Article

Future in the Present: Participatory Futures Research Methods in Economic Higher Education – The Development of Future Competencies

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Abstract

To discuss how participatory futures methods can contribute to the development of skills and competences of students, this paper introduces three examples of different participatory futures/foresight methods used in education: (1) horizon scanning in a 'Futures Studies' course; (2) forward looking thinking for decision making in a so-called 'Decision techniques' course; and (3) backcasting in the 'Sustainable future of sport' course. The courses are meant to raise awareness and induce the feeling of responsibility for the future by offering the students concepts, and methods to become active and reflective citizens.

Keywords

Introduction

In a rapidly changing environment, corporate and organisational foresight becomes essential (Constanzo, 2004) and strategy-level managers – most often trained in economic higher education institutions - need foresight competencies of a certain degree (Ahuja et al., 2005). While competence development in higher education focuses of many different skills and attitudes that build up such foresight (e.g., perspective-taking, cognitive flexibility, pro-activeness, purposefulness, etc.), the use of futures research methods is unconventional in economic higher education. This was the reason why after years of teaching practice and research experience with futures research methods, the authors of this paper experimented with introducing futures research methods into economic higher education to promote the development of such foresight competences for non-foresight experts. While higher education is only partially about competence development and dominantly focuses on the mere transfer of knowledge, methodologies for improving foresight competences have so far been mostly limited to training foresight experts. The aim of this paper is to showcase how the utilisation of these futures research methods in a participatory framework – namely horizon scanning; forward-looking thinking and backcasting – can assist in developing a wide range of competencies in economic higher education. Our claims are based on our reflective educational experience and the feedbacks we have received from the students, and not on in-depth action research that analyses the results achieved by these courses. Nonetheless, it contributes to scientific discourses around futures studies by exemplifying that the introduction of these research methods into economic higher education can enhance competencies that may lead to more responsible and future conscious economic actors in the long run.

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In the first part of the paper, we create the link between competence development and organisational / corporate foresight. In the second section we introduce the three courses as case studies for applying futures research methods to educational courses: (1) horizon scanning in a 'Futures studies' course; (2) forward looking thinking for decision making embedded in a so-called 'Decision techniques' course; and (3) backcasting in the 'Sustainable future of sport' course. In the discussion part of the paper, we compare the knowledge, skill and attitude development of these courses while trying to find commonalities that may apply to a wider range of foresight methods under educational circumstances. We also show how they handle individual and group work and how they improve students' autonomy and responsibility.

Foresight and the Development of Competencies

Development of competency in higher education
Competence-focused learning outcomes are increasingly in the heart of today's education. Accordingly, the essential task of an educator is to create a space where personal development can take place. This space is ought to be filled with a trustful atmosphere where students and teachers can improve their different competences and skills alike. In this paper we are focusing on two specified sets of skills and competences namely (1) participatory/inclusive and (2) future-oriented skills. To assess our courses as well as our educational missions and practices, we use the framework introduced by the Organisation for Economic Co-operation and Development (OECD) project entitled: The Future of Education and Skills 2030, The aim of the project was to find answers to two far-reaching questions: (a) What knowledge, skills, attitudes and values will today's students need to thrive and shape their world? and (b) How can instructional systems develop these knowledge, skills, attitudes and values effectively?" In the project different relevant international stakeholders came up with a list of skills and competences to answer these questions. Even the participants acknowledge that the resulting list is not exhaustive, but the constructs selected are closely related to the key concepts underpinning the designed framework (OECD, ongoing).

In this paper we use this list as a frame of reference to highlight and reflect upon our own teaching practices. Figure 1 shows a heuristic grouping of relevant skills and competencies in four quadrants that we target in our courses. It also indicates interrelatedness and how these constructs are strengthening each other in theory and in practice. Following our interest in the participatory methodologies of futures studies we selected first the future-oriented skills and competences. Secondly, we grouped the skills and competences that in our understanding are dominantly related to participation- / inclusion-oriented abilities. Here we differentiated between the development of an inner focus by the groups or individuals and of an outer focus where they enhance consciousness to social and cultural embeddedness and collaboration. These make up the next two quadrants of Figure 1. Finally, - as we were reflecting on our own practices -, we became increasingly aware of how our personal values, our sometimes implicit and gradually explicit mission to invite the students to such a skill-development adventure influence the competencies developed in these courses. Therefore, the last aspect in selecting the skills and attitudes were the tutors' own beliefs, personal goals, and missions which we consider as the foundations of any teaching practice and educational philosophy. This makes up the fourth quadrant.

Fig 1: Learning spaces for competence development

Source: Based on the OECD Learning Compass 2030 - https://www.oecd.org/education/2030-project/framework

The relationship between the competence development in economic higher education and the competency for organisational/corporate foresight

As early as the 1960s, Becker (1964) demonstrated that education is an investment into human capital, and the return on investment is for the individual, society, and jobs. Continuing this line of thought, the literature in later years discovered and empirically supported the relationship that entrepreneurship is a form of foresight that develops in the network of organisational foresight (Fuller & Warren, 2006). The reverse correlation has also been supported by case studies and empirical studies, according to which organisational and/or corporate foresight affects and strongly influences the performance and innovation capacity of enterprises (Rohrbeck & Gemuenden, 2011; Rhisiart & Jones-Evans, 2016; Jafari-Saddegi et al., 2020). However, if there is such a close and reciprocal relationship between foresight and institutional/corporate performance, should we review what foresight needs to be cultivated in companies/institutions? This is no longer an easy task because different research highlights different features of foresight (Hideg, 2007; Iden et al., 2017).

