consider personal choices and career paths, and the hopes, fears and desires that drive them.

2. THEORETICAL INTRODUCTION

In his book *Games for actors and non-actors*, Augusto Boal states that “Image is a language”⁷¹. Images in the theatre are very powerful and can represent not only actions, but situations and emotions. With a sequence of images, we can tell stories (like a storyboard), and show different angles of a situation, or creatively explore emotions. Part of a theatre maker’s job is precisely to foster and nurture this imagination. This is part of the creative process in performance, often starting from nothing and building an entire world with our bodies. Well, in fact, we are never starting from nothing! If nothing else, we do have ourselves, and our imaginations to start with. The word imagination, of course, can mean thinking or dreaming about something; but it can also mean the act of creating images. And so, in this sense, we can indeed imagine with our bodies.

Likewise, when we study the future, we have no data to work from –because it doesn’t exist yet! But we do have something: our imaginations. The images of the future that we create and hold are underpinned by our *anticipatory assumptions*. As Riel Miller explains, these are “the source of the models used to imagine the future”⁷², whether we are aware of them or not. In this module, we do not excavate or necessarily challenge these underlying assumptions, but it is definitely important to know they are there. It is these assumptions that determine what futures we think are likely to happen (probable futures), and also what futures we wish to happen (preferable or desirable futures). In fact, there are many types of futures, and Joseph Voros (2017) has usefully created a graphic representation of some of these. He called it the *Futures Cone* (Fig. 22).

⁷¹ A. Boal, *Games for Actors and Non-Actors*, 2nd ed., Routledge, London, 2002, p. 175.

⁷² R. Miller, *Framing Propositions for Professional Futurists*. Retrieved from https://www.academia.edu/18496209/Principles_of_Good_Practice_for_a_Professional_Futurist, p. 6.

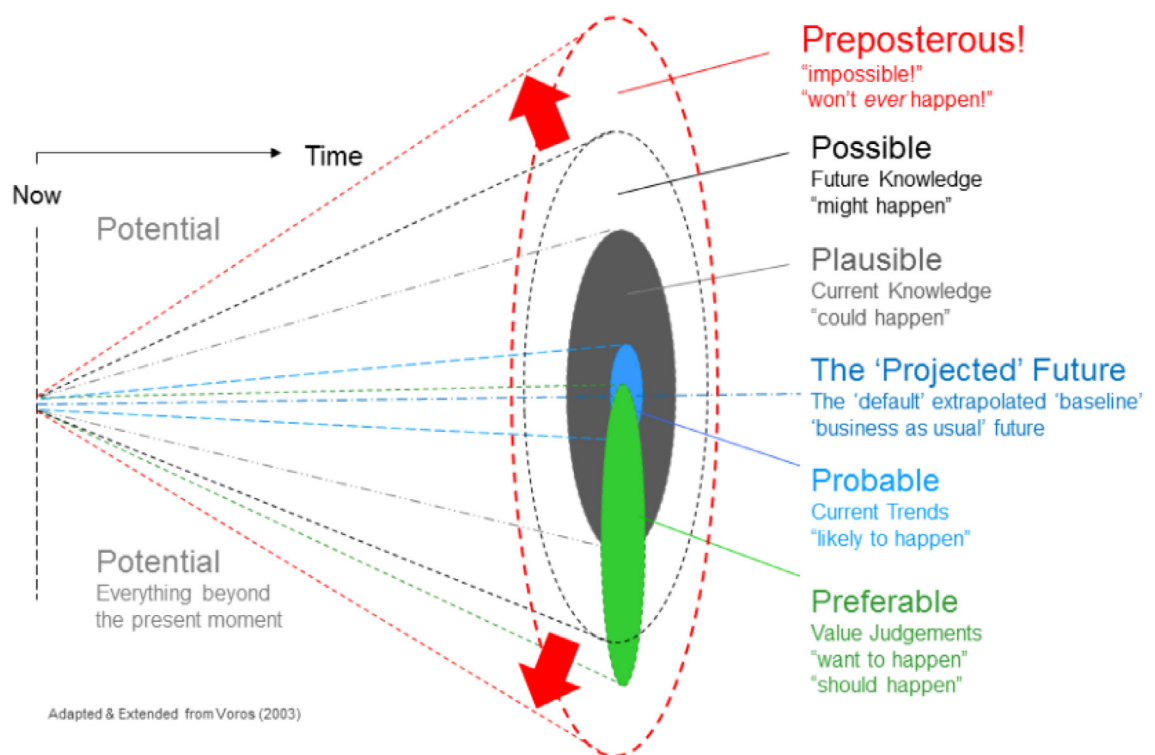


Fig. 22. The Voros Cone

Source: J. Voros, *Big History and Anticipation* [in:] Poli R. (ed), *Handbook of Anticipation*. Springer, Cham, 2019, p. 11, <https://thevoroscope.com/2017/02/24/the-futures-cone-use-and-history/>.

Coming back to the theatre, Boal has made the case that theatre is in fact a rehearsal for life and that it is a space where humans can “observe themselves in action”, a uniquely human attribute⁷³. However, according to him, ‘spectator is a bad word’ in that it is passive; spectators need to have their capacity for action restored, because ‘the theater has imposed finished visions of the world’ on them⁷⁴. He therefore talks about participants in the theatre as being *spectactors*, in that we are both able to spectate and to act! This gives performance a reflective dimension. If we look at this notion in relation to futures studies we can see how Boal’s way of thinking about theatre can be useful. While his theatre at first looked at this idea in trying to examine situations of oppression, the notion that we can play out alternative versions of a story is useful for us, when we apply this to a futures context. With Boal’s different imaginations we are capable of embodying and rehearsing different futures. But, perhaps even more important than that, in his book *The Rainbow of Desire*⁷⁵, Boal suggests that images also have an affective dimension. Andy McLaverty-Robinson elaborates: “In the affective dimension, people can project their memories and experiences onto the aesthetic space”⁷⁶. More than that, we suggest here that people can also project their hopes and aspirations.

⁷³ A. Boal, *Games...op. cit.*, p. 11.

⁷⁴ A. Boal, *Theatre of the Oppressed*, Pluto Press, London, 1979, p. 155.

⁷⁵ A. Boal, *The Rainbow of Desire*, Routledge, Abingdon, 1995.

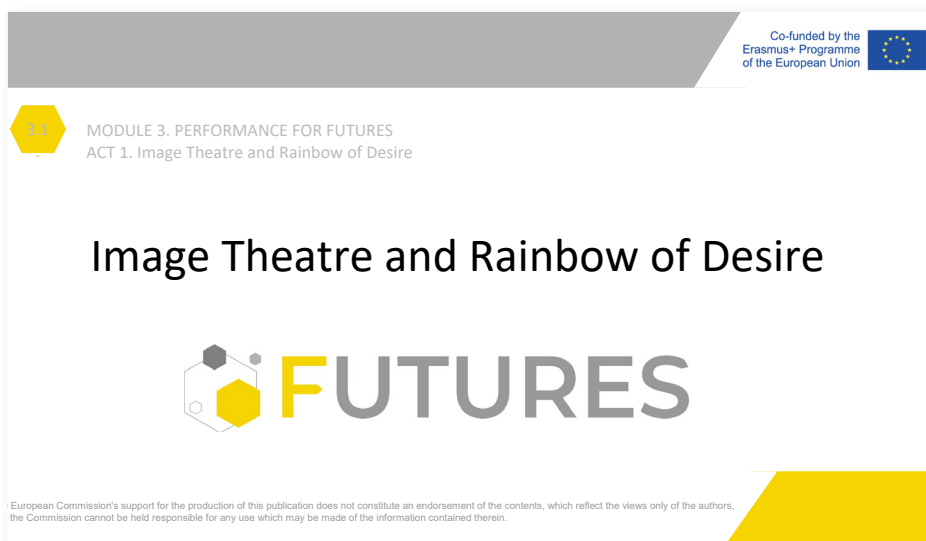
⁷⁶ A. McLaverty-Robinson, *An A to Z of Theory | Augusto Boal: The Rainbow of Desire*, Ceasefire Magazine 2017. Retrieved from: <https://ceasefiremagazine.co.uk/augusto-boal-rainbow-desire/>

If we put all this together, it is possible to create a model where we place side-by-side collectively created images of the futures we think are likely to happen (business as usual), but also those of futures we want to happen (desirable futures); crucially, we can also transform these images into each other, in a process we'd like to call 'sidecasting'. Sohail Inayatullah has written a seminal paper in which he outlines a conceptual framework for futures studies, based around Six Pillars. They are: mapping, anticipation, timing, deepening, creating alternatives and transforming⁷⁷.

Here, we concern ourselves with the sixth pillar – transformation. "In transformation", says Inayatullah, "the future is narrowed toward the preferred"⁷⁸. He proposes that backcasting is one of the key methods for transforming the future. In our session, however, rather than envisioning a desired future and working backwards towards the present in order to assess the steps needed to get there (as backcasting would have us do), we experience and examine the distance between what we think might happen and what we hope will happen, in a particular future timeframe. In other words: rather than stepping back in time, we step sideways, towards a different area of the Futures Cone. We discuss the distance between the desired and the likely as experienced and illustrated by our bodies, creating what Boal called "Images of Transition"⁷⁹.

