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EDUCATION AND NEW DEVELOPMENTS 2025



Volume 1

Edited by

Mafalda Carmo



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Education and New Developments

2025

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Edited by

Mafalda Carmo

Edited by Mafalda Carmo, World Institute for Advanced Research and Science (WIARS), Portugal

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FOREWORD

Dear Colleagues,

This book contains the full text of papers and posters presented at the International Conference on Education and New Developments (END 2025), organized by the World Institute for Advanced Research and Science (WIARS).

Education is a fundamental right that accompanies us from the very beginning of our lives. It encompasses every experience we encounter, influencing and shaping our thoughts, emotions, and actions. Whether we engage in formal education within classrooms or learn from the world around us, the process of acquiring knowledge plays a vital role in our personal growth and development. It equips us with the tools to navigate the complexities of life, broadens our perspectives, and empowers us to make informed decisions. This International Conference seeks to provide some answers and explore the processes, actions, challenges and outcomes of learning, teaching and human development. Our goal is to offer a worldwide connection between teachers, students, researchers and lecturers, from a wide range of academic fields, interested in exploring and giving their contribution in educational issues.

We are delighted to have successfully facilitated connections among academics, scholars, practitioners, and individuals who share a common interest in a field abundant with fresh perspectives, ideas, and knowledge. Our event has attracted a diverse range of contributors and presenters, enriching our understanding of human nature and behavior by showcasing the influence of their unique personal, academic, and cultural backgrounds. This diversity is a testament to the international reach of our conference, fostering multi-disciplinary collaborations and fostering intellectual growth and exchange.

END 2025 received 704 submissions, from more than 45 different countries, reviewed by a double-blind process. Submissions were prepared to take form of Oral Presentations, Posters, Virtual Presentations and Workshops. The conference accepted for oral presentation 264 submissions (38% acceptance rate).

The conference also includes one Keynote presentation by Dr. Diane Boothe, Boise State University, USA. We would like to express our gratitude to our invitee.

This conference addressed different categories inside the Education area and papers are expected to fit broadly into one of the named themes and sub-themes. To develop the conference program, we have chosen four main broad-ranging categories, which also covers different interest areas:

• In **TEACHERS AND STUDENTS**: Teachers and Staff training and education; Educational quality and standards; *Curriculum* and Pedagogy; Vocational education and Counselling; Ubiquitous and lifelong learning; Training programs and professional guidance; Teaching and learning relationship; Student affairs (learning, experiences and diversity; Extra-curricular activities; Assessment and measurements in Education.

• In **PROJECTS AND TRENDS**: Pedagogic innovations; Challenges and transformations in Education; Technology in teaching and learning; Distance Education and eLearning; Global and sustainable developments for Education; New learning and teaching models; Multicultural and (inter)cultural communications; Inclusive and Special Education; Rural and indigenous Education; Educational projects.

• In **TEACHING AND LEARNING**: Critical, Thinking; Educational foundations; Research and development methodologies; Early childhood and Primary Education; Secondary Education; Higher Education; Science and technology Education; Literacy, languages and Linguistics (TESL/TEFL); Health Education; Religious Education; Sports Education.

• In **ORGANIZATIONAL ISSUES**: Educational policy and leadership; Human Resources development; Educational environment; Business, Administration, and Management in Education; Economics in Education; Institutional accreditations and rankings; International Education and Exchange programs; Equity, social justice and social change; Ethics and values; Organizational learning and change, Corporate Education.

The contributions were published across two volumes, and this is the Volume 1 of the book titled Education and New Developments 2025, that showcases the outcomes of dedicated research and developments undertaken by authors who are driven by their passion to enhance research methods that directly relate to teaching, learning, and the practical applications of education in the present day. Within its pages, you will find a diverse array of contributors and presenters of contributors and presenters who expand our understanding of educational matters by sharing their unique personal, academic, and cultural perspectives. Through their valuable insights and experiences, they enrich our exploration and contribute to the growth of educational discourse in our contemporary world.

This first volume only focuses on the main areas of TEACHERS AND STUDENTS and TEACHING AND LEARNING, being the contributions of the other two areas published in Volume 2.

We would like to express thanks to all the authors and participants, the members of the academic scientific committee, and of course, to our organizing and administration team for making and putting this conference together.

Hoping to continue the collaboration in the future.