According to Constanzo (2004), foresight must be capable of dealing with the challenges of a rapidly changing environment. According to Rohbeck (2010), corporate foresight is a response to

continuous change, operating either in a separate organisational unit or as a part of corporate culture. Therefore, foresight motivates and engages economic actors in the foresight process to effectively solve the tasks of corporate leadership and strategy-making (Rohrbeck, 2010). In another study, Rohrbeck and Gemuenden (2011) emphasize that the main task of corporate foresight is to innovatively adapt to continuous change. Daheim and Uerz (2008) stress that foresight needs to be open to any futures may it be short- or long-term and to all types of participants, while elaborating possible futures as medium-term visions. Cuhls (2003) points out that foresight should focus on identifying risks and opportunities in terms of STEEPVL or STEEPLED, i.e., outlining possible futures in terms of their versatility and complexity. Portaleoni et al., (2013) emphasise that organisational/corporate foresight is a practice-oriented foresight activity that serves strategic decisions, and its main task is to complexly explore possible futures and channel them into the strategic decision-making. However, organisational/corporate foresight can only fulfil its role if those involved in strategic management understand the concepts of foresight and can act as responsible and future conscious partners to foresight specialists (Ahuja et al., 2005).

An ever-expanding range of foresight literature deals with the participatory nature of foresight activities, that is, the involvement of stakeholders in future-shaping processes. Theoretical support for participation and the co-constructive nature of the future is already widely known and acknowledged in the literature (see e.g. Slaughter, 1995; Bezold, 2008; Fuller & Loogma, 2009; Hideg, 2013; Piirainen & Gonzalez, 2015). The practice of foresight is also widely characterised by the use of participatory methods and procedures (Borch et al., 2013; Piirainen & Gonzalez, 2015). This is also well-established in the regional futures research fields (see e.g., Hideg and Nováky (eds.), 2012; or Hideg et al., 2014). According to a recently completed research on the foresight activities of the Visegrád countries (Sacio-Szymanska (ed.), 2016), organisational/corporate foresight is an activity and process in a rapidly changing environment that is participatory, stakeholder-oriented, and pre-empts, accompanies, and supports corporate strategy-making. Foresight is most profitable for a company that operates in such an environment, operates in a market with numerous interacting companies, aims to achieve also long-term goals, its corporate culture is open and ready to innovate, and both its managers and employees are capable of expressing criticism, cooperation, and pursue dialogue. Foresight is virtually independent of company size.

In this paper we use organisational/corporate foresight in this sense and will use this line of thought to link it to the process of competence development. Foresight itself is a learning process that consists of the recurrent change of individual and group learning that rely on each other. In the foresight literature, foresight is most often associated with anticipatory action learning (Burke, 2005; Stevenson, 2002; Inayatullah, 2006). For participants in foresight activities, this is a multi-step process of mapping and understanding the subject of the future, thinking about and constructing possible futures, selecting the desired future(s) and then returning to the present and developing action programs. In this process, there is a line of personal understanding, future construction and action plan development, and there is a collective understanding, co-creation of meaning, development and negotiation of shared future views or visions, and community development of future shaping actions. The process of individual and collective future learning is intertwined and presupposes dialogue between participants, where the participants not only form common positions, futures, and actions, but also deepen other future perceptions that have arisen in the group and remain strong during the discourses. In such a way, anticipatory action learning is also a present time travel, during which the past, present, and future become interoperable and interconnected. According to Kristóf (2013), when analysing real participatory foresights in European countries, this kind of learning process was well established and demonstrated in cases where individuals worked both individually and in groups, and where the workshops were organised in a manner that

was suitable for inducing real dialogue, and where there was a foresight management team that planned and facilitated the process of future shaping and future travel.

Major et al., (2001) using the example of the UK technology foresight showed that foresight is a core competency from the perspective of shaping future strategy. On the one hand it develops from individual abilities, but only if individual future-shaping abilities are integrated into joint foresight activities. It requires academic, professional, codified, tacit and reflexive knowledge, but it also requires free thinking to be able to explore the unexploredness of the future and through it the opportunities and dangers of the future in a given field. There is a need for a systematising ability so that the wide variety of realities and visions do not become shoreless daydreams. Systematisation and deliberation, through common wisdom contribute to the selection of desirable or achievable futures and then to a plan of effective action. By operating foresight competencies individually and collectively, the result of foresight can be truly new and useful institutional knowledge. On the other hand, the foresight process can only become part of corporate culture if it is based on the broad participation of employees (Rohrbeck, 2010; Borch et al., 2013; Sacio-Szymanska (ed), 2016). From this point of view in our country – where even if foresight is already present in the organizational culture - organisations and companies are not yet regularly occupied with the future; and there is no professional futures research training in economic higher education. At the same time – in such changing and demanding environment - students need to be introduced to the future as they will have to use foresight (Hideg et al., 2017; Nováky et al., 2017). Competencies, knowledge, and skills required for participation in organisational/corporate foresight can be developed through teaching and learning at both individual and community levels. Therefore, as the main method of learning-teaching, we use the simulation of certain procedures and sub-processes of foresight, as well as the involvement of students in real, practical foresight processes.

The specificity of our paper is that it focuses on developing the future orientation of students in economic higher education who will be able to use foresight as decision-makers or participate as stakeholders in foresight activities, to promote future literacy (such as Miller, 2007; Gáspár & Pataki, 2018; Angheloiu et al., 2020) among professionals in other disciplines. Hence, we deal with the foresight training of students in bachelor and master programs in various fields of economic higher education who will take upon the roles of various actors, decision-makers, and developers in business or other social fields. How we guide this learning process is illustrated through three different teaching-learning cases that include the methods of horizon scanning, forward looking decision making, and backcasting.

Participatory Futures Research Methods in Economic Higher Education – Three Cases

Development of horizon scanning competencies
Within a futures research course, master level students in economic higher education are involved in the participatory phase of the horizon scanning (HS) procedure. In this elective course students can participate without fulfilling prerequisites. The aim of the course is manifold: (1) to develop thinking about the future and the ability to discover and formulate possible and alternative ideas for the future; (2) to allow students to use some foresight procedures competently; (3) to be able to play stakeholder roles in participatory methods; and (4) to acquire skills (through practice) in recognizing, articulating and expressing different stakeholder perspectives, understanding and negotiating each other's perspectives, developing acceptable and/or desirable future alternatives, and applying these activities in foresight processes.