This is done in relation to a particular theme which may be relevant to the participants in a session, but it is worth noting that the theme itself is not so important as the exploration. As a facilitator, it will be up to you to decide how best to approach and select this theme and the act as a whole. As a starting point, use the presentation below to introduce your participants to some of the concepts discussed above.

3. PRESENTATION ABOUT THE TOPIC (E-LEARNING)



⁷⁷ S. Inayatullah, *Futures studies: theories and methods* [in:] Al-Fodhan N., *There's a future: Visions for a better world* (pp. 36-66), BBVA, 2013. Retrieved from: https://www.bbvaopenmind.com/wp-content/uploads/2013/01/BBVA-OpenMind-Book-There-is-a-Future_Visions-for-a-Better-World-1.pdf

⁷⁸ *Ibid.*, pp. 57-58.

⁷⁹ A. Boal, *Games...op. cit.*

Contents

Welcome to Performance for Futures
Act 1: Image Theatre and Rainbow of Desire
Key concepts from theatre and performance
Key concepts from futures studies
Inspiration for this Act
Before the act
During the act
After the act



Photo by Carlos de Toro on Unsplash

Welcome to Performance for Futures!

In this module, we aim:

- to acquaint you with some concepts and ideas from the world of theatre and performance;
- to give you a broad overview of some concepts from Futures Studies;
- to apply these to thinking about your futures in ways that will help your personal and professional development;
- to have fun together!

Act 1: Image Theatre and Rainbow of Desire

‘Image Theatre and Rainbow of Desire’ deals with the images you have of the future, and starts to look into what you think may happen (probable futures), what you want to happen (desirable futures), and how you position yourself in relation to those.

Act 1: Image Theatre and Rainbow of Desire

In this act, you will:

- be introduced to some techniques developed by Brazilian theatre director Augusto Boal;
- materialise and embody the Images of the Future you may have;
- give actual, physical shape to your emotions and feelings in relation to those images;
- consider personal choices and career paths, and the hopes, fears and desires that drive them.

Concepts from theatre and performance

Image Theatre:

a way of establishing narratives and communicating ideas or feelings in performance which bypasses the verbal and allows images to speak for themselves.

Rainbow of Desire:

a set of techniques developed by Augusto Boal to help participants overcome internalised oppressions, and allow them to reclaim agency and creativity.

“In the affective dimension, people can project their memories and experiences onto the aesthetic space.”

(McLaverty Robinson, 2017)

Concepts from futures studies

Probable futures:

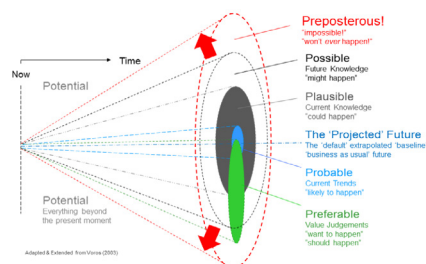
The images of the future we hold that are based on current trends, things we believe are likely to happen in the time after now.

Preferable futures:

The images of the future we hold that are informed by what we want to happen, what we wish would happen, or what we think should happen in the time after now.

Inspiration

- Augusto Boal – https://en.wikipedia.org/wiki/Augusto_Boal
- Joseph Voros – [The Futures Cone](#)



Before the act

Select a piece of music (song or instrumental) that somehow makes you think about the future.

It could be something in the words (in any language)

It could be something about its structure, its tempo

It could be something associated with future-oriented feelings:

a piece of music that fills you with hope, or expectation...

Let your facilitators know in advance what that piece of music is.

During the act

This is a performance-led workshop, so there will likely be physical contact between participants.

There will also likely be some movement, so wear comfortable clothes. Be prepared to be playful, relax and have fun!

Let the facilitators know if you are uncomfortable with any of this, or if you have any access requirements.

After the act

The next day, write continuously for 5 minutes about your experience.

This is an automatic writing exercise, a 'stream of consciousness'.

No editing, no stopping, just writing about your experience

– even if you start by writing:

“I don't know how I feel about this right now”.

Revisit this text a week later. *Now you can redraft and edit*

– but keep the original, too!

Questions, doubts, hopes, fears...

Please get in touch if you have any questions or comments, or if you need any support with the materials of this act.

Drop us a line at p.desenna@mdx.ac.uk and/or t.bacon@mdx.ac.uk.

4. PRACTISE YOUR PATHWAYS

Before:

Watch the slideshow online.

Select a piece of music (song or instrumental) that somehow makes you think about the future. It could be something in the words (in any language), it could be something about its structure, its tempo – anything, really. Sometimes this is not associated with the future directly, but with future-oriented feelings. For example, a piece of music that fills you with hope, or expectation... Let your facilitator know in advance what that piece of music is (Tab. 11).

During:

Tab. 11. Act 1 Image Theatre and Rainbow of Desire

	Activity name	Timing	Brief description
1.	Welcome and warmup: musical statues!	10 mins	After the first few free statues, every statue is a picture of feelings called out by the facilitator.
2.	How do you stand?	5 mins	Arriving at individual image of feelings towards the future of [theme], in the length of a song.
3.	Dynamisation	10 mins	Look around – what other images strike you? Move to complement it; the whole group is able to move, taking turns.
4.	Discussion	15 mins	What's emerging? Observations? Feelings?
5.	Future statues!	10 mins	After the first few free statues, every statue is a picture of you in the future at 5, then 10, then 25 year intervals (end the game 40 years in the future).
6.	Future you	5 mins	Assume the position of your statue of 15 years away from now; Take a moment – move about as that future you! Keep that memory in your body.
7.	Image of probable future	10 mins	Split the group in half (actors/spectators). Actors: collectively create an image of the probable future of [theme]. No words!
8.	Probable future you	5 mins	Spectators: bring your future selfs back to your bodies and 'meet' the image of the probable future, by inserting yourself in it.
9.	Image of preferable future	10 mins	Spectators: collectively create an image of the preferable future of [theme]. No words!
10.	Preferable future you	5 mins	Actors: bring your future selfs back to your bodies and 'meet' the image of the preferable future, by inserting yourself in it.
11.	Sidecasting	15 mins	Dynamisation: move from the probable to the desirable future in three steps/images (total 5 images). What needs to happen? No words!
12.	Discussion	20 mins	Where are you now? What do you desire? How do you feel about the future?

Source: own study.

After:

The next day, write continuously for 5 minutes about your experience; this is an automatic writing exercise, a 'stream of consciousness'. No editing, no stopping, just writing about your experience – even if you start by writing „I don't know how I feel about this right now".

www.futuresproject.pb.edu.pl

Revisit this text a week later. Now you can redraft and edit; but keep the original, too!

Detailed schedule of activities for facilitators:

For this act, facilitators will need a space large enough for participants to comfortably move around; and a device to play music from, along with loudspeakers. The timings suggested above for each activity are indicative only, and based on a total working session of 2 hours. Use your judgement as to what can be made shorter, what can be stretched further, as the participants are engaging in the activities. Likewise, if you have a longer slot (say, 3 hours), time dedicated to the activities can grow proportionally, or more time can be dedicated to the discussion, spent on refining particular images or even offering a theoretical introduction or background based on the slides and explanations above. It is generally best, though, to not overburden participants with information at the start of the session; better let them experience somatically and affectively at first, and then to process and understand cognitively.

Before:

Ask participants to send you their choice of music that makes them think about the future. Prepare a playlist with this music. Select a theme for the session, according to your participants' profile. This can be as specific as 'the future of mechanical engineering in Poland' or as broad as 'the future of education'

During:

1. The welcome and warm-up are very important activities in any work of/with theatre. It is what sets the tone for what is to come, and prepares bodies and minds for the ensuing activities. Make sure that you establish a relaxed, playful atmosphere of trust and openness, in which participants feel comfortable to share and take risks. This is best achieved when you also play in the activities/games together with the participants. Welcome them into the space, if possible already playing some music in the background – from a playlist made with the music sent to you by the participants. Explain that it is ok to not know, and to experiment, and to 'fail'. There is no right or wrong, there is only play; and you will be playing together, creating and exploring images of the future.

In the case of musical statues, the participants dance until the music stops, at which point they need to freeze in a pose. You will of course be controlling the music, so your 'playing together' needs to be established through inserting yourself in the playing space, walking around the statues, commenting, and observing, playfully trying to catch them out moving. Be mindful of participants who might have disabilities that prevent them from being entirely still. Acknowledge that, and that some statues are more like mobiles...

Once the game has been established with a few 'statues' announce that you will go to level 2 of the game. That the statues have to represent feelings that you call out, when the music stops. Examples of feelings to call are: bravery, fear, hope, despair, curiosity, indifference, love, hate...