Respectfully,

Mafalda Carmo
World Institute for Advanced Research and Science (WIARS), Portugal
Conference and Program Chair

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KEYNOTE LECTURE

"REIMAGINING CROSS-DISCIPLINARY ACTIVE LEARNING METHODOLOGIES TO ENGAGE EFL STUDENTS"

Dr. Diane Boothe
Director of P-20 Outreach and Professor, Department of Literacy, Language and Culture, College of Education, Boise State University, USA

Abstract

The continued demand and unique learning environment for English as a Foreign Language (EFL) learners is ever changing as educators focus on best practices to promote optimal learning for 21st century students and meet the needs of our complex interdisciplinary globalized world. Central to the demand for revitalizing the classroom experience is to prepare students to enter the evolving workforce. Cutting-edge EFL skills are often tantamount to achieving success in this endeavor and keeping up with the rapid pace of learning. Not only are EFL students expected to demonstrate observable and measurable English skills, but there is a growing interest and stipulation to demonstrate strengths critical to cross-disciplinary fields as well as collaborative active learning methods. This address investigates student-centered instructional methods that focus on the multidimensional perspectives of active learning environments. Experiences from a variety of disciplines will be highlighted including Science, Technology, Engineering and Mathematics (STEM), emphasizing direct EFL preparation to ensure success and promote purposeful collaboration and engaged English learning. Dynamic teaching strategies and methodologies focusing on active, hands-on learning will be discussed. Challenging student-centered activities will be suggested that can be adjusted for a variety of abilities across age groups featuring key transferable English language competencies. Exploration of best practices that build a culture of innovation and prepare students for EFL content areas will be addressed.

Keywords: *Cross-disciplinary, student-centered, interdisciplinary, multidimensional, competencies.*

Biography

Diane Boothe is Professor of Literacy, Language and Culture at Boise State University, and served as Dean of the College of Education from 2005-2014. Prior to coming to Boise State University, she was the Department Chair of Curriculum and Instruction and Professor at the University of West Georgia. She served as a bilingual teacher, and elementary and middle school principal. Diane has worked consistently with multilingual populations to bring about change and support the development of innovative educational programs and policies. She creates collaborative partnerships and fosters positive relationships with the community, schools, and agencies that she serves. She received her Doctor of Public Administration degree from the University of Southern California. Her primary research efforts have been in the areas of English Language Learning, Multilingual Education, Diversity and Comparative Education Systems. She coauthored a book titled In the Eyes of the Beholder: Critical Issues for Diversity in Gifted Education, focusing a chapter on gender and gifted females when identifying the multidimensional perspectives of giftedness. Diane has served in leadership positions as the President of Georgia Teachers of English to Speakers of Other Languages (TESOL), the TESOL International Higher Education Chair, the TESOL International Nominating Committee, and, for ten years, as the editor of the TESOL in Action Journal. She has been selected as the keynote or featured speaker and delivered the plenary session for international and national conferences.

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AN INCLUSIVE APPROACH TO INSPIRE CREATIVITY AND TEAM BUILDING THROUGH MODULAR ARCHITECTURE DRAWING

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Abstract

Integrating pedagogical innovations and inclusive approaches in university education represents a meaningful strategy to foster active and cooperative learning. Developing transversal skills such as collaboration and critical problem-solving is essential for the technical professions, such as engineers and architects, who face the increasingly complex problems of this millennium. This article describes a team-building experience as part of a first-year course in Building Drawing at Politecnico di Torino, aiming to enhance transversal skills and foster interaction between students from heterogeneous backgrounds. The experiential activity proposes a creative challenge in the field of modular architecture by using the 3D-printed basic element proposed by the architect Walter Gropius. The analysis of the results, conducted using questionnaires and qualitative observations, showed improved relational skills and strengthened student motivation. This experience shows how innovative teaching methodologies can contribute to academic success and prepare students to manage group dynamics in the professional context of building engineering.

Keywords: *Creative design experience, 3D printing, active learning, student engagement, higher education.*

1. Introduction

In recent years, team-building activities have emerged as effective tools for improving group dynamics and transversal skills in educational contexts, including university programs. In the field of building engineering, where multidisciplinary collaboration is a fundamental requirement for professional practice, the ability to work in teams is as crucial as technical expertise. However, traditional university courses tend to favour an individualistic approach to learning, overlooking the potential of cooperative methodologies in enhancing both student engagement and their preparation for the workforce. The scientific literature highlights that integrating team-building experiences into higher education can improve academic performance, foster a sense of belonging to the group, and enhance communication skills (Oakley et al., 2004). Recent studies show that approaches such as cooperative learning (Johnson & Johnson, 2017) and problem-based learning promote active learning and collaborative problem-solving for complex issues, thereby improving teamwork management skills. In particular, experiences in the engineering field have demonstrated that practical exercises and project challenges based on collaboration increase student motivation and engagement. Within this context, the present study describes a team-building activity designed for first-year Building Engineering students to develop transversal skills and promote a more cooperative learning process.

