Editorial

The current issue of the ETH Learning and Teaching Journal gives prominence to teaching and learning initiatives at ETH which focus on the theme of "educating the next generation". One of the central characteristics of higher education is its orientation towards the future: today's students will significantly contribute to shaping the world of tomorrow. This also means that what and how students learn today influences the way in which they will be able to make a positive contribution to the future. Discussions on what students are to learn in order to meet the challenges of the 21st century[1] mention a wide range of skills and competencies including leadership and collaboration skills alongside data, ethics and multicultural literacies and character traits such as self-direction and mindfulness (The Glossary of Education Reform, 2014; Ehlers & Kellermann, 2019; Genner, 2019; ETH Competence Framework, 2023)

The contributions to this issue explore different aspects of educating the next generation of students at ETH. Some articles report on specific courses, others discuss educational strategies or identify a specific skills set, and some focus on the institution as a whole:

Serena Graziosi et al. report on establishing a course which aims to educate the next generation of engineering designers in view of recent advancements in digital fabrication.

Ludovic Räss et al. showcase how non-computer science students learn to conduct numerical research.

Dominik Stämpfli et al. present a course framework which addresses the changing professional requirements in the pharmaceutical profession and helps students develop decision-making and effective communication skills.

Fritz Kleinschroth's contribution reports on creative and collaborative ways of framing and solving problems in a course on urban ecological research.

Caroline Welte, Adrian Gilli and Jordon Hemingway promote networks among doctoral students to help them successfully proceed through their doctoral studies.

While Joan Oñate Narciso and Zarah Walsh-Korb argue for cross-disciplinarity in the natural sciences, Katharina Fellnhofer and Ursula Renold make a case for professionally training the use of intuition in order to master complex and uncertain situations.

Barbara La Cara, Michèle Gemünden and Barbara Koch-Kiennast report lessons learnt from developing and implementing a competence framework at ETH.

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Michèle Gemünden, Pia Scherrer, Benno Volk
Issue editors

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[1] https://curriculumredesign.org/our-work/papers/

Bibliography

ETH Competence Framework (2023). Available online:
https://ethz.ch/content/dam/ethz/main/eth-zurich/organisation/stab-rektor/eth-talent/eth-competenceframework-fulltext-en.pdf

Ehlers, U.-D. & Kellermann, S.A. (2019). Future Skills – The Future of Learning and Higher
education. Results of the International Future Skills Delphi Survey. Karlsruhe. Available
online: https://www.researchgate.net/publication/332028491_Future_Skills_-_The_Future_of_Learning_and_Higher_education_Results_of_the_International_Future_Skills_Delphi_Survey

Genner, S. (2019). Aufwachsen im digitalen Zeitalter: Kompetenzen und Grundwerte.
Eidgenössische Kommission für Kinder- und Jugendfragen. Available online:
https://ekkj.admin.ch/fileadmin/user_upload/ekkj/02pubblikationen/Berichte/d_2019_EKKJ_Bericht_Digitalisierung.pdf

Glossary of Education Reform (2014). Available online: https://www.edglossary.org/21st-century-skills/