These training goals can be achieved through combining different teaching methods. Simple tasks with specific examples in which students have to justify and discuss with each other are

suitable for learning and identifying definitions and are used to master basic concepts of futures research (e.g., different perceptions of the future, trends, weak signals, free cards, forecasting, looking ahead, etc.). The solutions are usually performed by students in the presence of a teacher. After acquiring the basic knowledge of the definitions, more complex, contemporary, and popular futures research methods can follow in a series of individual and group work. In this course horizon scanning was the chosen method to be learnt as it has relevant, new findings from a local HS research and students can get an insight into current foresight practices with local relevance. In order to get students engaged in this foresight process, they only need to know and confidently use the terms trend, new trend, weak signal, free card, and interpret fashionable current phenomena for the present and the near future. Namely, in the practical HS procedure, as many as 60 statements concerning the future until 2050 had already been collected in the framework of a brainstorming process involving local researchers working on various topics (Hideg et al., 2019). It was the task of the students to classify and evaluate these 60 statements in the so-called Osgood's semantic differential scale (Osgood, 1957). (The tutor and fellow researchers developed the grading and assessment method used in the study work in applied futures research. More on the detailed description of the procedure and method in Hideg et al., 2021.) The application of the scale is quite complicated because, in addition to classifying the statements into future types, it needs to be decided whether each statement will shape the future positively or negatively, and how strongly each statement can affect our future horizon. Students work with the scheme using Table 1 below:

Table 1: Topics and statements of the brainstorming of local researchers for in 2050

Possible statements for the future	Continuing trends	New trends	Weak signals	Free cards	Fashionable future ideas
60 statements each in one row					

The task of the students was to (1) classify each future proposition into one of the future types for the chosen stakeholder group (continuing or new trends, weak signals, free cards, or fashionable future ideas); (2) evaluate the impact of each future statement on a scale for a chosen stakeholder group. While this classification and evaluation task could have been performed by each student individually and aggregate results could have been processed and discussed as the group's opinion on the events shaping the future horizon of society. This simple path was not followed as the course also aimed to provide a safe space for formulating and expressing views of different stakeholders in classifying and evaluating the future statements of the questionnaire. Therefore, the work was performed by groups of 5-6 students based on what kind of stakeholder they wished to represent. The stakeholder groups selected were interest groups of social, environmental, technological and of economic nature. Obviously, their major fields of study, their interest and existing knowledge played a role in their choices. Through this method, the group work and the dialogue surrounding it made the results realistic and grounded and brought in the views and interests of different interest group rather than their own individual perspectives.

This separate stakeholder group work was pursued out of the classroom and students were instructed to set a lower limit for selecting responses for further analysis and discussion. This lower limit made it possible to express that even within the small groups, only those statements that at least two people considered important were to be considered. Afterwards each stakeholder group reported on their results, pointing out how they see the future horizon from that perspective. This was then followed by a discussion on the views of different stakeholder groups, finding common grounds, and discussing statements that were evaluated very differently. The dialogues went on until they saw how to bring positions closer together and established whether a more acceptable, consistent common future horizon was possible to agree upon. To solve this task, each stakeholder

group had to articulate their interests and values related to their chosen vision, i.e., what they had hitherto taken for granted was now explicitly stated, and they had to go further into some aspects during the discourse. These different values and points of views converged on several issues. For example, statements on non-transgenic genetic engineering or artificial intelligence that were considered positive and ongoing by stakeholder groups from technological and economic backgrounds were rejected or deemed highly negative by interest groups from the social and environmental sphere during the questionnaire evaluation. During the deliberations, however, it was revealed that some similar forward-looking statements can have a positive future-shaping effect, both socially and environmentally. Such changes were considered when finalising the future horizon of the whole group. This way, the group's opinion was not just an average of the distinct stakeholder group opinions but a qualified opinion of the future, corrected and jointly accepted as the outcome of the discourse. Naturally, this did not eliminate all the differences between the perspectives, but it became clear to students how the deliberation itself helped to bring to the surface, explore and deepen their understanding of different stakeholder perspectives.

Organizing individual and group work into a process and showing students the dynamics of their own future perception contributed effectively to the targeted use of their already acquired professional knowledge, future orientation, and foresight. The benefits of using HS as a participatory foresight method for educational purposes are: a) it is making knowledge acquisition personal and interpersonal; b) it focuses on engagement and opinion-forming; c) it helps understanding the concept of the future in the present in the HS process; d) it leads to the hands-on experience that what is "seen" on the future horizon depends on the different stakeholder perspectives, and thus specific patterns can be found in the future horizon of each stakeholder group.

Development of forward-looking thinking competencies for decision making
The Decision Techniques course is either compulsory or elective for undergraduate business students at the university, enrolling approximately 300 students per semester. They are in their second/third year of their bachelor studies with a variety of majors (e.g., business and management; international business; marketing; finance; tourism). The students are divided into seminars with maximum 36 members each and the lecturer mainly plays the role of a facilitator and mentor. The course is partly supported by online tools and blended learning materials. During this course, the students are working in groups of six and apart from the 12 contact lessons in the classroom they meet occasionally with the tutor for consultation. The learning process starts with a deliberative choice of these student groups of a problem from their everyday life. These problems should have a certain importance to them, or they are encouraged to pick a theme where they would like to raise awareness (e.g., slow fashion; questions of waste collection; digital addiction; work life balance; role of women; climate catastrophe; homeless people, etc.) This is the point where the foresight approach comes into the picture, with the philosophy on how to encourage an active forward-looking perspective during the reflection of present activities. They learn how to map the "imprints" in the present of the future; analyse the future impacts of their actions in the present and their potential impacts in the present of a desired and feared future alternative; and time-consciously navigate through the problems with different systems and organisations (companies, towns, countries, and individuals) in their focus.