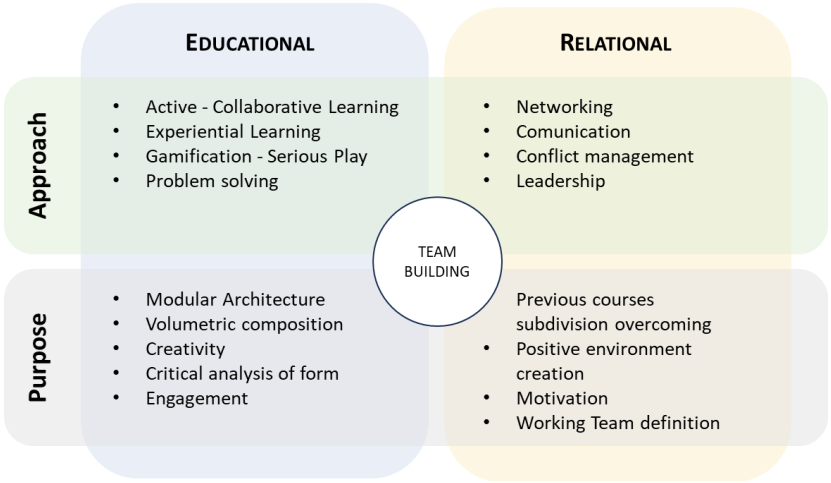
2. Methods

The team-building approach was experienced in the Building Drawing course at Politecnico di Torino, which lays the methodological foundations of Drawing as a communication language for engineers. As the first core course of the Building Engineering Bachelor's program, it brings together students who were previously distributed according to different criteria. Concerning this point, the objective of the experiential activity is to establish a collaborative environment and foster students' mutual acquaintance. These aspects are considered essential both for the course, which involves practical work in groups and for establishing effective interpersonal relationships that are fruitful for subsequent teaching. Sixty-five students from diverse educational backgrounds, including high schools, technical institutes, and surveyor schools, attended the experience.

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The participatory activity proposes a creative challenge in the field of modular architecture and involves the definition of volumetric forms using the basic modules proposed by the architect Walter Gropius (Seelow, 2018). It has been designed with the dual objective of strengthening the educational experience and developing relational skills, as summarized in Figure 1.

Figure 1. Methodological approach.



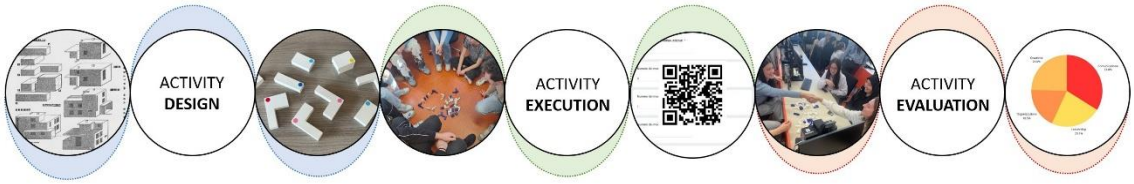
From a pedagogical perspective, adopting active approaches within the course (Ugliotti et al., 2023) is investigated to directly involve students in the educational process, stimulating their participation, reflection, and collaboration. Various techniques such as collaborative and experiential learning, gamification and serious play, and problem solving have been integrated into the experience to establish a synergy between theory and practice in order to facilitate the simultaneous development of disciplinary and transversal soft skills.

Engaging in active learning experiences compels students to confront and solve complex problems in collaborative contexts, thereby stimulating critical thinking, and adaptability. In this case, the activity was also able to foster the critical analysis of form, creativity, volumetric composition, and the use of modular architecture, prompting a deep reflection on expressive and constructive methodologies.

This type of learning impacts on the relational dimension of the students, stimulating skills of communication and networking and bringing out the predisposition to leadership and the need for conflict management. Creating a positive environment, and cultivating shared motivation contribute to forming cohesive and functional workgroups thereby rendering the team building experience a central and transversal component of the educational journey that integrates pedagogical goals with relational needs.

The activity involved three main phases: an initial design phase, a practical execution phase, and a subsequent evaluation phase (Figure 2).

