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Empowering upcoming city developers with futures literacy

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ABSTRACT

New types of human capacities will be needed to achieve sustainable futures within our planet's limited boundaries. The capability of futures thinking, i.e., futures literacy is among the required proficiencies. This research explores how engaging in futures studies methods develops the futures literacy of upcoming city developers. Four student test groups, with altogether 373 participants, took part in futures studies lectures and workshop activities in two countries. This study considers the ability to participate as the first step towards empowerment. Following participation, the three levels of futures literacy (Awareness - Discovery - Choice), should be reached. Finally, futures literacy brings with it the possibility to participate, closing this loop of empowerment. The study finds that the employed futures activities delivered these levels and loop of empowerment within the test groups students. This paper provides a practical framework of concepts with which the futures methods can be used as a systematic, participatory approach to explore futures and drivers of change, with a link to action. The findings are equally useful for higher education teachers, attempting to engage students in action and practising city developers aiming for a higher level of empowerment in their communities.

1. Introduction

New types of human capacities will be needed to achieve sustainable futures within our planet's limited boundaries. The capability of futures thinking, i.e., futures literacy is among the required proficiencies. Futures literacy can move us towards new ways of democracy, sensitive for place and actors, and provide a learning process for adapting to the world's complexity (Bailey, 1998). Futures literacy can further redirect current attitudes in the society towards those of engagement, empowerment and resilience (Slaughter, 1998).

Meanwhile, many of the most pressing societal challenges of our time, including urbanisation, environmental change, and demographic change, relate to the fields of urban and real estate development (hereinafter "city development"). Futures literacy should be an essential part of the skill set of contemporary city developers. In addition to mitigating society's growing complexity, futures literacy could contribute to the demand for multi-actor planning and policymaking.

However, it is increasingly acknowledged within the futures studies community that focusing on theoretical approaches during the past half-a-century has minimal impact on future-shaping actions (Candy & Potter, 2019). This is also a relevant issue in the context of city development. Traditionally future-oriented studies in city development have focused on different supply and demand forecasts, the modelling of land use development, typically by the public sector (land-use planning), qualitative surveys from the perspective of a

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specific target group such as space users (e.g. studying the development of tenant preferences), or studies of the future developments in a particular field connected to city development, such as the future of work, future transportation or consumption patterns (Toivonen & Viitanen, 2015). For example, different states and organisations develop several scenarios of their future developments in response to the drivers of change, including job surplus scenarios (Swan & Steenmans, 2016), population projections (Alghais & Pullar, 2018; Champion, 2015), mobility and accessibility analysis (Foresight, 2016), future public policies (Harding & Nevin, 2015), and technology changes (Focus40, 2019). Despite this, the private city development field is not well-known for future-oriented planning or thinking. Futures studies in this field are similarly scarce, although some advancements have been made in recent years.

Toivonen (2011) raises the long lifecycles of buildings as a critical challenge for future-proofing. The challenge is amplified by the varying goals and time horizons that different actors, such as planners, developers, investors, and end-users, operate in the field. Typically, the planning side has had a longer time horizon (decades) than the developer or investor (years), not to mention the end-user of buildings (months).

Given that city development is highly-fragmented and shaped by a range of actor configurations, different actors' engagement has been central to the concept and practice of enabling multiple stakeholders to foresee different futures and choose the preferred one (Van der Helm, 2009). Futures studies offer tools to mobilise actors in an early phase, promoting solutions inside the network in which all actors could have a place. Futures studies methods facilitate participants to go into a shared learning process in which normative knowledge and 'objective' knowledge are deliberately combined and valued (Hebinck, Vervoort, Hebinck, Rutting, & Galli, 2018; Ollenburg, 2019). In addition, it provides tools for very technical subjects in a societal context, favouring the integration of both quantitative and qualitative information. Nevertheless, creating safe and collaborative spaces for multi-stakeholder interaction is crucial for this endeavour (Hebinck et al., 2018; Pereira, Karpouzoglou, Doshi, & Frantzeskaki, 2015). Many scholars believe that futures studies methods can create such spaces in which a multi-actor group imagines futures and explores possible uncertainties (Kahane, 2012; Wiek, Binder, & Schols, 2006).

During the past, those engaged in futures studies were less reflective of the implications of methodological choices in constructing future-oriented knowledge; however, more recently, they have recognised the need for more participatory exercises beyond the narrow focus on expert groups (Ahlqvist & Rhisiart, 2015). This research explores how engaging in futures studies methods, and participatory exercises develop upcoming city developers' futures literacy capabilities. The use of futures participatory methods in education has two dimensions. First, it enables the participants to foresee a particular phenomenon's future impacts through useful, enriching and intelligent conversations while still honouring differing perspectives (Ramos, 2016). Second, such participation is a pathway toward transformative action (Ibid.) and empowers students to become proactive (Godet, 2010).