The established groups work on their problems week by week and document their processes in a reflection/action plan diary, which is written by all members of the course both individually and on a group level. This so-called reflection process is consciously applied from the experiential learning literature (Kolb, 1984) which is explicitly the other theoretical and practical framework of

the course. The students are first asked to use the photo voice technique (Wang & Burris, 1997) to find the problem they would like to work with. The groups are then formed based on similar individual interest in a chosen issue and this way they learn how to give voice to a certain issue of great importance to them. In order to elaborate the complexity of the issue at hand, their first task is to draw a mind map. Here the main goal is to widen the problem-field and gather as many sources of information as possible. After drawing a mind map (usually with the help of a collaborative online tool) all the student groups must agree on a certain topic among themselves which then becomes the core of their future work.

The next step is to give "faces" to the problem by drafting a stakeholder map (Freeman, 1984/2010) of the chosen topic. Here the students are no longer working with a conceptual issue but in the time and space they specify as their focus. The third step is the fishbone / Ishikawa (1976) diagram where the causes of the problem are listed, and root causes discovered. The student groups have the task to find and choose one root cause they would like to focus on and have an impact on while solving it. It is an extremely difficult task, but the aim of the course at this point is to see how where students can experience that they really can have an impact on the whole system. After having formulated a core question focusing on a certain action plan, the students search for an appropriate and feasible solution with the help of creative methods such as metaphors, (Gordon, 1966). Afterwards with the help of the so called POLANO technique (Goeller et al., 1977) they finally pick their choice of action. As an assessment of the change they would like to support, they are asked to implement the force field analysis by Kurt Lewin (1943/1997). With the help of this technique, they are able to reflect on the whole process of problem solving starting from the analysis of the current state and revisiting the driving and restraining forces to achieve the desired state with the implementation of their own action plan.

In relation to the students' projects – both in content (referring to the subject of the chosen problem) and on the process (referring to the student group dynamics), learning is happening through their personal experiences that are facilitated by the tutors. By the end of the course, students also have the task to take real action with the aim to "solve" the raised problem. Through performing real actions, they find their personal stake and role in these everyday situations raising awareness.

The aim of this course is to provide students with a practical knowledge, toolkit, methodological assistance in problem detection, decision making and problem solving. Forward looking thinking, future orientation characterises the diversity of the methods in the facilitated learning process. In addition to developing soft skills and deepening problem-solving skills empirically, multidisciplinary approaches are also important when they apply them to their ways of thinking (multi-actor, value judgments, contexts, etc.); when they realise that most problems are based on multiple disciplines and when they see a wide range of methods that are applicable to a given problem. The course builds on experiential learning on individual and group level and encourages reflective thinking, assertive communication, cooperation, and self-improving work. The subject is about solving community, corporate, social, and environmental problems, thereby strengthening the responsibility and active participation in addressing social and ecological sustainability (Toarniczky et al., 2019). The participatory aspect of this educational practice emphasises that participation can be learnt, as the students learn how to plan together, cooperate, and gradually prepare themselves to take real actions.

Development of backcasting competencies

The "Sustainable future of sports" course aims at contributing to the understanding of master level students (most of them students of sports economics) on how the world of sports could evolve in the future in a way that contributes to strong environmental sustainability beyond current mainstream approaches (Köves et al, 2021). It also aims to provide students with a methodological experience where - as participants in a backcasting process (Robinson, 2003) - they deepen their understanding of the interconnections of sustainability perspectives and develop their own views on this issue. Through this experiential learning course, they also practice deliberation and consensual decision-making. The method of backcasting enables participants to formulate a normative vision of sustainable sports for 2050 and then work their way back from such an ideal future and plan steps along the way on what interventions can lead towards that desired state. This enables them to finally identify measures that can be implemented in the present to move towards a more sustainable future.

The course requires no previous knowledge on how participatory future-creating research methods work, the process itself and the internal methodology of the workshops respect the lay knowledge students have on these issues. It lasts three consecutive days (4x90 minute slots) where on the first day they create the vision itself using world-café dialogues (Bache, 2008); on the second day they plan the backcasting interventions using a mind-map style web of possible interventions; and on the third day they identify the interconnections between these interventions using the method of participatory system mapping (Király et al., 2016). The course starts with a playful way of imagining a world we would like to live in 2050 by using story cubes. These ideas were then grouped into six different larger themes that provided the topics of the world café tables where students imagine the sustainable future of sports around these issues. Students revolve around the tables facilitated by the instructors who provide only the framework for discussions and no content input. The results of these dialogues are summarised into a textual format at each table at the end of the day and constructed into a comprehensive textual vision. This text is discussed and finalised the next day and participants identify again six key themes that provide the focus for the design of the backcasting steps. Students work on devising measures from the future state of 2050, through 2040; 2030; all the way to 2020 on how to influence trends to move towards the desired state. This exercise result in six mind-maps that resemble to a modified version of the futures wheel (Glenn, 2009). On the last day, looking at the proposed measures, students identify variables that impact the development of sustainable sports and by identifying the links, their relationships, and the direction of their influence on each other, draw a complete systems-map of sustainable sports.