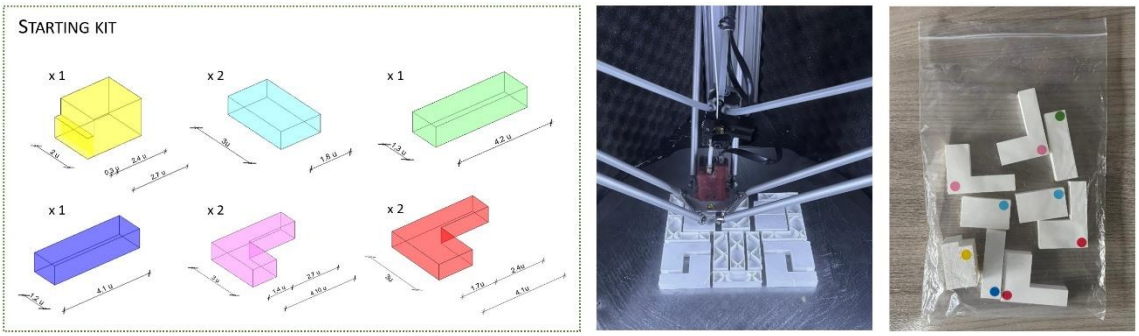
Figure 2. Activity phases.



2.1. Design of the activity

The preparatory phase of the activity entailed the digitalization of Walter Gropius's 1922 "Baukasten im Großen" modular forms, which were modeled in 3D using Autodesk Revit software. A basic kit consisting of 9 modules was then defined and 40 identical kits were printed via a 3D printer. A simulation conducted with a small group of individuals allowed for the optimal organization of timing, scheduling and dynamics of the activity, identifying its strengths and proactively addressing its weaknesses.

Figure 3. Design phase.

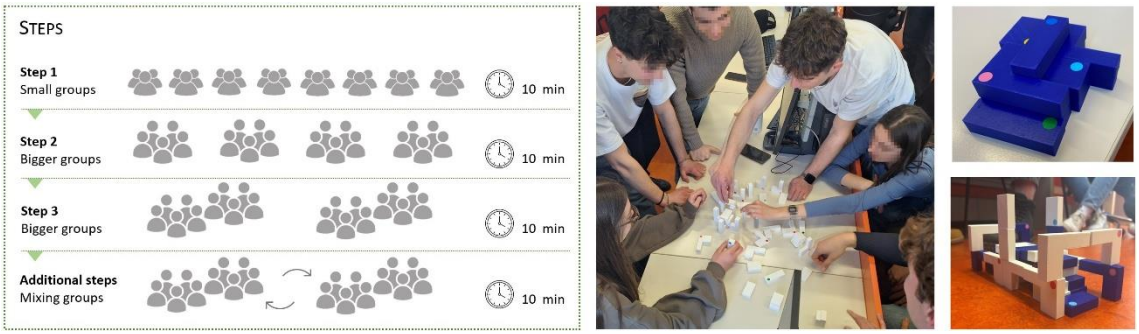


2.2. Execution of the activity

The team-building activity was structured into multiple phases. Initially, the students were divided into groups of two or three individuals based on their physical proximity to each other. Each group was provided with a starter kit and given specific instructions to assemble the modules into free compositions. To ensure a comprehensive record of the activity, each composition created was meticulously documented via the completion of a form specifying the students' names, the number and type of pieces used, the name given to the composition, and the attachment of a photograph. In the subsequent stage of the experiment, the small groups were joined two by two, thereby providing the students with the opportunity to construct using twice the number of modules. The groups were then further reunited without utilizing the logic of proximity, with the aim of fostering new interactions and increasing the number of available pieces. In the following phases, the groups were reorganized without increasing the number of participants, with the sole objective of facilitating interactions among as many individuals as possible.

Each phase lasted 10 minutes, in every phase each composition was documented using the form.

Figure 4. Activity execution.



2.3. Evaluation of the activity

During the activity, the teacher and collaborators paid special attention to qualitative observations of the dynamics among the students and the effectiveness of the planned task. Moreover, a questionnaire was administered to the students at the end of the last session to gather impressions of the teaching approach used and understand the level of engagement achieved.

3. Discussion

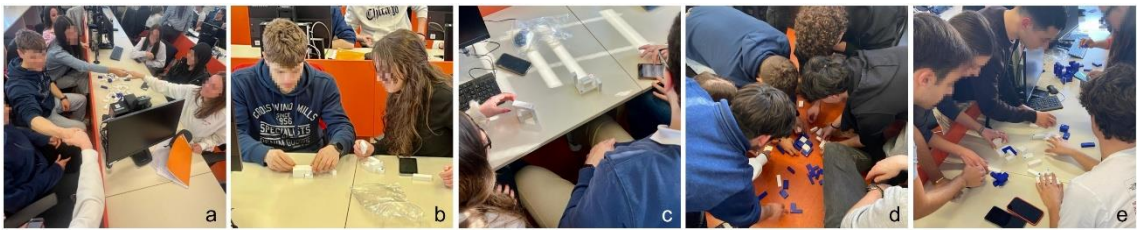
The team-building experience revealed several relational dynamics with important pedagogical and social implications. During the activity, the teacher and her collaborators observed that, through a spontaneous presentation phase (Figure 5. a), participants overcame interpersonal barriers, fostering a climate of openness and reciprocity.