2. Now that the participants are warm and in a more playful mood, announce that you will play one last piece of music in full (no more than 5 minutes), and tell them that by the end of that piece of music, they need to arrive at a statue that represents the feelings they have towards the future of the chosen theme of the session. As you give out the instruction, you can use the framework of the Polak game (Hayward and Candy, 2017)⁸⁰ to help participants think: do they think things are getting generally better or worse? To what extent do they feel like they can affect outcomes in this particular area? Except, rather than ask 'Where do you stand?', this game asks: 'How do you stand?' Again, be mindful of language – if there are wheelchair users in the room, make sure you are being inclusive with your language. The real question is 'How do you feel'? It is ok for them to experiment, try out different poses/statues, to take their time to find whatever physical/visual manifestation feels right for them.
3. The dynamisation part is really key, as this is where participants begin to change their images of the future, to shift their feelings towards it. Ask the participants to, from their statue positions, look around – their heads are allowed to move. Are there any images that strike them – images which they find interesting, that they are curious about, or relate to?

Allow participants, one by one, to move in the room, going towards another statue and creating another image that responds to or complements the one they approach; now this is a double-statue. Only one participant is permitted to move at a time, and not all participants have to move. It is also possible for double-statues to become single again, if the first 'target' decides to move away towards someone else; or for triple-statues to form if another person wants to join them... Emphasise that there is no right or wrong way to go about it. The only hard rule is that no speaking is allowed! Let this game evolve for 10 minutes: it needs space to breathe, and for participants to feel empowered to make choices, including the choice to move more than once, or not to move at all.

4. Now it is time for some words. Gather the participants in a circle, and ask them to comment: any interesting moments? Any striking images or patterns? Feelings? Try to avoid lengthy explanations –stick with description and acknowledgement of what just took place. Importantly, there is no value-judgement here: every experience is unique and valid.
5. Time to bring the participants out of their heads and into their bodies again. Explain to them that you are now going to play a variation on the musical statues game. To begin with, they can play freely, as before. After a few statues, ask them to project themselves into the future: when the music stops they are to become a statue of themselves in 5 years time! This might be hard, so reassure participants that it is ok if their future selves (5 years older) look and stand and feel very similar to today. But perhaps they

⁸⁰ P. Hayward, S. Candy, *The Polak Game, or: Where do you stand?*, Journal of futures studies 2017, vol. 22(5), pp. 5-14. DOI:10.6531/JFS.2017.22(2).A5, https://www.researchgate.net/publication/322144099_The_Polak_Game_or_Where_do_you_stand

have graduated? Or maybe just starting a new job? Are they afraid of something? Confident? Music. The next statue is from a further 10 years into the future –so 15 years from today. Perhaps the differences are a little more accentuated now. Is this statue more confident? More successful? Perhaps they have a family? Their dream job? Or they are trapped in a boring routine? Music. The final statue is from their selfs 25 years after that, 40 years from now. Have they retired? Are they still as vigorous as they were 25 years previously? What do they look forward to? Music.

6. During the length of one piece of music (5 minutes maximum) ask participants to return to their 15-years-in-the-future self. They should assume that position, inhabit that body; but rather than being statues, they are allowed to move around the room, to experience the world from that embodiment. Prompt them to keep that physical memory, it will be revisited.
7. Split the group in half: actors and spectators. To begin with, instruct the actors to collectively and dynamically create an image of the probable future of their chosen theme, with a 15-year timeframe. It is important here to allow time for this to evolve without verbal communication. The individuals must find their own position within this probable future world –and of course visions will differ, but that is ok. The final image arrived at will be a composite of different visions and wills. It is a complex world. Participants can shift, change, adjust, like in the first dynamisation, when they responded to each other.

Instruct the spectators to observe the process attentively. The evolving image of the probable future of their theme forming before their very eyes!

8. Once the image is formed, instruct the spectators to embody again their future selves, 15 years from now, established in (6). They should move in this embodiment towards the image created by the actors: their future selves meeting the probable future of the chosen theme. The spectators are to insert themselves into that image. How are they positioned in relation to this future? We now have a composite image of actors and spectators. Ask them to remember where they are.
9. Ask the actors to leave the playing area; only the spectators are now on stage, frozen in their responses to the image of the probable future. Allow a moment for the actors to observe this new image, which emerged from the one they had created. Instruct the spectators now to, following the same process as the actors had, create an image of the preferable future of the chosen workshop theme (15-year timeframe). Again, it is possible that competing visions and desires will emerge. Negotiate these without words, until a collective image of the preferable future emerges and the group are satisfied with it. Actors observe attentively as the image of the preferable future emerges before them.
10. Once the image is formed, instruct the actors to embody again their future selves, 15 years from now, established in (6). And, like the spectators before them in (8), the actors are to insert themselves into the image of their preferable future. How do they position

themselves in relation to it? We now have a composite image of actors and spectators in the preferable future of the chosen theme. Ask them to remember where they are.

11. Sidecasting. For this dynamisation, ask the whole group to revert to the image of the probable future created at the end of (8). Then tell them to go back to the image of the preferable future arrived at the end of (10). Back again to the probable future of their theme (8). One more time, ask them to go to the preferable future; but this time, the transition should take place in three steps (three images of transition). In other words: what if the future gradually shifted from the probable to the preferable? What images lie in between? What needs to happen? We should end with a total of five images. This process is analogous to backcasting, but rather than looking at steps leading to a future outcome, the images generated open a spectrum of possibilities in the chosen time horizon. Once again, remind the participants: no talking! And there is no right or wrong, they are generating images with their bodies, and the images speak for themselves (in fact, they paint a thousand words!).
12. Finally, time for talking again. No value-judgement, just feelings, impressions, observations – and the questions: Where are you now? What do you desire? How do you feel about the future? Has something shifted? Make sure to check out with the participants, holding the space for them to express their thoughts, in a supportive manner. Their experiences are valid. Thank them for their attendance and participation. Remind them of the ‘after’ task: writing the stream-of-consciousness sense-making exercise the next day. Reassure them that it is strictly personal, no-one else needs to see it; but that it is an important part of the process.

After:

Make yourself available for debriefs (online or in person), should any participant desire to chat. After a week, message participants reminding them to revisit their notes, and edit. Emphasise again that you don’t want/need to see this writing – it is their own space to reflect on their relationship with the future, but they are welcome to share it or publish it if they wish.

5. USEFUL AREAS OF EXPERTISE/EXPERTS

Anything written by Augusto Boal himself will be useful, but especially the following books:

Theatre of the Oppressed

Games for Actors and Non-Actors

The Rainbow of Desire

The Aesthetics of the Oppressed

There are also a number of resources and companies working with Boal’s arsenal of games. The foremost expert in Boal in the English-speaking world is Adrian Jackson, who has translated Boal’s books and is artistic director of [Cardboard Citizens](#).

Ceasefire Magazine published a series of seven articles on Boal, by Andy McLaverty-

Robinson, in his 'An A to Z of Theory' column. They are compiled here: <https://ceasefire-magazine.co.uk/category/columns/in-theory/page/2/>

Joseph Voros's website, [The Vorsoscope](#), has a wealth of information on his work and thinking, including an in-depth explanation of the Futures Cone.

6. RECOMMENDATIONS FOR VIRTUAL FORM

The nature of this Act makes it very difficult for it to be conducted effectively in virtual form. It is possible, however, to explore some of its aspects while working remotely.

If using Zoom or any other such platforms, make sure that:

- You have a maximum of 12 participants
- You can share your sound.
- Participants have their cameras on.
- You use the chat function to encourage comments and leave prompts for discussion.
- You alternate moments in 'gallery mode' with moments in 'speaker view'; occasionally, 'spotlight' individuals for all to focus on.

Be creative and
Good luck!

7. RECOMMENDED SUPPLEMENTARY RESOURCES

Stuart Candy:
The Thing from the Future

Sohail Inayatullah:
Futures studies: theories and methods



ACT 2 – STATUS AND IMPROVISATION

1. ACT 2 OBJECTIVE

In this act you will be introduced to techniques developed by British-Canadian practitioner and improvisation teacher Keith Johnstone (1933-); these are based on the key concept of status, which Johnstone theorised. They will help you start to reflect and act on how you approach the future, embrace emergence and prepare for situations like job interviews and other professional encounters, such as meetings, and presentations. You will increase self-awareness about your status (and that of others) in these situations, and be empowered to take conscious action to positively affect it. You will also witness (and potentially participate in!) an improvised scene, and discuss how approaching emergence with openness can lead to useful insights and discoveries about yourself and the world around you.

2. THEORETICAL INTRODUCTION

Keith Johnstone was a highly influential theatre practitioner and theorist, who wrote a seminal book called *Impro: Improvisation and the Theatre* (1981)⁸¹, which is still a reference to this day. In it, he discusses a number of approaches and techniques useful for theatre-making, including mask work and narrative skills. It is, however, his theorising and application of the concept of *status* that we appropriate for our purposes here. The first thing that needs to be understood about status is that (in the theatre at least) it has little to no relation with money or social position. Rather, status in the theatre has to do with the hierarchies of power that different characters or agents have at any given moment. This is not to say that there are no structural and circumstantial power imbalances in the world, which have a very real and palpable effect on people's lives. Still, a clear way to understand status in the theatre is to think about the common comedy trope of the master/servant relationship, where it is often the servant who has the higher status in a scene. From reading Johnstone's book, one can surmise a few other rules about status.