This study's premise is that, through participation and futures literacy, students are empowered to foresee the future and choose between different futures, rather than adapt to a pre-defined future. This study considers the ability to participate as the first requirement towards empowerment (Holcombe, 1995). Following participation, three levels of futures literacy, as defined by Miller (2007), should be reached. Finally, empowerment brings the possibility to participate, closing this loop of empowerment through futures literacy.

Students are seen especially important for this study, as they are the prospective decision-makers in developing future cities. Four student test groups are included in this study. The first two groups test a futures wheels method. The third group tests a 'futures game', a form of scenario building. The fourth group participates in the lecture on futures studies without using a method themselves. After working with these methods, the participating students are asked about their views in a questionnaire. Respondents from the four test groups together comprise 373 students in higher education.

The article is structured, as follows. The next Section 2 will introduce the concepts of participation, empowerment and futures literacy to function as a basis for analysis. The following Section 3 details the study design. Section 4 continues with the key findings, while Section 5 discusses the findings further. Finally, Section 6 concludes the article with recommendations for further action and research.

2. Theoretical framework

This section presents the theoretical framework for participation, futures literacy, and empowerment. Participation is innately present in many futures studies methods and here considered a prerequisite for futures literacy. Futures literacy is treated as a 'capacity builder', encouraging the empowerment of different actors in society to cope with and direct the powerful currents driving society and the world at large today (Clafin, 2009).

2.1. Futures literacy

Futures literacy is the ability to explore the potential of the present to create the future (Miller, 2007) through the development and interpretation of stories about possible, probable and desirable futures. Futures literacy is the first phase until potentially leading to the possibility for future literate decision-makers for using the future in practice. However, it should be remembered that while decision-makers require futures literacy, other factors should also be addressed, including background and current organisational structures, particularly while including multi-stakeholders (Bourgeois, Penunia, Bisht, & Boruk, 2017).

In the approach outlined in this paper, there are three levels of futures literacy: awareness (discussions about the future); discovery (opening up possibilities); and choice (goal formulating and exploring how to apply solutions to the values). This approach is developed by Miller (2007) and has been previously used in futures studies (see, for example, Krawczyk & Slaughter, 2010; Rhisiart, Miller, & Brooks, 2015). The description of each level is provided below.

Level 1 – Awareness: This level is mainly about temporal awareness, shifting both values and expectations from tacit to explicit, all of which builds the capacity of people, teams and leaders to respond and innovate. There is a wide range of catalysts and processes that generate the discussions and sharing of stories that elicit people's views on what they want and expect in the future. This study interprets 'Awareness' as the awareness of potential future phenomena from different viewpoints.

Level 2 – Discovery: the capacity to overcome the limitations imposed by values and expectations when thinking about the future. It is about producing a Rigorous Imagining (RI), which involves two distinct challenges—imagination and rigour. The former to push the boundaries and the latter so that what is imagined is scientific and intelligible. This level needs systematic creativity and creating systematically, non-discursive reflection and social science. This study interprets 'Discovery' as the creative process where different futures are imagined.

Level 3 – Choice: Level 3 integrates the insights of the two previous levels. From Level 1, it takes an awareness of values and expectations. From level 2, it takes the discoveries of rigorous imagining. Level 3 futures literacy builds on all of this capacity to think about the potential of the present and provides the link to action. Level 3 enables citizens and decision-makers to question current goals in explicit, actionable terms by drawing clear contrasts between the assumptions and content of the present policy/decision and the outcomes and preconditions of the futures. This study interprets 'Choice' as the ability and willingness to act.

2.2. Participation and empowerment

Community participation and empowerment are core principles underpinning sustainable cities (Colantonio & Dixon, 2010). Citizen participation is a citizen power. In one of the earliest and best-known model, Arnstein (1969) has defined a ladder of participation with eight steps, including citizen control, delegated power, partnership, placation, consultation, informing, therapy, and manipulation, with each step corresponding to the extent of actor's power in determining the end-result, ranging from no involvement to the active and engaged role.

Participation involves both theory and practice related to stakeholders' direct involvement or stakeholders' action groups potentially affected by or interested in a decision or action (Rashidfarokhi et al., 2018). In other words, participation is the act of engaging in and contributing to the activities, processes, and outcomes of a group (Lachapelle & Austin, 2014). It refers to the possibility of influencing decisions and having access to decision-making processes and creating mutual trust among individuals, which forms the basis for shared responsibilities towards the community and society (DESA, 2009).

