

Co-Creation and Blended Research Training: A Pedagogical Innovation for Early-Stage Researchers in Higher Education

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Abstract: Higher education institutions are under growing pressure to design pedagogical approaches that help early-stage researchers develop more than methodological knowledge alone. They also need to build collaboration, communication and project development skills. Responding to this challenge, this paper examines an international blended intensive programme for Master's and PhD students, as well as other early-stage researchers, focused on research development and co-creation in the social sciences. The programme was proposed and hosted by the Polytechnic Institute of Setúbal, Portugal, and developed in collaboration with the Politehnica University of Timisoara, Romania, Fulda University of Applied Sciences, Germany, and the University of Foggia, Italy, within an international partnership framework. The programme combines online sessions and a physical mobility week built around expert-led workshops, tutor matching, collaborative project work and research proposal presentations. Its activities address literature review, scientific collaboration, researcher profiling, communication, dialogue with reviewers, quantitative research insights and proposal development. Together, these elements offer participants a structured and supportive environment in which research training is closely connected with peer learning, co-creation and international academic exchange. The study adopts a case study approach to explore the pedagogical value of this format as an innovation in higher education. Particular attention is given to how the programme integrates blended learning, collaborative knowledge production and milestone-based research development. Rather than treating research training as an individual and isolated process, the programme creates a shared learning space where participants develop their research ideas through expert guidance, peer interaction and international dialogue. The findings show that this pedagogical design supports the development of research competences, scientific communication, collaborative learning and academic confidence, positioning BIPs as meaningful formats for linking research training with active participation, internationalisation and output-oriented learning.

Keywords: Research Training; Early-Stage Researchers; Blended Intensive Programme; Co-Creation; Higher Education; International Collaboration

1. Introduction

Higher education institutions are increasingly being asked to reconsider how they prepare early-stage researchers for complex academic and professional environments. Research training can no longer be limited to methodological instruction or to the individual production of a dissertation, thesis or research project. Master's students, PhD students and other early-stage researchers are expected to develop a broader set of competences, including methodological awareness, scientific communication, collaboration, reflexivity and the ability to turn emerging research ideas into structured academic outputs (Mantai & Marrone, 2022; Ashonibare, 2023).

Recent debates on doctoral and early-stage researcher development underline the importance of transversal skills, research identity, communication and participation in academic communities (Mantai & Marrone, 2022; Mydin et al., 2021). Research training therefore requires pedagogical formats that move beyond formal instruction in research methods and create structured opportunities for dialogue, feedback, peer interaction and progressive output development.

Previous work shows that collaborative and output-oriented learning environments can support academic development. More recent work presents co-creation as a structured process of interaction, participation and collaborative value creation, rather than as a generic form of cooperation (Costa et al., 2025). In higher education, co-creation positions learners as active participants in knowledge development, supporting engagement, partnership, collaborative curriculum development and more inclusive learning processes (Godbold et al., 2022; Omland et al., 2025). In research training, this approach is particularly meaningful because research questions, theoretical frameworks, methodological choices and scientific outputs are often refined through dialogue, critique, revision and feedback.

Blended learning also plays a central role in contemporary pedagogical innovation. Recent studies show that blended formats can support flexibility, engagement and learning continuity when online and face-to-face

components are intentionally integrated into a coherent pedagogical design (Bruggeman et al., 2021; Theelen & van Breukelen, 2022). This is especially relevant for research training because different stages of the research process - preparation, literature review, methodological discussion, feedback, presentation and proposal refinement - can be distributed across online and physical learning environments.

Within the European higher education context, BIPs have emerged as a specific form of blended mobility that combines online collaboration with short-term physical mobility. O'Dowd and Werner (2024) describe BIPs as short, intensive programmes that use innovative approaches to learning and teaching, including online cooperation, and identify both benefits and challenges related to blended mobility, collaboration, international learning and organisational complexity. Despite the growing use of BIPs, their specific contribution to research training remains underexplored. Existing studies have mainly examined BIPs in relation to blended mobility, internationalisation, intercultural learning and programme organisation, while giving less attention to how they can support early-stage researchers in developing research competences, scientific communication, collaborative practices and confidence in academic work (O'Dowd & Werner, 2024; Frank & Hogendoorn-Schweighofer, 2026).

This paper addresses that gap by analysing an international BIP designed to support research development and co-creation among Master's students, PhD students and other early-stage researchers. The programme was hosted by the Polytechnic Institute of Setúbal and developed in collaboration with the Politehnica University of Timisoara, Fulda University of Applied Sciences and the University of Foggia. It combined online sessions with a physical mobility week and included expert-led workshops, tutor matching, peer interaction, collaborative project work and research proposal presentations.