- Status is always there: you can't avoid it! Whether you like it or not, every interaction involves a status transaction, which is ever-evolving and never absolute, but is nonetheless absolutely there. What we need to do is to acknowledge that fact and play with it. It can be very empowering!
- Status is always shifting: every movement, every word alters (however slightly) the status dynamics of an encounter. Somebody stands up, says "Hello", shifts their position on their seat, whispers "I love you", raises their hand, shouts "No!", looks the other way, declares "I don't know" – every action engenders a change in status.
- Status is always relative: no-one has absolute status in any situation. Your status is always *higher than* or *lower than* someone or something else's. Some people may be natural raisers, or natural lowerers of their own status, but this will always be in relation to someone or something else.

⁸¹ K. Johnstone, *Impro: Improvisation and the Theatre*, Methuen, London, 1981.

In relation to this last point, it is worth noting that Johnstone states: “Status is played to anything, objects as well as people”⁸². This includes spaces, too. So, for instance, you can have high status in relation to a room – you enter it and you ‘own’ it; or the opposite: we’ve all been in that situation where we’ve confidently opened a door and walked in, only to find out it is the wrong room! Immediately our status drops. Likewise, an object as simple as a coffee cup can acquire high status in relation to you, if it belonged to someone you loved and who is gone. You approach it with special care and even deference. Or your status can be higher than that of a piece of furniture that you are entirely comfortable with and use freely. This is crucial in our context, because you can play status to any object, including one that you choose to represent your future!

This happens because of another trick that we can learn from the theatre, that which defines it as an art-form: theatre is the art-form that transforms people and objects into something they are not. So, in the theatre, I may temporarily cease to be the person writing this paragraph, and become a medieval Danish prince. By the same token, I may hold up a pencil and say “*en garde!*”, and it immediately becomes a sword. In a similar way, I can hold up the portable Bluetooth loudspeaker I have on my desk and claim: “this is my future!” It is green, the colour of hope; it is a portal to entertainment; it has many possible ways of connecting to other devices; it can travel; it also needs regular recharging... The power of transformation by means of metaphor or metonymy in the theatre has been discussed extensively by scholars such as Keir Elam in *The Semiotics of Theatre and Drama*⁸³. It enables us to invest objects with special significance. In performance, words have the power to build worlds: once we name an object within the context of play, this is what it becomes in that world.

The same principle allows you, the facilitator, to turn a participant into a candidate for a job at a Popcorn Factory. By saying “Welcome to the popcorn factory! Have you come for the position we advertised?”, you are making what in improvisation terms is called an *offer* (note this is not the same thing as a job offer that might emerge as the improvised scene progresses). An offer, put simply, is “anything that an actor does” (Johnstone, 1981, p. 97)⁸⁴. Good improvisers always accept an offer; that is to say, they embrace and play along with the situation presented to them, however unexpected. This is a fundamental rule of improvisation, one that needs to be communicated clearly to the participants (the slideshow will help you/them with that). The principle underpinning the idea of accepting an offer relates to the notion of embracing emergence and complexity, a key attribute of Futures Literacy (FL). As Riel Miller pointed out: “By increasing our capacity to improvise and be spontaneous, live with permanent ambiguity and novelty, FL frees us up to go beyond the predictable, and enables us to embrace complexity”⁸⁵. Indeed, working with improvisation is good practice for understanding the limitations of contingency and optimisation planning, and for learning to deal with the unexpected. Or, as Loes Damhof put it, in conversation with Laureline Simon: “Being in that liminal space, where there

⁸² K. Johnstone, *Impro... op. cit.*, p. 50.

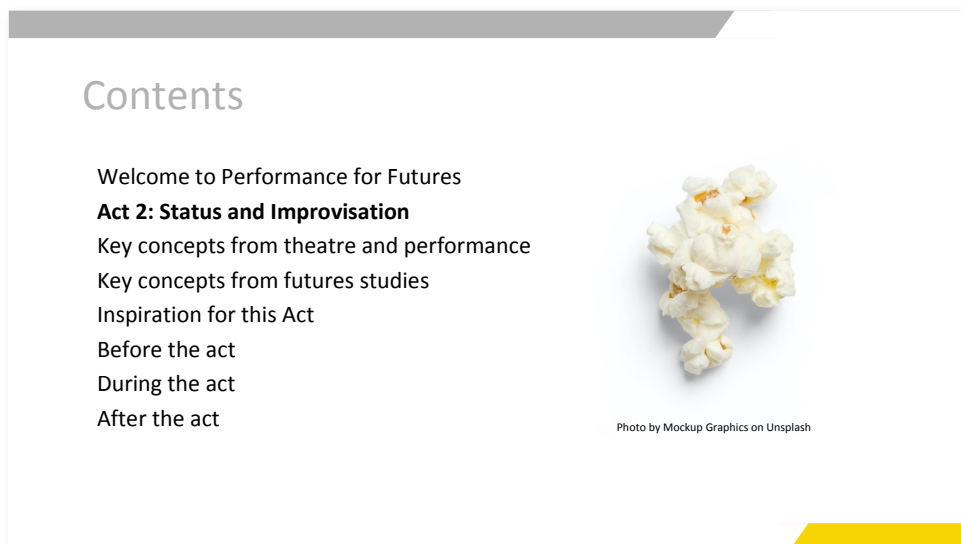
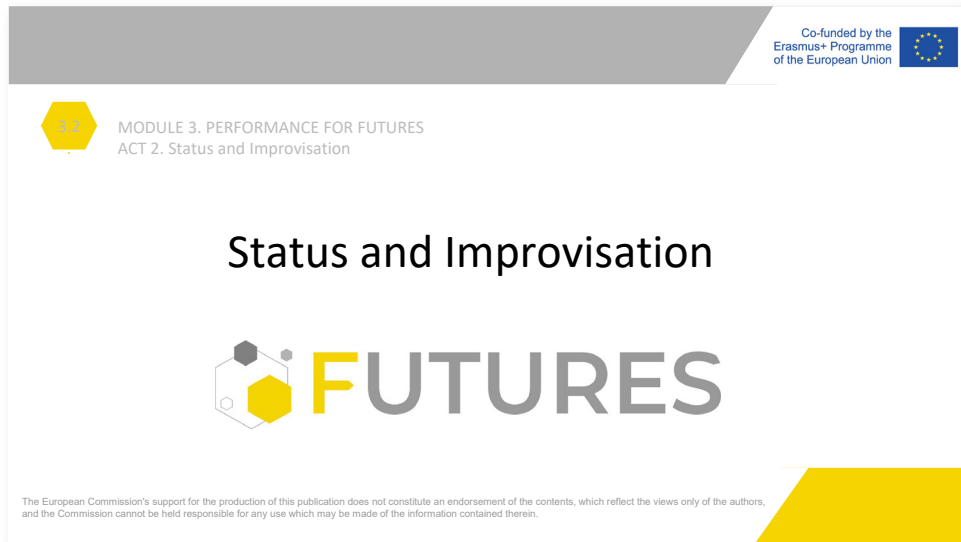
⁸³ K. Elam, *The Semiotics of Theatre and Drama* (2nd ed.), Routledge, Abingdon, 2002.

⁸⁴ K. Johnstone, *Impro... op. cit.*

⁸⁵ R. Miller, *Futures Literacy: Embracing Complexity and Using the Future*, Ethos 2011, vol. 10, pp. 23-28.

is potential for going somewhere that you hadn't thought about"⁸⁶. However, a key observation ought to be made here: it is important to note that in life – and especially in situations where power differentials are starkly involved (such as job interviews, for example) – knowing when to say no is equally valuable as playing along and saying yes.

3. PRESENTATION ABOUT THE TOPIC (E-LEARNING)



⁸⁶ L. Simon, *What if resilience was about welcoming emergence every day?*, One Resilient Earth, 2020. Retrieved from: <https://oneresilientearth.org/what-if-resilience-was-about-welcoming-emergence-every-day/>

Welcome to Performance for Futures!

In this module, we aim:

- to acquaint you with some concepts and ideas from the world of theatre and performance;
- to give you a broad overview of some concepts from Futures Studies;
- to apply these to thinking about your futures in ways that will help your personal and professional development;
- to have fun together!

Act 2: Status and Improvisation

‘Status and improvisation’ helps you develop an awareness of how you might face future situations, finding tools that allow you to respond to new situations as they arise (embracing emergence).

Act 2: Status and Improvisation

In this act, you will:

- be introduced to techniques developed by British-Canadian practitioner and improvisation teacher Keith Johnstone;
- start to reflect and act on how you approach the future, embrace emergence and prepare for situations;
- increase self-awareness about your status (and that of others);
- discuss how approaching emergence with openness can lead to useful insights and discoveries.