After the course, students are required to submit reflection papers on what they had learned throughout the course and what skills they may have gained. In terms of knowledge, the course aims at students understanding the relationship between sport and sustainability as well as becoming familiar with the process of backcasting as a participatory planner and decision-making future research method. When it comes to ability the aim was that the student is able 1) to identify and interpret the relationships between sport and sustainability and their different approaches; 2) to reflect in a participatory decision process that facilitates the recognition, feedback and learning processes of himself / herself and his / her environment; 3) to make a consensual decision in a participatory process according to the appropriate discussion culture; and 4) to think critically about the advantages and disadvantages of sustainability measures taken by a sports organization or sports company. When it comes to attitudes, the student should interpret the economic and social processes of sustainability with openness, natural curiosity and acceptance of other aspects and views. S/he should also strive for open and systemic thinking in analysing and managing the surrounding economic and social processes and recognise the complexity of sustainability processes and the importance of perspectives. These should also contribute to the student understanding and
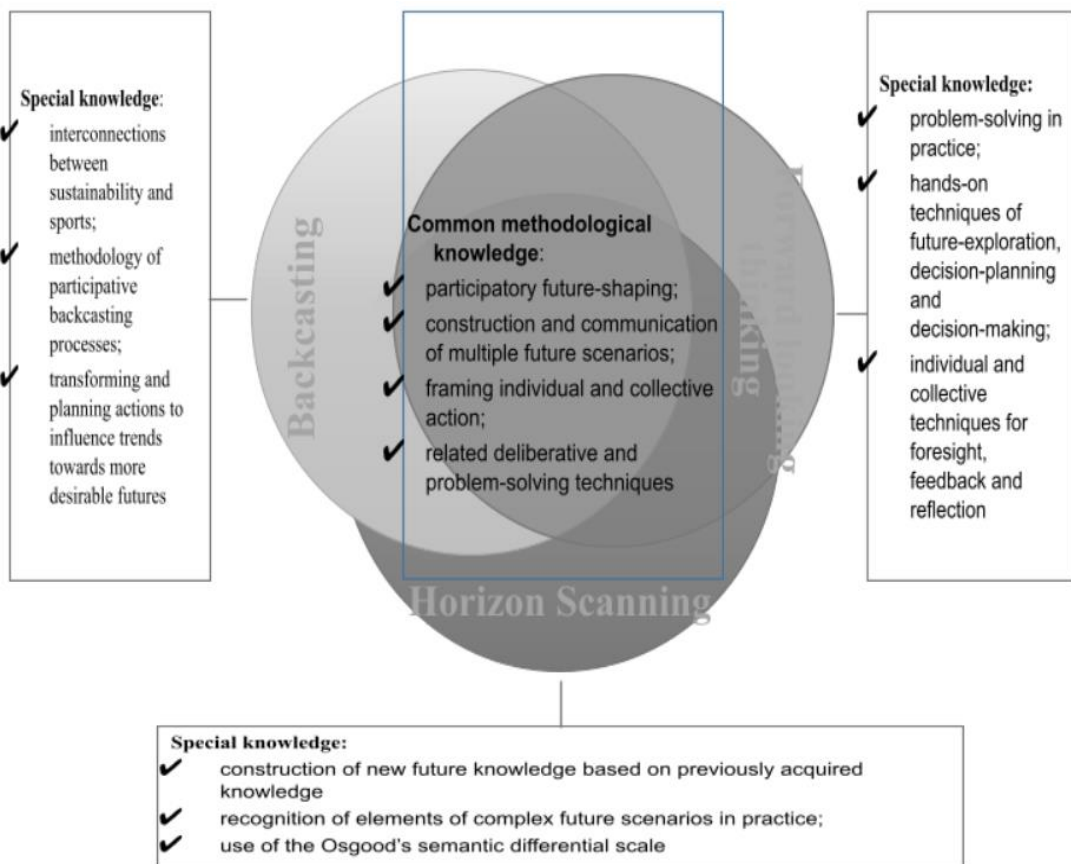
identifying in his or her decision the elements that s/he believes will contribute to sustainable sport and strive to support these developments.

The method of participatory backcasting is a normative scenario-building exercise that understands that our vision of the future can seriously influence our current actions. It is essentially a creative workshop technique that emphasises positive influences of the process on the participants themselves. Hence, effects such as empowerment, social learning and community development are considered just as important as other more tangible outcomes of the process (Wangel, 2011). Quist and Vergragt (2006) identify learning as a key element of participatory backcasting. Backcasting does not aim at describing the 'real future' or the 'most likely' future. It merely reflects a possible direction towards which actors can orient themselves. It facilitates a dialogue between the desired conditions of the future and the present and enables mutual learning. Moreover, this is not just learning through understanding but also 'learning by doing'.

Discussion

Each of the three case studies presented in this paper – through the educators' goals, values, and commitments - provide teaching-learning spaces that are suitable for developing participatory competencies with an external and internal focus and for shaping the future through the dynamic relationship systems outlined in Figure 1. In this discussion competencies are analysed and compared in terms of combination of knowledge, skills, attitudes, individual and group activities, and autonomy and responsibility in the three case studies. By linking individual and group activities and the autonomy and responsibility components, we expanded the competence components commonly used in the literature (Transparent Competences in Europe, 2005) because each of our case studies focused on participatory future shaping and raising awareness of responsibility for the future. In the three case studies, the similarities and differences by competency components are summarized in the following Venn diagrams.

In terms of knowledge development (refer to figure 2), all three case studies develop methodological knowledge related to participatory future shaping, and the construction, understanding and communication of multiple futures. Furthermore, it assists the formulation of individual and collective action to influence the future. The differences can be seen in the topics that each case study focuses on. The decision-making process that develops a forward-looking mindset mainly supports the recognition of decisional situations and decision preparation, individual and group anticipation and feedback, reflexivity, and decision-making techniques. Backcasting helps deepen knowledge about the interrelationships between sport and sustainability and identify possible steps that may lead to such normative future. By applying the HS procedure, students learn to apply Osgood's semantic differential scale and place their previously acquired knowledge in current practical and future contexts as they become one of the stakeholders in a multi-stakeholder group process.