The central research question guiding this study is: How can blended intensive programmes support co-creation and research training among early-stage researchers in higher education? To answer this question, the paper adopts a case study approach and examines the programme's pedagogical design, learning activities and perceived value. The study has three objectives: first, to describe the pedagogical design and implementation of the BIP as a model for blended research training; second, to analyse how the programme supports the development of research competences, scientific communication and collaborative learning; and third, to discuss the potential of BIPs as transferable formats for pedagogical innovation in research education.

2. Literature Review

2.1 Research Training in Higher Education

Research training in higher education has traditionally been associated with the acquisition of methodological knowledge, the development of disciplinary expertise and the production of individual academic outputs, such as dissertations, theses or research papers. However, recent transformations in doctoral and research education suggest that this understanding is no longer sufficient. Doctoral education is increasingly expected to respond to multiple purposes, including researcher development, knowledge production, preparation for diverse career pathways and contribution to wider academic, professional and societal contexts (Alves et al., 2025; Taylor, 2023).

This broader understanding of research training has important implications for early-stage researchers. Master's students, PhD students and other early-stage researchers are expected to develop not only technical and methodological competences, but also transversal skills such as communication, collaboration, adaptability, autonomy, critical thinking and the ability to engage with academic and non-academic audiences. Mantai and Marrone (2022) show that the skills and attributes expected of PhD candidates extend beyond disciplinary knowledge and include a wide range of transferable competences. Research training must therefore create pedagogical conditions that support both methodological development and the wider formation of researchers.

This perspective also points to the importance of output-oriented learning in research education. The development of research proposals, literature reviews, presentations and preliminary research designs can function as milestones through which early-stage researchers gradually transform initial ideas into more coherent academic projects. These milestones provide structure, make progress visible and create opportunities for formative feedback. In this sense, research training should not be seen only as the transmission of methodological content, but as a process through which participants learn by developing, presenting, revising and communicating research outputs.

2.2 Co-Creation and Collaborative Learning

Co-creation has become increasingly relevant in higher education as a pedagogical approach that emphasises participation, shared responsibility and collaborative knowledge development. Rather than positioning learners as passive recipients of content, co-creation involves students and participants as active contributors to learning processes, curriculum development and knowledge production. Recent literature highlights that co-creation can support more inclusive, dialogical and participatory forms of higher education, particularly when it is grounded in meaningful interaction between students, teachers and other academic actors (Godbold et al., 2022; Lubicz-Nawrocka, 2023; Omland et al., 2025).

In research training, co-creation is particularly relevant because research ideas develop through iterative and dialogical processes. Early-stage researchers need opportunities to formulate research problems, test conceptual arguments, discuss methodological options and refine academic outputs through interaction with others. From this perspective, co-creation can support not only knowledge development, but also academic confidence, ownership of research ideas and the ability to participate in scholarly dialogue. This is especially important in programmes designed to support proposal development, where participants are expected to move progressively from initial ideas to more structured research outputs.

In collaborative learning environments, participants learn with and from one another through discussion, shared problem-solving, feedback and collective reflection. For early-stage researchers, this interaction can help make research ideas visible, open them to critique and improve their coherence. Peer dialogue may also support the clarification of theoretical frameworks, methodological choices and research contributions, particularly when participants come from different academic, disciplinary or institutional contexts.

Dialogue, and even productive disagreement, also matters in co-creation. Godbold et al. (2022) show that conflict can play a constructive role in curriculum co-creation when it is managed through partnership and dialogue. This is important for research training because the development of research proposals often involves questioning assumptions, confronting alternative perspectives and revising initial ideas. In this sense, collaborative learning does not imply simple consensus, but rather a structured process of negotiation, critique and shared development.

Lubicz-Nawrocka (2023) further emphasises that curriculum co-creation involves moving beyond a separation between teachers and students towards a more relational understanding of learning. This perspective is relevant to research education because it highlights the importance of shared participation and mutual contribution. In a research training context, tutors, peers and participants contribute in different ways, but all play a role in shaping the development of research ideas, questions and outputs.

Previous work on international pedagogical projects also supports this understanding of co-creation as a structured and output-oriented process (Costa et al., 2022). More recent work also frames co-creation as a process linked to interaction, engagement and collaborative value creation, reinforcing the idea that co-creation depends on active participation and meaningful exchange (Costa et al., 2025).

In the BIP analysed in this paper, co-creation and collaborative learning are central pedagogical principles rather than complementary activities. They are operationalised through tutor matching, peer interaction, collaborative project work, international dialogue and research proposal presentations. These activities create opportunities for participants to test ideas, receive feedback, revise their proposals and engage with different academic perspectives. As a result, co-creation supports the transformation of initial research ideas into more developed and communicable academic outputs.