Participation is not limited to a group with a set of political, social or cultural organisations and associations and may occur via activities and networks that are not based on a geographical boundary (DESA, 2009). This is true for many professional, political and cultural affiliations. A very specific type of participation, co-creation, is defined as "a generative process where ideas, opportunities and aspirations are studied by very different stakeholders in an interactive re-invention mode" (Wilkinson & Remoy, 2018).

Participatory and co-design methods have been well represented in urban planning for at least two decades. Engaging in dialogue with the community is generally considered good practice and professionalism on behalf of the planner (Forester, 1999). Booher and Innes (2002) argue that planners need to have management, facilitation, mediation, and negotiation skills. Participatory planning methods have been developed for and used in different built environment projects, whether an individual building or a neighbourhood (Sanoff, 2000). Urban planning has become significantly more community-focused in recent years, and participatory methods are widely used (Horelli, 2013).

Various participatory methods can be used for collectively describing the system (e.g., a project, its outcome, or the ecosystem), and therefore a collective action is at the centre of such methods. It is necessary to select appropriate boundary objects to leverage knowledge integration and achieve a common understanding between the different actors (Mäenpää, Suominen, & Breite, 2016). In this study, we organised futures workshops for the students' test groups as a boundary object to provide a space for developing futures literacy capacity. Gaining such a skill will empower them to integrate futures studies methods in their decision-making processes.

Although participation is an activity or part of an action such as a decision-making process, empowerment expands freedom of choice and action. It means increasing one's authority and control over the resources and decisions that affect one's life, as people make a real choice, gain more control over their lives (Holcombe, 1995; World Bank, 2002). Participation aims to give ownership, express oneself, learn from them, and eventually empower them by transferring skills, abilities, and knowledge.

Communities assume responsibility for defining challenges, prioritising demands, mobilising resources, negotiating, planning, implementing and evaluating activities for the common good on an on-going basis through participation and transferring of expertise. However, empowerment is the end product of the project or program (Mason, McNulty, & Aubele, 2001).

Empowerment depends on two issues. First, empowerment needs the power to make changes; if it cannot and if it is embedded in positions or individuals, empowerment is not feasible, nor is empowerment conceivable in any meaningful way (Page and Czuba, 1999). Second, empowerment can be considered a societal transition pattern within a society contributing to developing a new form of collective understanding and organised drive (De Haan & Rotmans, 2011). Thus, empowerment is also about the emergence of citizens and decision-makers as crucial players in a societal transition shaped by a diversity of perspective of future challenges.

Any ability to adapt to or cope with change should come from an ability to analyse where the world is going and the possible consequences of actions and intentions. As Slaughter (1998) states, people must be "empowered" to deal with change. Vervoort, Bendor, Kelliher, Strik, and Helfgott (2015) define empowerment in the context of futures studies as the capacity of actors to foresee the future and choose between different futures rather than to adapt to a pre-defined future.

In conclusion, futures literacy is an increased capacity to seek and develop learning systems that go beyond teaching young people for what is expected to happen and prepare the potential of learning that is caused by the lure of discovering or inventing difference (not knowing) more quickly and constantly, which is the desire to pursue information (Miller, 2015). By better grasping the role of

methods and processes in futures studies in the search for difference, futures literacy strengthens our resilience to the unknowables as they arise.

3. Study design

This study engaged in organising different futures activities for the student test groups to provide a space for developing their futures literacy capacity. Gaining such a skill will empower them to integrate futures studies methods in their decision-making processes. Futures studies methods typically contain both content and a process component. In process terms, futures studies methods can reconstitute actor relations, going beyond the institutional boundaries. In content terms, they aim to combine quantitative and qualitative knowledge, discerning the dynamics from both an ‘objective’ and a normative perspective (van der Helm, 2003).

The study includes four test groups (TG) attending different futures study activities held in Finland and Sweden between the years 2017–2019. The total number of participants is 373. The selection of participants is based on purposive sampling. In Flyvbjerg (2006) terms, the selection is information-oriented, i.e., based on expectations on the information content and the utility of gained information. As the study focuses on the private city development domain, participants studying related topics were deemed most relevant. The sampling could also be described as heterogeneous, as the participants include Master’s students in real estate economics, Bachelor’s students in engineering, and continuing education students, working in the commercial real estate sector with extensive work experience. University students were chosen as participants in this study because university studies would be the most natural and effective stage to teach the necessary skills and tools. The inclusion of practitioners taking part in continuing education was seen as vital because they are currently in charge of the decisions that will shape future city developments.