Special knowledge:

✔ interconnections between sustainability and sports;

✔ methodology of participative backcasting processes;

✔ transforming and planning actions to influence trends towards more desirable futures

Common methodological knowledge:

✔ participatory future-shaping;

✔ construction and communication of multiple future scenarios;

✔ framing individual and collective action;

✔ related deliberative and problem-solving techniques

Special knowledge:

✔ problem-solving in practice;

✔ hands-on techniques of future-exploration, decision-planning and decision-making;

✔ individual and collective techniques for foresight, feedback and reflection

Special knowledge:

✔ construction of new future knowledge based on previously acquired knowledge

✔ recognition of elements of complex future scenarios in practice;

✔ use of the Osgood's semantic differential scale

Fig 2: Learning spaces for knowledge development

In terms of skill development (refer to figure 3), in all three cases students learn to become part of a multi-stakeholder, multi-faceted, complexly systematising, creative, reflexive, and interactive future-shaping process. During the development of forward-looking thinking and actions, students also develop their skills in complex problem solving, project planning, independent and responsible work. During the backcasting process students become capable of drawing conclusions from different approaches to the relationship between sport and sustainability and putting individual and group creativity at the service of finding and implementing desired future alternatives. In the HS process, students gain proficiency in the self-evident acceptance and management of a wide variety of futures, in recognizing and communicating their own stakeholder group perspectives, and in consciously building individual and group activities in an ongoing learning process such as exploring future possibilities.
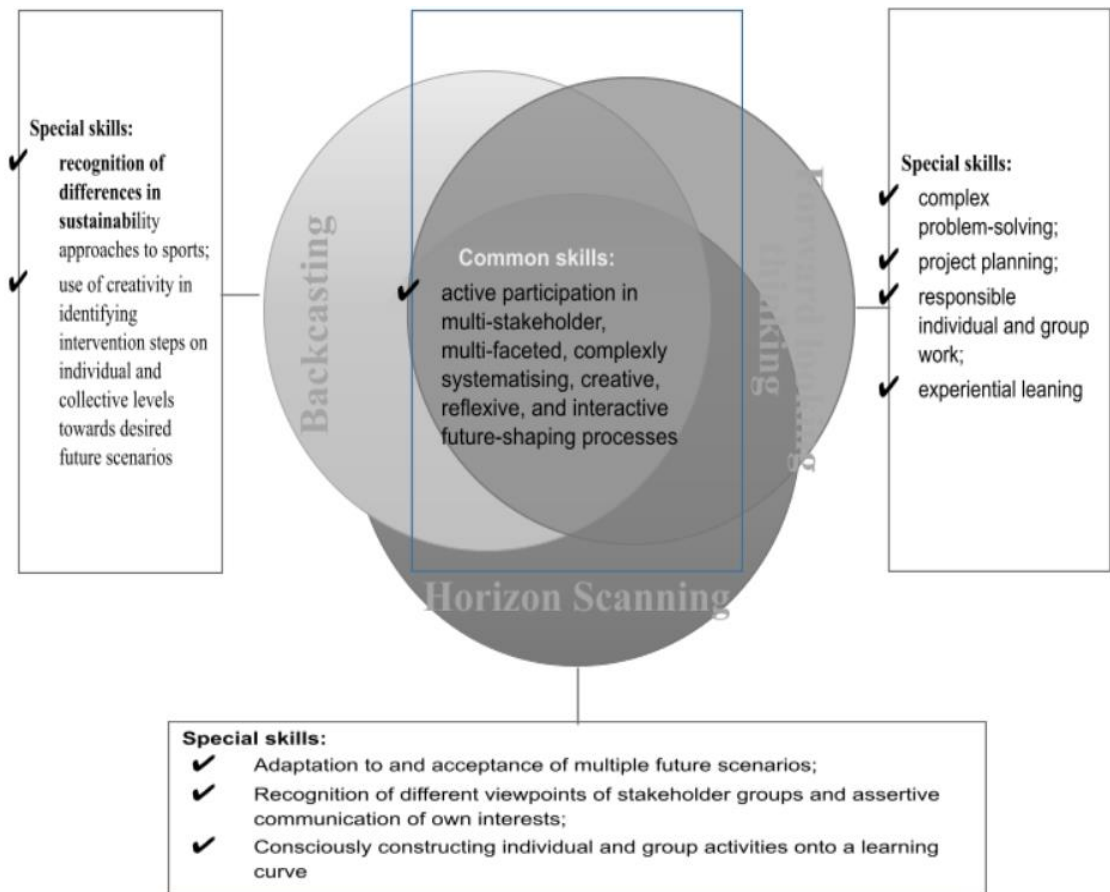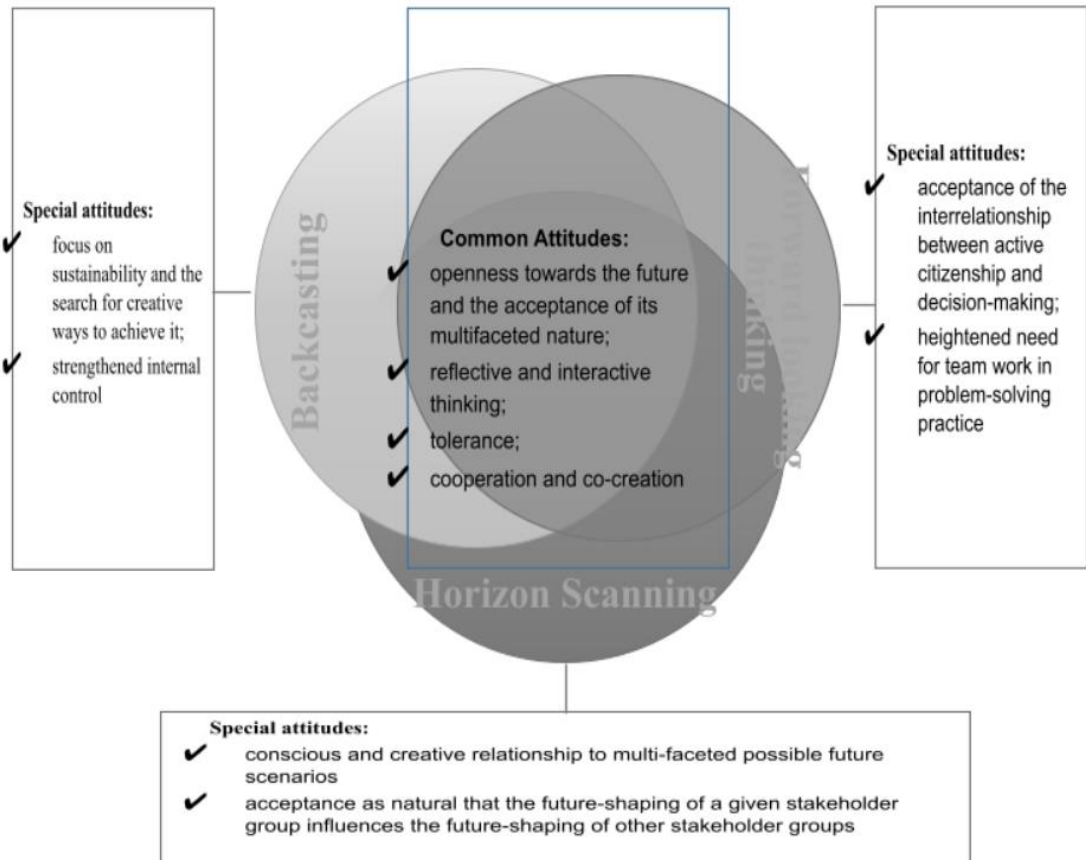