Concepts from theatre and performance

Status:

theorised by Keith Johnstone, status in the theatre refers to the hierarchies of power that different characters or agents have at any given moment.

Offer:

in the context of improvisation, an offer is anything a player says or does, which elicits a response from the other player(s).

“Status is played to anything, objects as well as people.”

(Johnstone, 1981, p. 50)

Concepts from futures studies

Futures Literacy:

The capability to use the future to better understand and inform the decisions we make in the present.

Embracing emergence:

The understanding that the complexity of our world breeds novelty, and the ability to use that understanding to respond with agility to changing circumstances.

Inspiration

- [Keith Johnstone](#)
- Riel Miller – [Futures Literacy \(FL\)](#)

“Being in that liminal space, where there is potential for going somewhere that you hadn’t thought about.”

(Damhof, in Simon, 2020)

Before the act

Take some time to think and select an object you can bring with you that, for whatever reason, can be used to represent your future.

It could be that the object is bright, and you imagine yourself having a bright future.

It could be complex and layered.

Or an empty vessel, ready to be filled...

The important thing is that there is an explanation that makes sense to you.

During the act

This is a performance-led workshop, so there will likely be physical contact between participants.

There will also likely be some movement, so wear comfortable clothes.

Be prepared to be playful, relax and have fun!

Let the facilitators know if you are uncomfortable with any of this, or if you have any access requirements.

After the act

Over the next week or so, observe people in your environment

– this could be at home, in public, at work...

What status do they have in their relationships to other people, objects or spaces around them?

What is their body-language like?

Copy it – adjust your body to match your subjects' posture, comportment etc.

How does that feel? *Take note, and take notes.*

Questions, doubts, hopes, fears...

Please get in touch if you have any questions or comments, or if you need any support with the materials of this act.

Drop us a line at p.desenna@mdx.ac.uk and/or t.bacon@mdx.ac.uk.

4. PRACTISE YOUR PATHWAYS

Before:

Watch the slideshow online.

Before coming to the session, take some time to think and select an object you can bring with you that, for whatever reason, can be used to represent your future. It could be, for example, that the object is bright, and you imagine yourself having a bright future. Or it could be complex and layered. Or an empty vessel, ready to be filled... The important thing is that there is an explanation that makes sense to you, so that the object can act as a surrogate for your future during the course of the workshop (Tab. 12).

During:

Tab. 12. ACT 2 - Status and Improvisation



	Activity name	Timing	Brief description
1.	Welcome and warmup:	10 mins	Walk around the room; make/break eye contact for different counts.
2.	Introduction to Status	20 mins	Explanation of status; 1 for 1 / tit-for-tat game; in pairs, make a move at a time to [raise /lower /follow your instinct / counter your instinct regarding] your status.
3.	Discussion	10 mins	Are you a natural status riser? Do you tend to lower your status? Are there situations in which this might change?
4.	Future surrogates	15 mins	Introduce your object (future surrogate) for at least 30 seconds, explaining why it represents your future. [max. 15 minutes total]
5.	Status to objects	15 mins	Three by three, play raising and lowering your status in relation to your future surrogates.
6.	Discussion	15 mins	How was it? Easy, hard? Why? What did you see in others?
7.	Status to room	5 mins	Play with your status in relation to the room.
8.	Surprise job interview!	5 mins	Improvisation with one participant and one facilitator. The basic rule: accept the offer made.
9.	Comments / replay with status	15 mins	What did you see? What was the relative status of each player? Did it change? Play the scene again, actively managing your status.
10.	Wrap-up	10 mins	How did it feel to improvise? How do we face the future?

Source: own study.

After:

Over the next week or so, observe people in your environment – this could be at home, in public, at work... What status do they have in their relationships to other people, objects or spaces around them? What is their body-language like? Copy it – adjust your body to match your subjects’ posture, comporment etc. How does that feel? Take note, and take notes.

Make yourself aware of your own status, too. Reflect on different situations where your status was raised or lowered. Try to consciously play with your status, by deliberately shifting and changing position in day-to-day or social situations (when you feel comfortable and safe to do so).

Detailed schedule of activities for facilitators:

For this act, facilitators will need a space large enough for participants to comfortably move around. Ideally the space will have a table and a couple of chairs, but it is not fundamental. The timings suggested above for each activity are indicative only, and based on a total working session of 2 hours. Use your judgement as to what can be made shorter, what can be stretched further, as the participants are engaging in the activities. Likewise, if you have a longer slot (say, 3 hours), time dedicated to the activities can grow proportionally, or more time can be dedicated to the discussion, bringing other improvisers to play, or even offering a theoretical introduction or background based on the slides and explanations above. It is generally best, though, to not overburden participants with information at the start of the session; better let them experience somatically and affectively at first, and then to process and understand cognitively.



Before:

Ask participants to select an object that they feel comfortable bringing and sharing with the group, which can for some reason represent the future. No time-horizon needed, just an open sense of 'the future'.

Prepare a few job interview questions that can be used in the session, and which you can improvise with.

During:

1. The welcome and warm-up are very important activities in any work of/with theatre. It is what sets the tone for what is to come, and prepares bodies and minds for the ensuing activities. Make sure that you establish a relaxed, playful atmosphere of trust and openness. Start by briefly introducing yourself (one sentence) and ask the participants to walk around the room. This activity works best with the facilitator leading from the inside, playing along.

Ask them to avoid going in circles, but to collectively occupy the space, moving across it, changing direction etc. Participate in this with them. Get participants to acknowledge each other's presence by making eye contact. Once this has become established, ask them to, whenever their eyes meet someone else's to hold that gaze for 1 second while still walking, then look away and carry on. Play along, making eye contact with various group members. Next, ask them to hold whatever casual eye contact they make for a count of 3 seconds, before breaking up again. One again, this time holding eye contact for a count of 10. Now, start suggesting 'double-take' combinations: make eye contact for a count of 1, break eye contact for a count of 3, make eye contact again for 1, before moving on. Eye contact for 3, break for 10, eye contact again for 1 –etc. Make a few combinations of your own to suggest, while playing the game, too!

2. Take a minute to receive quick-fire comments on (1). What emerged? Any observations about power relations? Introduce the concept of status. Explain that it has little to do with socio-economic power, but rather about having the upper hand in any given situation or moment in time. Introduce the three rules of status: that it is always *relative*, always *shifting* and always *present*.

Instruct the participants to find a partner. If there is an odd number of participants, make yourself available to partner with one of them. Ask participants to one by one take an action – this can be as simple as a step forward – that will raise their status. It is important that the action is simple and complete, so that when it is finished, the partner can make their move. Suggest that participants try raising their status in really small increments, always in this one-for-one move structure. If a 'scene' has nowhere else to go, if there is a stalemate, or the statuses can't escalate any further, it is ok for partners to reset and start again. Now, ask participants to follow the same structure, but this time trying to lower their status, little by little. Finally, give participants the opportunity to play the game following their instincts: if they feel like they should raise their status, do it; for their next move, they might feel like lowering it, and so on...

If you are feeling really adventurous and time permits, offer a final variation of the game: that players are free to follow their instinct, but also to counter that instinct on occasion. So if they feel the urge to raise their status at a particular moment, that they become aware of that urge, and counter it with an action that will lower their status.

3. Discuss the experience of the last game with the group. Are there natural status raisers? Those whose natural instinct is primarily to lower their status? Does this depend on the situation? In what ways was status most effectively raised or lowered? Any other observations? Ask that participants keep this experience in mind.
4. Instruct participants to bring out their chosen objects, their future surrogates. One by one, participants introduce their object, explaining why it represents their future. All participants must speak for at least 30 seconds without pause. The total time taken for this activity should not exceed 15 minutes, so be mindful of time; set the conditions/timings that will suit your group size.
5. Explain that status does not only apply between two people, but also between a person and an object. For example, a gift from a loved one who has passed away may have very high status in relation to its owner, for whom that object is precious but needs to be approached with caution. Now, ask that participants, three by three, place their future surrogates in the space – on the floor, table or chairs if appropriate/desired; that they look at their objects and truly invest them with the idea of their future in their imaginations. Then, that they approach this future (reified by the object) while consciously playing with their status in relation to it. Suggest that they approach it with high status, withdraw; approach again with low status; shift status as they go along, etc. Make sure that those who are not playing at that particular moment are observing attentively. Rotate until the whole group has had a go.
6. Reflect on the experience: was it easy? Hard? Why? What did you see in others? Anything you observed? It is important that participants feel they can talk not only about their experience as players, but also as audience members.
7. Get the participants ready to move again: explain that, as well as other people and objects, we also have status in relation to rooms/spaces. We can walk into a space and 'own' it; but likewise we can enter a room and feel completely overwhelmed by it (not to mention when we confidently open a door and enter a space, only to realise it is the wrong room...). Ask that they play with their status in relation to the room. By this point, participants should be comfortable enough with the concept to be able to play with it with relative ease.
8. Select a participant to play an improvised scene with you. This can be done at random, by asking for a volunteer, or by observation of those who you think would enjoy or do well with the challenge. Whichever method, the choice has to be made quickly to avoid losing momentum. Quickly set up the table (if available) and two chairs across each other. Explain

that the key to improvisation is acceptance and openness to the offers made by your playing partner –to play along. Ok? Then suddenly tell them: “Welcome to the popcorn factory! Have you come for the position we advertised?” Improvise a job interview with them. You can have preset questions (not more than two or three) or just roll with whatever emerges in the improvised scene, and make your questions on the spot.