The participants had different kinds of futures studies activities, including a futures wheel workshop (TG1), a futures wheel workshop and essay writing (TG2), a futures game workshop (TG3), and a lecture on futures studies with a pair discussion (TG4). Before the futures workshop-type activities, an introductory lecture on futures studies was given. The details of the groups and their activities can be found in Table 1.

Börjeson, Höjer, Dreborg, Ekvall, and Finnveden (2006) argue the future workshops are useful in widening the perspectives of different participants, and that participation can increase acceptance to the outcomes such as decisions. Workshops may be used for both generating options and evaluating the impacts of the options (Börjeson et al., 2006). Participatory scenario workshops have been used in the context of urban development before in e.g. Street (1997). The traditional process for a participatory futures workshop may

Table 1
Test Groups.

Test Group	n	Group description	Future studies activity	Questionnaire content
TG1	34 21	Master’s students Practitioners	Lecture and future wheel workshop	1) The impressions concerning the method after applying it 2) Benefits and advantages of the method 3) The ability of the method to reveal new ideas concerning possible future impacts 4) The opinions concerning the visual illustration and its usefulness 5) Potential topics that could be studied with the method.
TG2	5 19	Master’s students Practitioners	Lecture, future wheel workshop and essays	1) The importance of futures thinking 2) Benefits and advantages of the method 3) Potential topics that could be studied with the method. 4) The experiences when acting as a facilitator for the futures wheel workshop 5) The views concerning the inclusion of futures studies to curriculums 6) The intention to use the method later
TG3	29	Master’s students	Lecture and future game workshop	1) The impressions concerning futures studies after applying one method 2) Benefits and advantages of the method 3) The ability of the method to reveal new ideas on possible futures 4) Potential topics that could be studied with the method. 5) The views concerning the inclusion of futures studies to curriculums 6) The intention to use the method later 7) Own possibilities to shape the future development by employing futures studies
TG4	229	Bachelor’s students	Lecture and pair discussion	1) The importance of futures thinking 2) The views concerning the inclusion of futures studies to curriculums 3) The intention to use the method later 4) Own possibilities to shape the future development by employing futures studies

be divided into four phases: preparation, critique, fantasy, and implementation (Jungk & Müllert, 1987). The preparation phase entails introducing the method and practicalities of the workshop. The critique phase discusses the problem in-depth, often with the help of visual tools. The fantasy phase allows the participants to release their inner creativity. Finally, the implementation phase links the outcomes to practice. Each phase typically builds on the previous one.

Groups TG1 and TG2 employed a participatory futures workshop method called *Futures Wheel*. Futures Wheel resembles structural brainstorming, in which the studied element and its possible impacts are organised into a wheel form to demonstrate the causal relationships between the element and its different level impacts. The futures wheel helps to organise, understand and clarify possible impacts and their order through a visual wheel form that is drawn based on the detected impacts. The method directs its users not only to analyse the first level impacts that are directly caused by the object under study but also its secondary, tertiary etc. impacts (Glenn, 2009; Rubin, 2002). The participants of TG1 and TG2 developed futures wheels in smaller groups of 5–6 people to study the impacts of different phenomena on the built environment. In addition, TG2 continued to study the method further by writing individual essays. The university students had a more theoretical approach, while the practitioners facilitated their own futures wheel workshop which they then discussed in the essays. Compared to the traditional four-phased process, phases two (critique) and three (fantasy), are combined without any specific order in the Futures Wheel method. Concerning phase four (implementation), the Futures wheel can be seen as a tool in decision-making process, for example, by showing what development paths should be promoted and in that sense, the implementation phase in a way follows the futures wheel outcome.

Group TG3 took part in a participatory future-themed exercise called *Futures Game*. The game is played with a deck of trend cards produced by the Finnish Innovation Fund Sitra. The cards include 36 trends affecting society, based on Sitra's annual review of megatrends and trends. The game is to be played in groups, for example, at workplaces, and instructions on different versions of the game are included in the deck (Sitra 2018). The participants of TG3 were divided into groups of 5 people. They played a version of the game where group members take turn lifting cards and envision a potential future based on the realisation of the trend in the card. The envisioned futures are shared in the group, and the group develops them further. In this case, one of the envisioned futures was chosen as a topic for a course project for that group. Therefore, the students also had to justify to other participants why their envisioned future would be the most interesting one to study further. The Futures Game is a participatory exercise where the focus is strongly on the creative process, i.e. the fantasy phase of the traditional futures workshop process.

The participants of TG4 attended a lecture on futures studies (duration 2 h). During the lecture, the pair discussion method was applied, in which students had to identify different forces that are relevant for future developments and analyse their possible impacts.