Fig 3: Learning spaces for skills development

Regarding the development of attitudes (refer to figure 4), openness to the future and its multi-faceted nature, reflective and interactive thinking, and the accession of tolerance, cooperation and collaboration are common features of these case studies. In developing forward-looking thinking and action, the acceptance of the link between active citizenship and responsible decision-making and it becoming a daily practical need is also emphasised. In the backcasting process, the attitudes focus on sustainability and aim to improve creative solutions to achieve it. Strengthened internal control can also be developed. In the HS process, the conscious and creative attitude to a wide range of possible futures, as well as the awareness that the future shaping of each stakeholder group always influences the future shaping of other stakeholder groups is emphasised.

Fig 4: Learning spaces for attitude development

Regarding dynamic relationship between individual and group activities (refer to figure 5), a common feature of all case studies is that individual problem-solving solutions must become an integral part of small group activities and must therefore be implemented in time and in a disciplined manner. Within the small groups, some form of consensus must be reached, which must be presented to and deliberated with the other groups. During the forward-looking thinking and the development of actions based on it, small groups of a fixed size work together on the basis of the internal division of labour defined at the level of the group itself. Not only the coordinated performance of individual and group work is important, but also the self-reflection that must accompany them. In the backcasting process, the composition of the cooperating smaller groups changes continuously, through which the group dynamics and its effect on the small group opinion formation can be experienced. In this process, consensus-seeking is paramount, although some dissenting opinions may persist if they are reinforced during group dynamics. In the HS process, small groups not only have a constant number of participants, but also simulate the behaviour of a special stakeholder group that exists in real life. During their individual task solving, the members of the small groups update their previously acquired knowledge, which – if necessary - can be supplemented with new knowledge and ideas for the future. They should use their knowledge placed in a simulation situation creatively to use Osgood's (1957) semantic differential scale. Each stakeholder group relies on the individual evaluation of the group members and the results of the discourse with the other stakeholder groups to form their vision of the future.
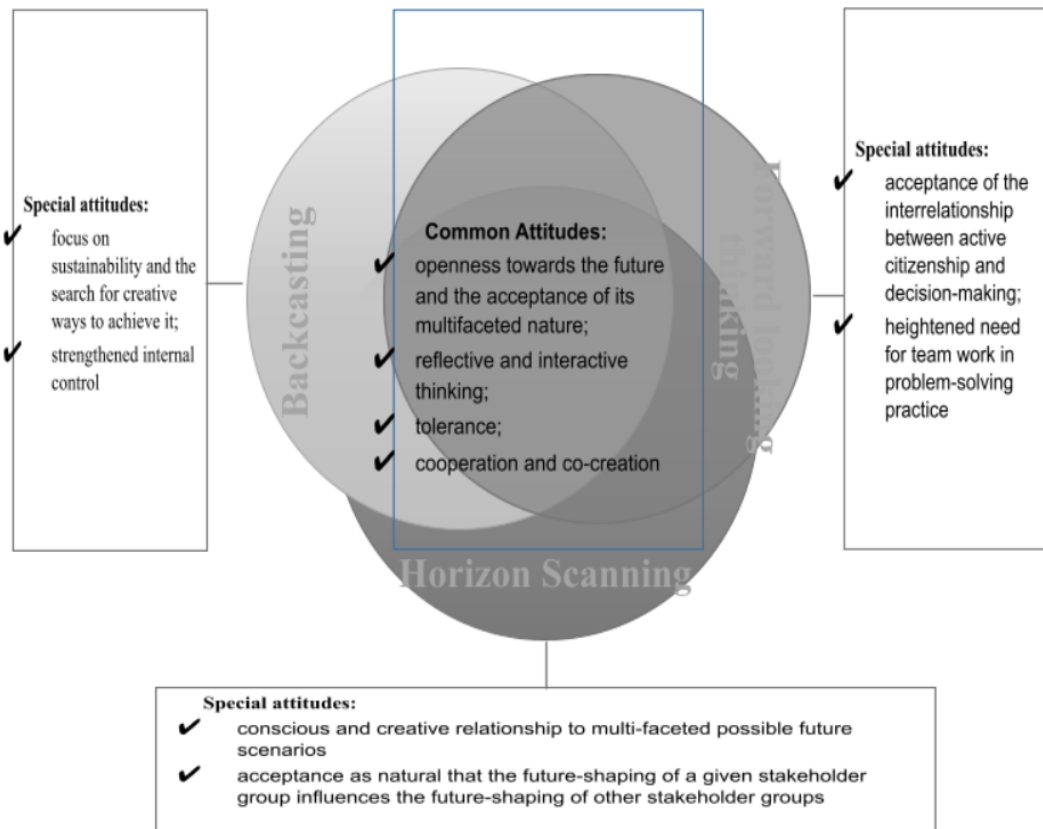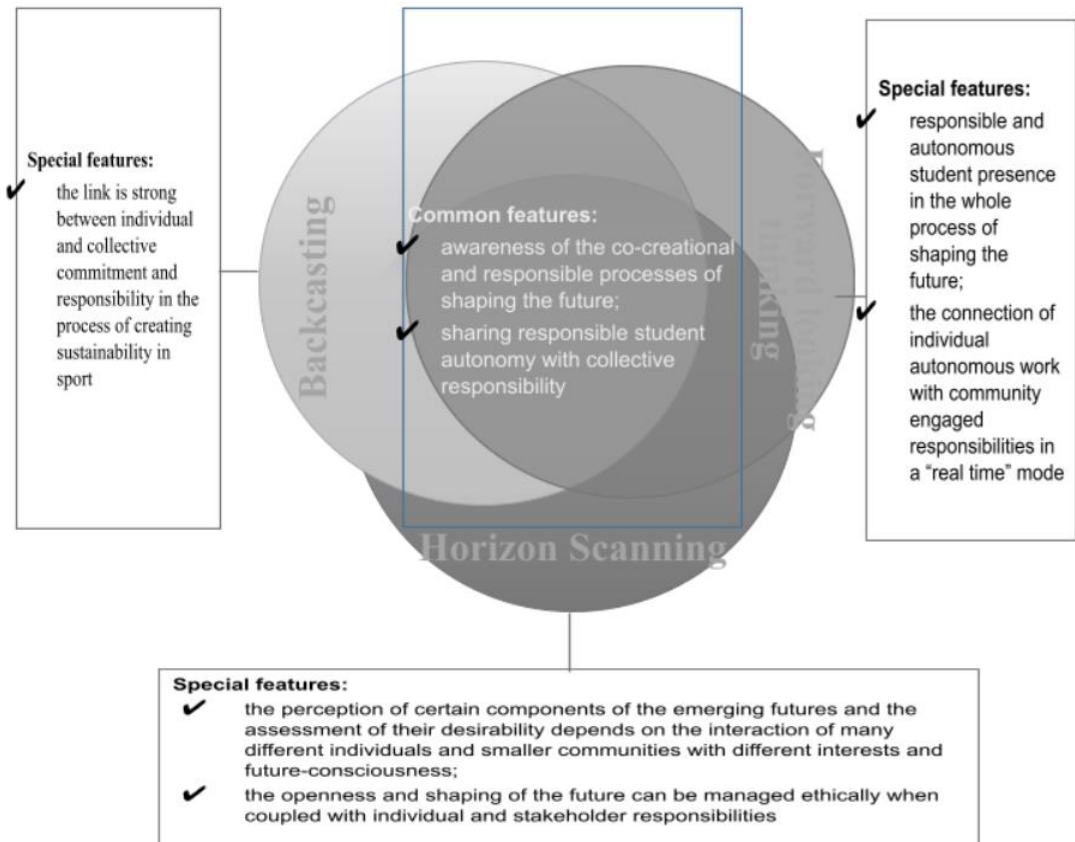