9. Invite a round of applause, and comments from the audience. Frame the conversation around status. What did they see? What was the relative status of each player? Did it change as the scene progressed? Play the scene again, both of you actively managing your status. If appropriate, accept direction/suggestions from the audience.
10. Wrap-up. Ask the volunteer how it felt to improvise. Both players and the audience can reflect on the key question: how do we face the future? How do we deal with emergence? What is our status towards it? Hold the space in a supportive manner. Thank the participants for coming and commend their bravery in exploring this territory. Remind them of the ‘after’ tasks.

After:

Make yourself available for debriefs (online or in person), should any participant desire to chat. After a week, message participants asking them about the task and invite them to share their notes on an online whiteboard (such as Miro, Padlet or any other you find appropriate). Emphasise that this is an entirely voluntary exercise, but that it would be nice to see what others discovered and how they are getting along.

5. USEFUL AREAS OF EXPERTISE/EXPERTS (OPTIONAL)

Anything written by Keith Johnstone himself, but especially:

Impro: improvisation and the theatre

Impro for Storytellers

You can also visit his official website: <https://www.keithjohnstone.com/>

There are a number of resources on improvisation for you to explore. Perhaps the most famous and influential improvisation teacher of the 20th century was Viola Spolin (1906-1994). There is information on her approach and techniques on <https://www.violaspolin.org/>.

For Futures Literacy, the foremost expert is Riel Miller, whose book *Transforming the Future: Anticipation in the 21st Century*, can be accessed for free, here: <https://unesdoc.unesco.org/ark:/48223/pf0000264644>

6. RECOMMENDATIONS FOR VIRTUAL FORM

The nature of this Act makes it possible for it to be conducted effectively in virtual form, with some adaptations. If using Zoom or any other such platforms, make sure that:

- You have a maximum of 12 participants
- Participants can have their cameras on.
- You use the chat function to encourage comments and leave prompts for discussion.

- You alternate moments in 'gallery mode' with moments in 'speaker view'; occasionally, 'spotlight' individuals for all to focus on.

Activity 1: replace with a spoken introduction to the concept of Status

Activity 2: replace the paired work with individual exploration of status in relation to the room participants are in (cameras can be off for this).

Activity 3: gallery mode

Activity 4: speaker mode

Activity 5: three participants in 'spotlight for all' at a time

Activity 6: type immediate reactions on the chat (while watching) followed by discussion

Activity 7: play status to the room and to the screen from which everybody is watching (cameras on)

Activity 8: Facilitator and one participant 'spotlight for all' mode

Activity 9: 'Gallery' mode for discussion, and 'spotlight for all' for 'replay'.

Activity 10: Conversation on camera (gallery) and final comments on the chat, with prompts from the facilitator

Good luck!

7. RECOMMENDED SUPPLEMENTARY RESOURCES

Keith Johnstone:

Don't do your Best (video)

World Encyclopedia of Puppetry Arts:

<https://wepa.unima.org/en/object-theatre/>

UNESCO:

Transforming the Future (video)

ACT 3 – DEVISING AND DRAMATURGY

1. ACT 3 OBJECTIVE

The objective of this act is to introduce you to the concepts of devising and dramaturgy. In theatre and performance practices, devising is the process through which a company of players collectively creates a performance, starting from a stimulus, which can be an object, an idea, a work of art, a theme... Key to the devising process is the fact that there is no script as such at the start of the process – even if there is some text. Dramaturgy is the set of organising principles that hold a performance together. It mediates the relationship between object (performance) and observer (audience). Here, we apply these concepts to generate future scenarios, using images of what might happen to think about the now. You will come across disruption, too, which can be a creative tool. You will start thinking about reframing your assumptions and embracing the complexity your (im)possible futures may hold.

2. THEORETICAL INTRODUCTION

The commonly held image of a solitary playwright writing a script and then passing it on to a director, who then has a vision for staging it and leads a creative team to implement that vision, is just one among many ways in which performances are actually created. In the world of theatre-making, there are a number of different processes and approaches for creating shows. One such process is what we call *devising*. In fact, perhaps one should not call devising a process, because there are many approaches and processes to devising, too! What they do have in common, however, is the idea of collectively creating a show, starting from a stimulus that is not a fully written script. Cathy Turner and Synne Berndt suggest that “devising implies that the dramaturgy of the work is not defined before the work commences.” (Turner and Berndt, 2016, p. 174)⁸⁷.

So, what is *dramaturgy*? Dramaturgy is also a very broad concept, but Turner and Berndt described it as “the composition of a work, whether read as a script or viewed in performance” (ibid. p. 5)⁸⁸. In other words, it is the process by which various elements in a performance are organized in order to take those involved (audience and players) on a journey. This journey can be narrative, but it can also be aesthetic, emotional, rhythmic... There are many ways in which dramaturgies can be composed and thought about.

One particularly useful and interesting way in which dramaturgy has been conceptualized comes from sociologist Erving Goffman, who in his book *The Presentation of Self in Everyday Life* (1959)⁸⁹ describes social interactions as being played out according to pre-established social scripts, and that we perform different roles, depending on the situation we find ourselves in, as well as who we are interacting with. So one’s professional self is different from the self who interacts with a romantic partner, or a parent, for example. And so, the series of ‘actions’ and ‘characters’ we perform compose a dramaturgy that ultimately shapes our identity. Magda Romanska explains:

⁸⁷ C. Turner, S. Berndt, *Dramaturgy and Performance* (2nd ed.), Palgrave Macmillan, Basingstoke, 2016.

⁸⁸ Ibid.

⁸⁹ E. Goffman, *The Presentation of Self in Everyday Life*. Anchor Books, Palatine, 1959.

We become who we are and develop our own self-image based on dramaturgical analysis of our social relations and the roles we are constantly asked to perform. In other words, we are the dramaturgs of our lives and of ourselves because we create meaning out of the lived events (choosing some and discarding others to create a coherent and meaningful life story)⁹⁰.

In our case, we will devise the dramaturgy collectively, to create a composite timeline of a future that includes fragments of different participants' imaginations. To do that we re-appropriate Keith Johnstone and Improbable Theatre's *Lifegame* (2004)⁹¹, and mix it with a dose of Deborah Pearson's score for *The Future Show* (2015)⁹². Both these pieces of theatre were developed so as to evolve and change at each presentation: no two performances are the same! This is useful for us here, because no two groups of participants will be the same, either. Within the context of futures studies, we are talking therefore of scenario generation, but articulated collectively, and physically, using image theatre methods described by Augusto Boal in *Games for Actors and non-Actors* (2002)⁹³. The images of the future and the timelines that are created belong to the whole group.

Participants will create, embody and experience a variety of futures for themselves, but they must be aware that these are not predictions: they are a means to explore images of the future, and how we relate to them. Pearson tells us: "I conceive of the future as a purely projected and imagined space." (2015, p. 121)⁹⁴. This collective imagination, projected onto the participant's bodies, functions as a way to reveal unexpected possibilities – and perhaps to challenge the notion of impossibility. Sirkka Heinonen and Juho Ruotsalainen write that "[t]hinking about impossible futures is a brain teaser to stretch one's imagination" (Heinonen and Ruotsalainen, 2013, p. 5)⁹⁵. They emphasise the pedagogical value of learning by surprises, and how these can help in grasping the emergent (ibid., p. 10). In this Act, we apply our own version of Brian Eno and Peter Schmidt's *Oblique Strategies* (2001 [1975]), to facilitate this stretching of the imagination and offer surprises to the participants⁹⁶. Eno and Schmidt created the *Oblique Strategies* in 1975, a set of cards with prompts designed to encourage creativity and offer unexpected and disruptive approaches to situations. We have taken a cue from them, and designed our own oblique cards (see Recommended Supplementary Resources section below), which we use to create a 'Future Lives Game', one which involves scenario generation, (im)possible futures and complexity. As Riel Miller teaches,

By becoming more adept at expanding the futures we imagine beyond the constraints of both probabilistic thinking and agency as preparation/planning

⁹⁰ M. Romanska, *The Routledge Companion to Dramaturgy*, Routledge, New York, 2015.

⁹¹ Improbable (2004). *Lifegame*, 2004. Retrieved from: <https://www.improbable.co.uk/past-projects/lifegame>

⁹² D. Pearson, *The Future Show*, Oberon Books, London, 2015.

⁹³ A. Boal, *Games...op. cit.*

⁹⁴ D. Pearson, *The Future Show...*, op. cit.