After implementing the different futures studies activities, a survey to study how futures studies methods can develop the futures literacy capacity of the participants was undertaken. Naturally, in-depth interviews would have provided a deeper understanding of the root causes and specific thresholds for increasing the futures literacy of the participants. The questionnaire approach was selected to reach a wider group of respondents. To allow for more qualitative content, the questionnaire comprised only open-ended questions. TGs1–3 received a hardcopy questionnaire, while TG4 answered an online questionnaire. The questions were tailored to each group to explore different aspects of futures literacy and participation. Participants of the workshop type futures activities answered more detailed and specific questions, for example, about the employed method. TG4, who only took part in a lecture, were asked about their views concerning the importance and usability of futures studies. This was thought to indicate how futures literacy can be built and what resources it might require. The employed participation method for TG4, discussing in pairs, was not as interactive as in the other test groups. This setting allowed us to see if the capacity of futures literacy can also be enhanced simply by providing more information concerning the futures studies. The questions for each group can be found in [Table 1](#).

The views and experiences of these four test group participants were analysed to investigate the potential of futures methods to assist and enhance future-oriented thinking and decision-making. The analysis was based on qualitative content analysis and mainly deductive research approach. Coding of the data was developed according to three levels of futures literacy drawing from literature, including Awareness, Discovery, and Choice, to see how different levels of futures literacy are linked and/or represented in the various futures studies methods. We also added the fourth code, Participation, which was distinctively present in many futures studies literature and considered as a prerequisite for futures literacy. For example, participation is needed to form a futures wheel, and participants' capacity is essential to foresee the potential future impacts (Glenn, 2009). Discussions within the research team were utilised to review and revise the categorisation. The key findings were developed as a result of this iterative process.

4. Findings

This section presents the findings from the questionnaires collected from the Test Groups after the futures activities. The futures methods were not known beforehand by any of the participants. The general attitude of the participants towards futures studies and methods were very positive. The test groups saw the futures workshops as practical tools to organise thinking and detect, identify, present different, possible future impacts. Next, the questionnaires' findings are presented and analysed in the theoretical frame of participation and futures literacy. Direct quotations from the responses are included for transparency

4.1. Participation

During all the employed futures study activities, the participants were given the possibility to compare their thoughts with others. In TG1–3, the respondents thought that the tested futures methods encouraged joint group discussions. The test groups saw the workshops as very interactive and appreciated the interactivity. The participants felt that it is easy to speak up and that: “*Any ideas were good ideas*”. The activities contributed to the community feel in the classroom.

The methods were said to suit well for group work as they gave a possibility to compare thoughts with others. Concerning inclusiveness, TG3 noted that: *"It's a great way of getting people in your group engage in group discussion."* The participants themselves emphasised that the participants' different backgrounds added value to the workshop outcomes. As one respondent stated: *"It's a good way to combine different skills in a quick and fun way"*. The activities acted as a catalyst for a future-oriented, joint discussion and offered a shared framework in which the discussion could be delineated. The structure of the methods was also appreciated as a way to stay on topic.

When analysing the suitability and feasibility of participatory futures methods, it is essential that they are easy to use and not too complicated to be adopted by the participant with different backgrounds. This is crucial so that an equal opportunity for building the capacity of futures literacy can be offered and also ensured. According to the survey results, the employed methods are easily adopted; this was named as one clear advantage by the respondents. The majority of participants thought the activities were simple to understand and use. Only a couple of participants said that they felt the method was confusing. Participants in TG1 and TG2 saw the futures wheel method fast to use and demonstrative, but also intensive. It was said to produce a good input-output balance. Furthermore, the practitioners thought that facilitating the futures wheel workshop by themselves was relatively simple, and no significant obstacles were countered in this task. However, the practitioners also mentioned that the futures wheel method is resource-consuming as it requires several persons' attendance simultaneously.

4.2. Awareness

According to the participants, the most important aspect concerning futures studies was its ability to enhance a holistic and more acknowledged view concerning future developments. The general consensus was that the futures methods enabled the test group students to study a phenomenon and its possible impacts holistically and diversely. The students would *"Start being aware of future problems"*. The methods also helped detect practical issues and causal relationships and form a synthesis from the views of several different persons. For example, TG1 respondents pointed out that the futures wheel method could be a useful tool when including different real estate markets actors, e.g. public and private sector participants, to share their thoughts about the future and illustrate their different views holistically.