From the first phase, devoted to small group formation, different approaches to problem solving emerged. Most participants adopted active collaboration (Figure 5. b), while in some cases a more individualistic approach was observed (Figure 5. c), in which each member focused independently on his or her own construction, emphasizing personal operational styles. In later stages, and thus with larger groups, the relational approach took on even more diverse forms. Some groups adopted parallel methods that facilitated a synergistic and equitable distribution of tasks (Figure 5. d), while others experimented

with sequential strategies (Figure 5. e) in which one segment of the group devoted itself to constructing the form and another to prototyping the composition.

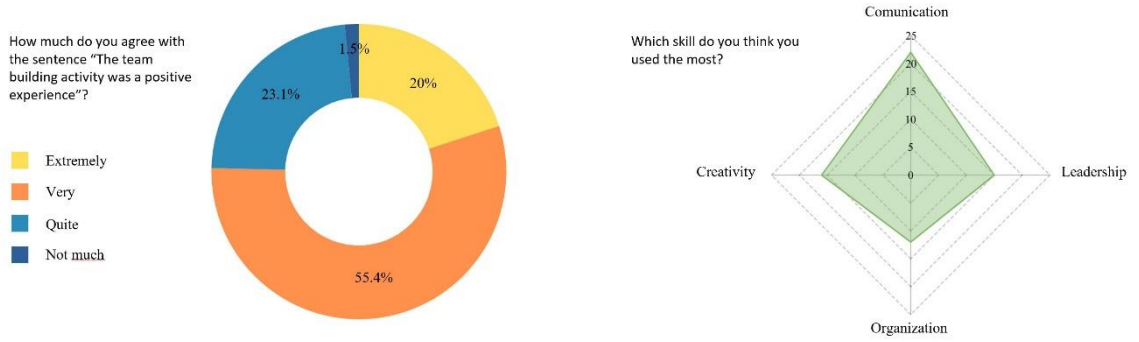
The latter dynamic is symptomatic of a spontaneous predisposition to effective coordination. Just in a few isolated cases, a lack of engagement by some participants was observed, highlighting the need to implement motivational and inclusive strategies, as well as to create an environment more conducive to collaborative activities, in order to encourage active participation and the development of optimal group dynamics.

Figure 5. Main relational dynamics observed.



The post-activity questionnaire highlighted additional experiential and relational dynamics. Over 75% of participants rated the experience as extremely or very positive. In addition, communication and creativity emerged as the most frequently utilized soft skills, proving to be essential for effective teamwork and problem-solving (Figure 6).

Figure 6. Valuation form results.



On the whole, these operational strategies contributed significantly to the development of key relational competencies and soft skills, including communication, networking, conflict management, and leadership. Such skills are indispensable for fostering cohesive and efficient teams in educational contexts, while simultaneously providing valuable preparation for the future Building Engineer.

4. Conclusions

This study has documented and analyzed, from a pedagogical perspective, a team-building activity aimed at enhancing transversal skills and fostering interaction among students from diverse backgrounds. The creative challenge, set in the context of modular architecture, involved the use of building modules inspired by Gropius' designs, modeled and 3D printed, offering participants the opportunity to reinterpret architectural space in their own personal way. In addition, it allowed them to investigate the compositional, graphic, and spatial principles that serve as its theoretical and practical underpinnings.

This approach fostered significant social interaction, stimulating empathy and the ability to critically tackle complex design challenges through dialogue and cooperation. The results highlight a marked improvement in relational and collaborative skills, along with a notable enhancement of creativity made tangible through the use of 3D printing. Furthermore, it is evident that the instructor's role has undergone a progressive transformation, from that of a mere transmitter of knowledge to a designer of comprehensive learning experiences that effectively maximize active student engagement.

Overall, this pedagogical model, replicable in various educational settings, significantly contributes to the discourse on educational innovation, demonstrating how advanced technological tools and interdisciplinary approaches can develop academic and relational competencies on solid, critical, and collaborative foundations, break the monotony of passive listening, and promote widespread, conscious participation.

Acknowledgments

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