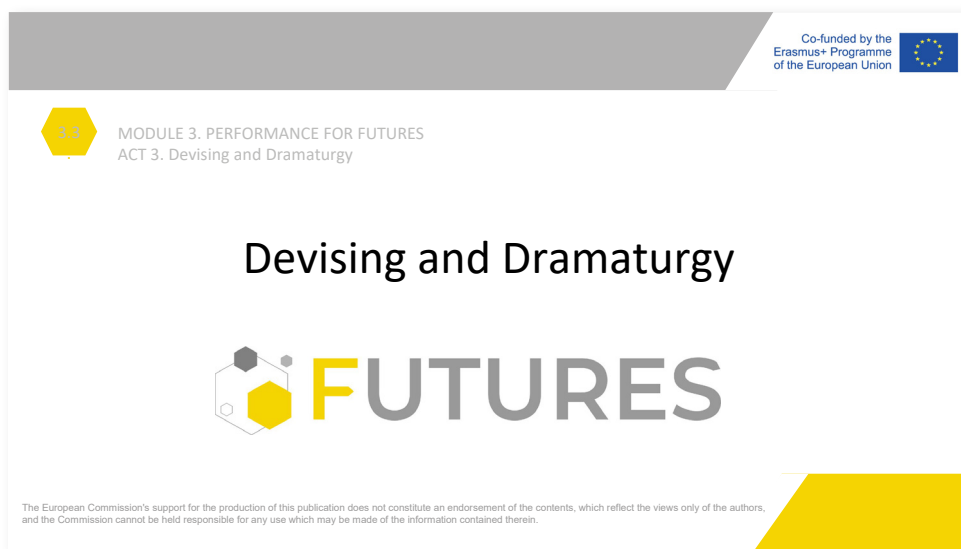
⁹⁵ S. Heinonen, J. Ruotsalainen, *Futures Clinique: method for promoting futures learning and provoking radical futures*, European Journal of Futures Research 2013, vol.1 (7).

⁹⁶ See Annex A: 'Strategies'

we can use our ability to detect and invent, sense and make-sense of the ‘new’ in ways that enable a greater appreciation of the constant differences that emerge in our creative universe⁹⁷.

The introduction of chance in a workshop environment places a further responsibility on the facilitator to ‘practice what they preach’. If participants are expected to embrace emergence, so it is incumbent upon the facilitator to be able to work with whatever emerges from the group. They must also manage the group’s expectations sensitively, as futures put forward by individuals may be discarded in favour of others. It is important for all to remember that the projected images of the future are not forecasts; they are not even about the future, but about our present thoughts relating to the future – a means to help us ‘use the future’ to affect how we act now.


3. PRESENTATION ABOUT THE TOPIC (E-LEARNING)



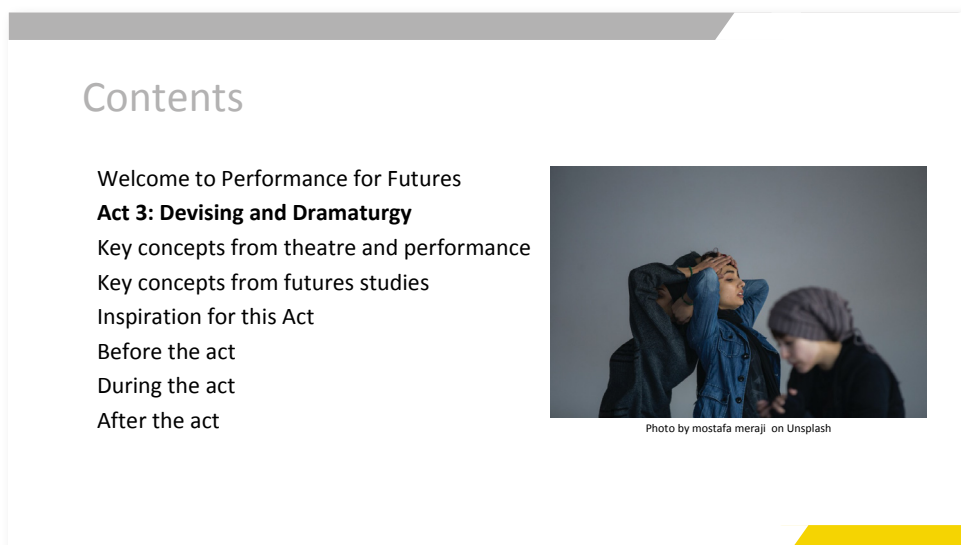
Co-funded by the Erasmus+ Programme of the European Union

3:3 MODULE 3. PERFORMANCE FOR FUTURES
ACT 3. Devising and Dramaturgy

Devising and Dramaturgy



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Contents

- Welcome to Performance for Futures
- Act 3: Devising and Dramaturgy**
- Key concepts from theatre and performance
- Key concepts from futures studies
- Inspiration for this Act
- Before the act
- During the act
- After the act

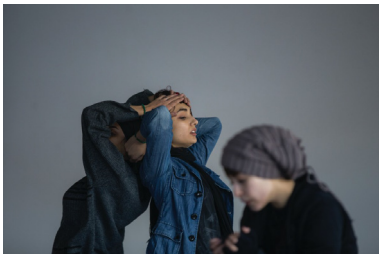


Photo by mostafa meraji on Unsplash

⁹⁷ R. Miller, *Learning, the Future, and Complexity. An Essay on the Emergence of Futures Literacy*, European Journal of Education 2015, vol. 50(4), pp. 513-523.

Welcome to Performance for Futures!

In this module, we aim:

- to acquaint you with some concepts and ideas from the world of theatre and performance;
- to give you a broad overview of some concepts from Futures Studies;
- to apply these to thinking about your futures in ways that will help your personal and professional development;
- to have fun together!

Act 3: Devising and Dramaturgy

'Devising and Dramaturgy' addresses the possibility of writing futures into existence (scenario generation) but also understanding that there are many variables affecting your future pathways (embracing complexity).

Act 3: Devising and Dramaturgy

In this act, you will:

- be introduced to the concepts of devising and dramaturgy;
- generate future scenarios, speculating on what might happen;
- come across disruption, which can be a creative tool;
- reframe your assumptions and embrace the complexity your (im)possible futures may hold.

Concepts from theatre and performance

Devising:

the process through which a company of players collectively creates a performance, starting from a stimulus, which can be an object, an idea, a work of art, a theme.

Dramaturgy:

the set of organising principles that hold a performance together. It mediates the relationship between performance and audience.

“We would suggest that devising implies that the dramaturgy of the work is not defined before the work commences.”

(Turner and Behrndt, p. 174)

Concepts from futures studies

Scenario generation:

The process of creating different versions of what might happen in the future, which can be based on perceived trends or completely wild imaginations.

Embracing complexity:

The understanding that any moment in time is rich with interactions and components that are incalculable, meaning that planning and actions need to be flexible and adapt to changing circumstances.

Inspiration

- Improbable – [Lifegame](#)
- Deborah Pearson – [The Future Show](#)
- Brian Eno and Peter Schmidt – [Oblique Strategies](#)

“I conceive of the future as a purely projected and imagined space.”
(Pearson, 2015: 121)

Before the act

On your way to the workshop, pay attention to details along your route. Are there any interesting landmarks?

If the route is quite familiar, is there anything out of place?

Do you notice something new?

Or a pattern that was always there, but you haven't really paid attention to?

Make a mental note – or a written note, or an audio memo, or take a picture...

During the act

This is a performance-led workshop, so there will likely be physical contact between participants.

There will also likely be some movement, so wear comfortable clothes.

Be prepared to be playful, relax and have fun!

Let the facilitators know if you are uncomfortable with any of this, or if you have any access requirements.

After the act

Write a scene from your own 'Future Play', in a first-person narrative format. 350 words –any time horizon you choose.

Begin with the sentence: "In [time horizon] I will..."

See where that takes you.

Keep it for as long as the time horizon suggests.

Revisit it then (i.e. in [time horizon]).

Questions, doubts, hopes, fears...

Please get in touch if you have any questions or comments, or if you need any support with the materials of this act.

Drop us a line at p.desenna@mdx.ac.uk and/or t.bacon@mdx.ac.uk.

4. PRACTISE YOUR PATHWAYS

Before:

Watch the slideshow online.

On your way to the workshop, pay attention to details along your route. Are there any interesting landmarks? If the route is quite familiar, is there anything out of place? Do you notice something new? Or a pattern that was always there, but you haven't really paid attention to? Make a mental note – or a written note, or an audio memo, or take a picture...(Tab. 13)



During:

Tab. 13. ACT 3 - Devising and Dramaturgy

	Activity name	Timing	Brief description
1.	Welcome and introduction	5 mins	Are you ready to write your future?
2.	Your future in colours	10 mins	On colour-coded cards/post-its, write your future in 5 given time horizons (1 colour for each time-horizon).
3.	Warming-up the physical imagination	15 mins	Walk around the room. Group number call-out; group image call-out.
4.	Dramaturgy of the futures	10 mins	Cards are picked up to make a composite story: a reader at a time reads a card –others make the image; repeat until the whole future is played out in five images.
5.	Animate!	20 mins	Dynamisation: make a 5-10 minute scene that moves through the five images.
6.	Re-play, adjust, share	30 mins	You can swap up to two future time-cards for unused ones.
7.	Reframe with oblique strategies	20 mins	Facilitator calls out ‘oblique’ cards as the scene is played; the action needs to follow the oblique course.
8.	Discussion	10 mins	How do we deal with the unexpected?