TG2 participants stated that getting familiar with the futures wheel method was useful as it enhanced their futures thinking skills that had been insufficient before, according to their views. Also, other participants saw a growing need to develop these skills. They also appreciated the method's visual illustration, as it helped them widen and extend their views further and structure and clarify their futures thinking. Similarly, in TG3, the students would *"Get an understanding of how things are connected and impact each other."*

4.3. Discovery

The majority of respondents recognised that they had been able to create new viewpoints with the help of the method and detect causal relationships that they had not realised before in a systemic way. The activities were said to *"Make you think outside the box"*. Consequently, the students were able to widen their visions concerning the future. The respondents also noted that futures methods could be utilised to detect small but possible impacts even if the most obvious ones were already known: *"Seeing problems we haven't seen before."*

The methods encouraged the participants to use *"new ways of thinking"*, and were thought to suit well for finding novel research ideas. The methods could also be suitable for topics that yet lack scientific knowledge and research results. The futures wheel method specifically could be used widely on diverse topics in the real estate field. According to the opinions from TG1, the method, in general, would fit well for the study of complicated phenomena when aiming to understand the causal relationships or gain a holistic view of the possible impacts. TG1 participants also noted that the method would be useful when studying new phenomena that did not yet show significant signs, or when investigating the hidden impacts of well-known phenomena. Respondents in TG3 described the method as *"inspiring"* and promoting *"creative thinking"*. Furthermore, the visual futures wheel method was found to stimulate new ideas in TG3 1–2.

Students in TG1 and TG3 saw the potential lack of knowledge as the most significant disadvantage when applying futures methods. Some questioned if the method can be scientific due to this reason. As expected, the futures wheel method was able to reveal potentially contradictory impacts. Interestingly, due to this inherent characteristic of the wheel, which is generally considered positive, one of the respondents was questioning the reliability of the method. Similarly, a couple of TG3 respondents criticised the futures studies in general for being *"speculative"* and *"imaginary"*, as negative characteristics.

4.4. Choice

The participants found awareness concerning possible futures development as a prerequisite for being able to shape future development. In TG4, it was stated that futures literacy could be seen as a concrete tool that helps understand the different development directions and their root causes. The holistic awareness concerning the future was also seen as a possibility that empowered the participants to bring forward their views and steer future developments. However, some of the participants pointed out that even though increased awareness will enhance the possibilities of empowerment, the actual power to influence will be needed. They saw that for example, a particular position in an organisation could be essential for an actor to be empowered.

Most of the respondents in the participatory groups were keen to develop their futures thinking skills further and considered the future exercise useful since it had introduced them to a possible new method. The majority estimated that they would use the futures

wheel method after graduation when working in the city planning field where “*long-term thinking is essential*”. They pointed out that they could use the method in different workshops and when estimating possible impacts of new projects. The vast majority of TG2 said that they would continue to use the futures wheel method in their work, as it would be easy to incorporate into practice. Most respondents in TG3 also stated they would continue to use futures study methods and futures thinking. TG3 respondents thought the method might bring “*solutions to obstacles in today’s society*”. However, a few respondents in each TG did not see the value of using futures methods as they did not recognise the implication of these methods in their personal tasks or in the real estate field in general. It can be speculated that the perceived disadvantages (such as mistrust towards other participant’s expertise or their own) might be the reason for their reluctant attitude.

TG1 saw the benefits of futures thinking in the possibilities to gain financial profits and, on the other hand, to minimise the risks related to real estate investment in the long run. Similarly to TG1, also TG2 saw futures thinking as an essential skill when working with city development. TG2 participants identified the long life cycle of real estate as the critical reason for this. It was also pointed out that the real estate markets environment is changing so rapidly that foreseeing is essential. TG2 saw the futures thinking skill as a competitive advantage and as a way to minimise risks. It was also seen as a possibility to add agility to their markets behaviour.

Some of the topics that the futures studies were thought to facilitate were the impacts of different megatrends such as technological development, environmental pressure and urbanisation. Additionally, issues, such as high vacancy rates of office premises, development projects and price development in the real estate markets environment, were named as suitable subjects to be studied with the method. In general, a phenomenon with vast impacts on different elements was seen as an ideal study topic for the method.

Respondents in TG2 stated that the futures methods could be suitable for studying almost anything varying from common phenomena faced in everyday work to new phenomena of the real estate markets environment. The method was also seen as helpful when doing strategic planning, quantitative analysis or other business development. Other proposed research topics included: impacts of new legislation, markets actor preferences, future impacts on specific targeted properties, individual projects such as construction projects, products or different phenomena marketing topics, economic problems and economic behaviour, the future of different space types, property evaluation, impacts on communities and different phenomena in the society. The proposed topics can be studied further to see if the method is suitable for them in reality. It was also mentioned that the method could assist when developing business practices or in preliminary go or no-go business decisions.

