Transdisciplinary Insights Volume 5.1, 2021, 1–2.
Leuven University Press, Online ISSN 2593-0338
https://doi.org/10.11116/TDI2021.5.1.1

TRANSDISCIPLINARY INSIGHTS
PROCEEDINGS of the ANNUAL SYMPOSIUM
E-JOURNAL
LEUVEN UNIVERSITY PRESS

2021 KU Leuven Facing the Future: "*How to increase societal impact?*"
https://rega.kuleuven.be/cev/Symposium/facing-the-future/Program-2021
Leuven, 5 May 2021

Proceedings of the parallel session "*Honours Programme Transdisciplinary Insights*" (TDI 2020-2021)

Program
17h15 – 17h20 Introduction by the Institute for the Future
17h20 – 17h45 STEAM+: Transforming higher education through collaborative play
17h45 – 18h10 InclusiVaart. (Re)defining shared neighborhood spaces
18h10 – 18h35 Conceptualising Open Science in the 21st Century
18h35 – 19h00 Coronavirus Pandemic Preparedness

STE(A)M+: Transforming Higher Education through Collaborative Play

Ilse Vranken,[1,2*] Dominique Troost,[1,3*] Raad Sharar,[1,4*] Pieter Hanssens,[1,5*] Simon Van Espen,[1,6*] Ronald Cruz Salamat,[1,7*] Iryna Nykytiuk,[1,8*] Hannes De Praitere,[1,9*] Inge Smeers,[1,10] ToTran Nguyen,[1,11] Anne Snick[1,12$]

[1]KU Leuven, Honours Programme Transdisciplinary Insights, Institute for the Future, Belgium;
[2]KU Leuven, School for Mass Communication Research, Faculty of Social Sciences, Belgium;
[3]KU Leuven, Master's student in Psychology, Faculty of Psychology and Educational Sciences, Belgium;
[4]KU Leuven, Master's student in Social and Cultural Anthropology, Faculty of Social Sciences, Belgium;
[5]KU Leuven, Bachelor's student in Industrial Sciences, Faculty of Engineering and Technology, Belgium;
[6]KU Leuven, Bachelor's student in Economics, Faculty of Economics and Business, Belgium;
[7]KU Leuven, Master's student in Sustainable Development, Faculty of Sciences, Belgium;
[8]KU Leuven, Master's student in Business Administration, Faculty of Economics and Business, Belgium;
[9]KU Leuven, Bachelor's student in Geography, Faculty of Sciences, Belgium;
[10]KU Leuven, Laboratory of Reproductive Genomics, Department of Human Genetics, Belgium;
[11]KU Leuven, Department of Work and Organisation Studies, Faculty of Economics and Business, Belgium;
[12]Club of Rome – EU, Belgium;
*Authors contributed equally;
[$]**Corresponding author**: anne.snick@scarlet.be.

Abstract

Our world is facing various wicked problems, such as climate change and extinction. These complex problems require an in-depth understanding. STEM disciplines in higher education play a crucial role in preparing students to solve such problems in their career. Yet it can be questioned whether STEM in higher education offers all the elements required to prepare students for a sustainable future. Additionally, a sole focus on STEM fields may not contribute to finding solutions to these problems. With STE(A)M in higher education,

Transdisciplinary Insights Volume 5.1, 2021, 1–2.
Leuven University Press, Online ISSN 2593-0338
https://doi.org/10.11116/TDI2021.5.1.1

we explore what the missing element in higher education is and how higher education can be improved. We addressed this question within the Honours Programme Transdisciplinary Insights of the Institute for the Future at KU Leuven. Within this programme, a team of students, PhD researchers and coaches from various disciplines examined the educational system and explored how students can be better prepared to co-create a more sustainable future. This learning path was supported by reading books about systems thinking, watching documentaries, following co-creative workshops, and engaging in team discussions. In this process, we found that the following four key elements could be given a greater emphasis in education: transdisciplinarity, systems thinking, co-creation, and critical thinking. To promote this, we created a board game that aims to make learning about the importance of these elements engaging. While playing this game, we learned that we can bring students from different disciplines together and foster critical thinking and reflections. These insights illustrate how creative tools (e.g. board games) can be used in higher education to foster important skills that can prepare students for a sustainable future. Since this game, developed by students for students, is entirely learner-driven, it departs from the current educational system in which knowledge is mainly transferred by professors. An important advantage of such initiatives is that they foster co-creation and learning between students. Our findings have been summarised in a small video.[1]

Key words

sustainable higher education, games, transdisciplinarity, systems thinking, critical thinking

Title of the original challenge

STE(A)M in Higher Education
(https://rega.kuleuven.be/tdi/tdi-challenges/steam-in-higher-education)

1 The video was presented at the Symposium 'KU Leuven Facing the Future', Leuven, 5 May 2021, and is available on https://kuleuven.mediaspace.kaltura.com/media/TDI_STEAM_video_final_2020_201/1_a4sqacyc