Source: own study.

After:

Write a scene from your own ‘Future Play’, in a first-person narrative format. 350 words –any time horizon you choose. Begin with the sentence: „In [time horizon] I will...”. See where that takes you. Keep it for as long as the time horizon suggests. Revisit it then.

Bookmark <http://stoney.sb.org/eno/oblique.html> and access it whenever you face a creative or professional dilemma.

Detailed schedule of activities for facilitators:

For this act, facilitators will need a space large enough for participants to comfortably move around. You will need a set of post-it notes, coloured cards, or different colour pens (5 colours) and paper. For the purposes of this explanation, we will refer to these as colour-cards. The timings suggested above for each activity are indicative only, and based on a total working session of 2 hours. Use your judgement as to what can be made shorter, what can be stretched further, as the participants are engaging in the activities. Likewise, if you have a longer slot (say, 3 hours), time dedicated to the activities can grow proportionally, or more time can be dedicated to the discussion, working on creating the scene, or even offering a theoretical introduction or background based on the slides and explanations above. It is generally best, though, to not overburden participants with information at the start of the session; better let them experience somatically and affectively at first, and then to process and understand cognitively.



Before:

Ask participants to be especially attentive on their route to the workshop, and make notes of anything that catches their eye. Anything new, out of place or hitherto unnoticed. Perhaps a person.

Let the participants know that this act contains activities involving physical contact, so make sure that everyone consents to this (it is advisable to put this in writing). Remind them that consent can be withdrawn at any time, and without need for justification, and no detriment to them.

During:

1. The welcome and introduction are very important here. They set the tone for what is to come. As this act does not begin with a physical activity, it is crucial that you are able to enthuse the participants with the idea of writing – and possibly witnessing! – their own future along with others in the room. Make sure that you establish a relaxed atmosphere of trust and openness.
2. Distribute the colour-cards to the participants. Each participant should have 5 cards (one of each colour). Assign one of the following time-horizons to each of the colours:
 - between 2 and 24 hours from now
 - between 1 week and 1 month from now
 - between 1 and 5 years from now
 - between 10 and 20 years from now
 - 40 years from now

Instruct participants to write their future on the colour-cards for each time-horizon, always starting either with the sentence: „In [specific time horizon] I will...“; or „On [date] I will...“. In either case, participants should be specific. So, for example, when writing on the 3rd card (between 1 and 5 years in the future), they should write: „In two years and seven months from now, I will submit my thesis to the university research office.“; or „On the 25 of September, 2026, I will meet the love of my life. They will be called Alex and I will not like them at first.“.

It is important that you keep time in this activity. Inform the participants they only have 10 minutes, so that they do not overthink. Encourage them to be creative, but no need to try to be clever or funny. The one condition is that, in one of their cards, they include information that they noted and collected on the way in (the ‘Before’ activity of this act).

Separate the colour-cards by colour: pile up or stick on the wall all the reds together, all the yellows and so on.

3. Prepare the participants to work physically. The warm-up is crucial to in any work of/ with theatre. It activates bodies and minds, and sets the tone for the ensuing activities. Make sure that you establish a relaxed, playful atmosphere of trust and openness. Explain that the following activities involve physical contact, and confirm that everyone has consented to this.

This activity works best if the facilitator is on the outside, as a 'referee'. Ask the participants to walk around the room. Tell them that you will call out numbers, and that upon hearing those, participants need to huddle up in groups of that number. Make sure that you sometimes call numbers that make it impossible for there to be even groups. So in a set of 20 participants, for example, you can call „FIVE!“ so that there are 4 equal groups, but you can also call „SIX!“ so that there are three groups and two people are left out. Be playful about this, and encourage laughter and camaraderie.

After a few number calls, move the game to level 2: you are now calling numbers and images, which the groups then have to collectively form. For example, if you call „FIVE – A RESTAURANT!“, participants have to get into groups of five and create the image of a restaurant in each group. Or, if you call „SIX – A TELEPHONE!“ participants get into groups of six (and two spares) and, in their groups, form the image of a telephone. You can playfully judge them, for speed or quality. End the game by calling the total number of participants, so that they are all in one big group: „TWENTY – THE FUTURE!“

4. In this activity you start by letting participants know they are now indeed one big group, and will be forming images from the futures they wrote. Pick a colour-card at random from the first pile of cards (2 to 24 hours time horizon). Read it aloud. All participants, except for the person whose future that is, collectively form the image of that future. This person is the next reader. Instruct them to pick a colour-card from the next time-horizon (between 1 week and 1 month). The owner of that future steps out and the reader steps in to form an image of the future described in the card. Repeat the process until you have five images (one for each time-horizon). All along the way, ask the participants to remember their places in each image.

Do not forget the time constraint of this activity. It is important that not too much time is spent thinking about each image – participants should just 'jump in'. Reassure them that it is ok that the images are not perfect, but keep some pressure that they are created in time!

5. Dynamisation. Ask the participants to 'connect the dots' between the images, creating a 5-10 minutes 'play' that moves through the images and across time. The story of a collective future, starting as soon as (by now) 1.5 hours from now, and ending in 40 years' time. Take time to make this scene flow. The transitions are as important (if not more) as the images themselves. Encourage 'a little less conversation, a little more action' in the process – the participants should think through movement, with their bodies even though words are allowed in the play.
6. Once the play is prepared to satisfaction, let the participants know that they can adjust their future, by swapping up to two colour cards for other cards of the same colour. Here, they can discuss – encourage them talk (but not too much!) about the timeline they created. So, if, for example, the future image of between 1 week and 1 month from now does not feel quite right in this particular timeline, participants can consciously select another card (at random) of that same time-horizon. This gives

participants some degree of dramaturgical control over the future they are devising.

7. When this play is 'ready', it is time for you to disrupt it and reframe the future. Let participants know that you will draw oblique strategies cards as the play is being performed⁹⁸. When you read a card – for example „Change the time”, the players need to adjust the course of their performance to incorporate this new instruction, perhaps by bringing the image of 10-20 years from now forward to happen in 3 years.

The text can be adjusted, too, so that instead of „In eleven years, I will finally be able to buy my own home” it reads „In three years, I will finally be able to buy my own home”. And instead of „On the 5th of June, 2025, I will be working for a small startup company in Uganda” it reads, „On the 14th of August, 2040, I will be working for a small startup company in Uganda.”

Encourage participants not to lose sight of pace and flow. While inevitably the disruption and reframing will cause a small 'crisis' remind the participants of the importance of keeping going – the show must go on! This is not an easy task, so you may well need to support them with it, making suggestions if necessary, but ensuring you don't take over their creative devising and reflective dramaturgical process.

8. Open the space for conversation. How do we deal with the unexpected? How do we manage complexity? Have our ideas about (im)possible futures shifted? Hold the space in a supportive manner. Thank the participants for coming and commend their bravery in exploring this territory. Remind them of the 'after' task, and its potential longevity.

After

Make yourself available for debriefs (online or in person), should any participant desire to chat. After a week, message participants asking them about the task and invite them to share their plays on a Miro board. Emphasise that this is an entirely voluntary exercise, but that it would be nice to see what others have come up with.

5. USEFUL AREAS OF EXPERTISE/EXPERTS

Improbable are one of the foremost theatre companies in the United Kingdom, specialising in improvisation and working with objects. Alongside Keith Johnstone, they developed *Lifegame* <https://www.improbable.co.uk/past-projects/lifegame>.

Deborah Pearson:
The Future Show

The introduction to Pearson's book, was written by [Tim Etchells](#), a writer and artist

⁹⁸ We suggest you make use of the Strategy cards we designed, in appendix A, but if you wish to use the original Brian Eno and Peter Schmidt Oblique Strategies, there are a number of websites and mobile apps that allow you to do so.

working with Forced Entertainment. His book *Certain Fragments: Texts and Writngs on Performance* (1999) is a landmark in thinking and practice of dramaturgy and devising.



6. RECOMMENDATIONS FOR VIRTUAL FORM

The nature of this Act makes it very difficult for it to be conducted effectively in virtual form. It is possible, however, to explore some of its aspects while working remotely.

If using Zoom or any other such platforms, make sure that:

- You have a maximum of 12 participants
- You can share your sound.
- Participants have their cameras on.
- You use the chat function to encourage comments and leave prompts for discussion.
- You alternate moments in 'gallery mode' with moments in 'speaker view'; occasionally, 'spotlight' individuals for all to focus on.

Make use of a platform that offers a collaborative whiteboard functionality, such as Miro, for example, for mapping the narratives that emerge.



Be creative and
Good luck!

7. RECOMMENDED SUPPLEMENTARY RESOURCES

Brian Eno and Peter Schmidt:
[Oblique strategies](#)

Another card game to help you think differently:
[Forks in the timeline](#)