The respondents’ attitude concerning the inclusion of futures studies into curriculums were very positive. TG1 and TG3 were mostly believed that futures studies should be included in the master’s degree. Some of the respondents stated that futures studies should be taught in a separate course, while others said that it could be incorporated in several different courses. One of the students pointed out also the need to teach quantitative forecast methods. TG2 was also keen to see these topics included in the curricula at the continuing education level. Only one respondent in TG2 disagreed, and one was unsure of their opinion.

Comparing the answers from the surveys shows unified views. However, some differences were identified. Adapting the new method was harder for practitioners in continuing education than for master’s students. On the other hand, master’s students were generally more skeptical about their own capabilities. Few were questioning the scientific validity of the method. The students in continuing education recognised the participants’ vital role in the futures studies workshops. At the same time, they were concerned about the amount of human resource required for the workshops. The most significant identified challenge was the broadness of the future’s possibilities and how to delineate the future visioning: “*the different factors are too many and complexed to understand*”.

5. Discussion

This study aimed to explore the potential of futures methods to empower students in the private city development field with futures literacy skills. In addition to the three levels of futures literacy: awareness, discovery and choice, participation was studied as an essential aspect of empowerment. Many futures studies methods that promote futures literacy are also innately participatory. Especially in the context of city development, the participatory nature of the methods can be seen as a significant benefit as the field is comprised of various actors with different goals and different time horizons (Toivonen, 2011). A key element to be able to build resilient solutions is to be aware of, not only your own values and expectations concerning the future but about the views and aims of other markets actors which are affecting your future as well.

The employed futures methods are participatory and inclusive by nature. However, working with participatory methods for futures studies demands a clear view of what one wants to achieve to avoid drawbacks. The risk of superficial analysis, unfair influenced by those more aware of how to manipulate the process, and threats to the established power are some of the known challenges. For instance, the futures wheel has the potential to create a new we/they polarity between those that are ‘in’ and those that are ‘out’ (Glenn, 1994). On the other hand, the futures wheel method’s visual presentation will increase its suitability to be used even among very different people.

Furthermore, the employed futures methods only require simple workshop amenities. No expensive equipment is needed, only space, instructions, paper and pens. For example, in universities and schools, expensive methods and tools to promote futures literacy might not be possible. On the other hand, in continuing education or business use, time efficiency and human resources can be the most crucial factor. Digital solutions could ease this challenge. (Author, 2021)

The participatory futures methods, such as the futures wheel, is very dependent on the participants forming the wheels and their capability to foresee future impacts (Glenn, 2009). This was also seen as a risk by the test group participants. In addition, when using the futures wheel method, there is a risk for misunderstandings because the method simplifies complex issues when using the visual way of presenting results. On the other hand, if aiming to include everything to the visual wheel, the end-result might become too complicated, as one of the respondents stated. Another example pointed out by the students is the danger of misunderstanding the

chronological causality of the impacts, which could impact wrong tiers in the wheel. It was also brought up that the formed futures wheel might need to be accompanied by a written or an oral explanation because only a limited number of words could fit into the picture. This way, the results could also be understood later or by other actors not taking part in the actual wheel formation event. An essential issue is that the participants should be considered as the shaper of their future while the futures wheel method helps those selectors to think about the future (Coates et al., 2010).

During the futures game workshop, more support was given to the participants by first providing a guiding material that a futurist prepared. This material could guide the participants to focus on relevant forces of change and delineate their discussions while ensuring a holistic approach. However, futures workshops' content can include many intertwined and complicated issues and require understanding, knowledge, and a creative mindset and is not an easy task necessarily. Due to this, some respondents were questioning the validity of the futures methods. This concern has been addressed by Toivonen (2011: 2021) and Toivonen and Viitanen (2016), who developed the futures wheel by combining participants views and literature review to increase the validity.

This study considers the ability to participate as the first requirement towards empowerment (Holcombe, 1995). Following participation, three levels of futures literacy: Awareness, Discovery and Choice (Miller, 2007) should be reached. In this study, we interpret the first level of futures literacy, *Awareness*, as the awareness of different potential futures. According to the questionnaire results, the test group participants saw futures studies, especially as a way to enhance holistic awareness concerning future developments and the different possible impacts. The methods helped them to realise the views of others in addition to their own. However, in this study, we only employed specific futures methods that can affect this conclusion.

On the other hand, the employed methods also helped participants exceed their limits and make new discoveries concerning the possible futures and reach the second level of futures literacy, *Discovery*. Also, the third level of futures literacy, *Choice*, was clearly highlighted in the participants' answers. They saw awareness, including new discoveries, as a prerequisite to taking an active role and steer future developments. Finally, choice, namely the ability to act, brings the possibility to participate, closing this loop of empowerment through futures literacy, as depicted in Fig. 1.