Fig 5: Learning space for individual and group work

Regarding the space for the development of autonomy and responsibility (refer to figure 6), all three case studies focus on making students aware that their individual work is not only a space for their own development and autonomy, but also part of the small group's future performance and responsibility. Participatory procedures are therefore particularly well-suited to strengthening responsible autonomy in student work and the sharing of social and community responsibilities in the process of shaping the future. In developing forward-looking thinking and actions based on it, the student must be responsibly present from the emergence of a new future-shaping idea to the implementation and evaluation of actions and realize that individual autonomous work and responsibility are closely linked to collective responsibilities. In backcasting, it also becomes emphasised that individual and collective commitment and conscious responsibility must be closely linked in the process of creating sustainable futures. In the process of the HS process, students become more aware that the perception of certain components of the emerging futures and the assessment of their desirability depend on the interacting behaviours of a wide variety of individuals and groups with different interests and different future perceptions. In the process of perceiving a wide range of possible futures, students also realise that the openness towards and the shaping of the future – when coupled with individual and collective responsibilities - can be treated ethically.

Special features:
✔ the link is strong between individual and collective commitment and responsibility in the process of creating sustainability in sport

Common features:
✔ awareness of the co-creational and responsible processes of shaping the future;
✔ sharing responsible student autonomy with collective responsibility

Special features:
✔ responsible and autonomous student presence in the whole process of shaping the future;
✔ the connection of individual autonomous work with community engaged responsibilities in a "real time" mode

Special features:
✔ the perception of certain components of the emerging futures and the assessment of their desirability depends on the interaction of many different individuals and smaller communities with different interests and future-consciousness;
✔ the openness and shaping of the future can be managed ethically when coupled with individual and stakeholder responsibilities

Fig 6: Learning space for the development of autonomy and responsibility

Conclusion

The dire need to be open towards the future and actively shape it, brought with it the necessity of acquainting also non-foresight professionals with modern methods of dealing with the future especially in economic higher education. In response to this need, we have introduced three participatory foresight educational case studies taught at the Corvinus University of Budapest. In these cases, such teaching-learning spaces were defined by the lecturers, where through their goals, values and commitments future-shaping participatory activities could enhance such student competencies. The competency analysis of the case studies shows that using modern futures research methods in education cannot only develop knowledge, skills, and attitudes but they can also be used to develop the competencies of the individual to participate in collective future shaping actions and enhance their feeling of autonomy and personal and collective responsibility for future. We truly hope that these additional competencies will enhance practices in the economic spheres and make them more responsible. The authors of this paper are planning to assess such impacts through a follow-up research with the alumni who participated in these courses.

Acknowledgements

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