The study finds that the employed futures activities delivered this loop of empowerment within the test groups of students. The participating students gained a skill that will empower them to integrate futures studies methods in their decision-making processes. Also, they were able to name several different topics where the method could be used. However, the results of this study do not guarantee the application of the futures studies methods in practice.

This paper provides a framework with which the futures methods can be used as a systematic, participatory and multi-disciplinary approach to explore mid-to-long-term futures and drivers of change. The framework is equally useful for pedagogues in higher education attempting to engage students in action, and practising city developers aiming for a higher level of empowerment in their communities. Consequently, the study's managerial implications relate to both the field of city development and curricula development in academia. As futures thinking can be seen as essential when aiming for sustainable decisions, it should be necessary to have the diverse skill set required from a future city developer. Higher education should respond to this challenge and the forces of change in the industry to improve the profession.

Ensuring sustainable decision-making in the city development field would benefit the markets environment and its participants and the whole surrounding society due to the scope, magnitude, and versatility of impacts caused by the industry. Nevertheless, the participants in this study mainly represented the private city development sector, limiting the generalisation of the study findings to the whole field (including the public sector).

The theoretical framework was employed in the analysis to enhance the validity of the results. The different levels of futures literacy, including participation, were interpreted and analysed from the questionnaire answers by the three research team members. In

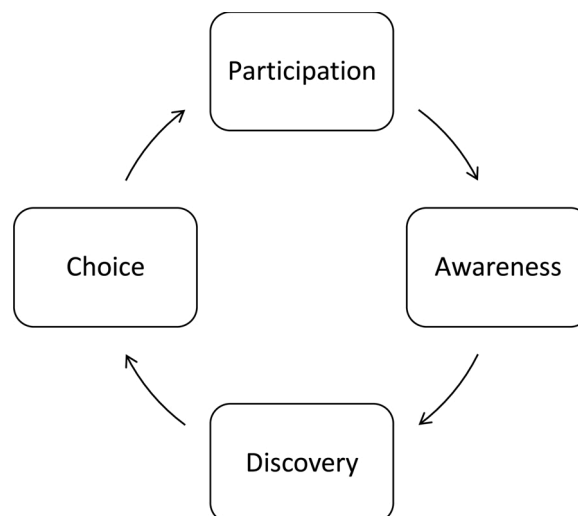


Fig. 1. The Loop of Empowerment.

other words, the respondents were not asked direct questions about futures literacy. This can be seen to add triangulation and lower the risk of manipulating the respondents in a certain direction by the researchers. The study employed the futures literacy definitions provided by Miller (2007). However, other frameworks such as Ahvenharju, Minkkinen, & Lalot, 2018 concentrating on futures consciousness could have benefited as well and can be considered as a topic for further research.

The study included four test groups, and the questions were similar but not identical in different groups. The research did not focus on comparing the different types of future activities employed in the test groups or the different types of respondents. In the delineation of this study, these factors were not seen as relevant. However, the differences between the different test groups seemed to be almost non-existing, and the views were unified regardless of the level of activity. This indicates that even an introduction to futures studies can contribute to the participants' futures literacy.

The reliability of the study is increased by conducting the study in two different countries, Finland and Sweden. The unified results independent from the origin, therefore, indicate that the results of this study can also be applicable in other geographical locations.

6. Conclusions

In conclusion, all the employed futures study activities provided a space for the participants to develop their futures literacy capacity. Futures literacy is a skill that empowers participants to integrate futures thinking in their decision-making processes. However, in reality, a power distribution would be required, allowing all of the relevant participants to recognise their own aims and cooperate and take actions to create joint solutions. To develop holistic and resilient solutions for future cities, the aims of different actor groups should be identified and promoted jointly by offering holistic understanding and possibilities to take part and influence. The participants' positive attitude concerning both the importance of the futures studies, curriculum inclusion, and the intention to employ the methods later indicate that the future city developers seem to be eager to become futures literate.

This research focused on facilitated futures activities as a means to empower students. Therefore, it could not reach the impact of such empowerment. For instance, whether a common understanding and collective aims regarding a preferable future could be reached in city development through futures methods. This is one suggested further research avenue. Moreover, and as stated before, in addition to capability, empowerment ultimately requires a shift of power. The potential and likelihood of this shift were outside the scope of this study. It would be of interest to study whether futures studies methods can assist in equalising current power relationships. As segregation in the urban areas continues, more attention needs to be paid to support equal opportunities of different actors to express their future hopes and fears despite their actual positions of power.

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