2.3 Blended Learning in International Higher Education

Recent developments in digital technologies in higher education are strongly linked to the increase of hybrid pedagogical models and the growth of diverse forms of student and staff mobility. It is widely recognised that the COVID-19 pandemic accelerated these developments and highlighted the potential for online work and collaboration, enabling new forms of learning and international experiences (Ashraf et al., 2021; O'Dowd & Werner, 2024; Dang et al., 2026).

In this context, blended learning and Blended Intensive Programmes (BIPs) have emerged as central elements, particularly within the Erasmus+ 2021–2027 framework (European Commission, 2021). Within this framework, higher education institutions (HEIs) can design, offer, and apply for funding for BIPs, which are short, intensive programmes combining physical and virtual mobility components. These programmes are intended to promote

pedagogical innovation and student-centered active learning within an international and interdisciplinary collaborative environment. A BIP must involve at least three HEIs from three different countries, include a compulsory but flexible virtual component, and incorporate a physical phase lasting between 5 and 30 days. Additionally, the programme should award a minimum of 3 ECTS (European Commission, 2022).

The integration of international activities into the curriculum is widely recognized as an important and distinct factor for HEI (Leask, 2015; Clarke & Kirby, 2022; Li et al., 2024), and BIPs may play a key role in curriculum internationalisation (Hildebrandt et al., 2025), which remains a framework under consolidation. For example, O'Dowd and Werner (2024) found that some HEIs were unable to recognise ECTS credits for BIPs and that only a limited number were beginning to integrate these programmes formally into their curricula.

If blended learning can foster pedagogical innovation and promote cooperative, active, and student-centered learning, the findings of O'Dowd and Werner (2024) indicate that BIP activities are mainly based on experiential learning, group work, interactive workshops, or project-based approaches focused on specific topics. These typically involve multicultural teams working on real-world challenges, representing the most common implementation model. Additionally, some BIPs focus on intercultural competence and global citizenship, while others are more discipline-specific, particularly in applied and technical fields (Carthy, 2022).

As a summary, BIPs represent a significant innovation at the intersection of blended learning and internationalisation. They contribute to more flexible, inclusive, and curriculum-integrated models of international education. Nonetheless, little evidence is provided regarding BIPs oriented towards research activities or the development of scientific literacy, suggesting an area for further development in higher education.

3. Methodology

3.1 Research Design

This study adopts a qualitative case study approach to analyse the pedagogical design and implementation of an international Blended Intensive Programme (BIP) aimed at supporting research training and co-creation among early-stage researchers. A case study design is appropriate for examining a contemporary educational phenomenon in depth and within its real-life context, particularly when the aim is to understand processes, practices and meanings rather than to produce statistical generalisation (Yin, 2018; Creswell & Poth, 2024).

The BIP is treated as a bounded case, defined by a specific programme, a specific group of participants, a defined pedagogical structure and an international partnership involving four higher education institutions. This approach is aligned with the exploratory nature of the research question: How can blended intensive programmes support co-creation and research training among early-stage researchers in higher education?

3.2 Programme Context

The case analysed in this paper is an international BIP hosted by the Polytechnic Institute of Setúbal, Portugal, and developed in collaboration with the Politehnica University of Timisoara, Romania, Fulda University of Applied Sciences, Germany, and the University of Foggia, Italy. The programme was designed for Master's students, PhD students and other early-stage researchers interested in developing research projects in the social sciences.

The BIP combined online sessions with a physical mobility week. Its pedagogical structure included expert-led workshops, tutor matching, collaborative project work, peer interaction and research proposal presentations. Activities focused on literature review, scientific collaboration, researcher profiling, scientific communication, dialogue with reviewers, quantitative research insights and proposal development. This structure reflects the programme's aim of connecting research training with co-creation, academic dialogue and international exchange.

3.3 Data Collection

Data were collected from multiple sources in order to capture both the design and the perceived pedagogical value of the programme. These sources included programme documentation, observation of learning activities, participant feedback and the outputs produced during the BIP. Multiple sources provide a richer understanding of the phenomenon (Yin, 2018; Creswell & Poth, 2024). Programme documentation was used to analyse the

intended pedagogical design, including the structure of the BIP, the sequence of activities and the learning objectives. Observation focused on workshops, tutor matching, collaborative work, peer interaction and proposal presentations. Participant feedback provided insight into perceptions of research competence development, scientific communication, collaboration and confidence. The outputs produced by participants, particularly research ideas, proposal drafts and final presentations, were analysed as evidence of the programme's milestone-based and output-oriented design.

3.4 Data Analysis

Data were analysed using a qualitative descriptive approach supported by thematic analysis. Thematic analysis is appropriate for identifying, analysing and interpreting patterns of meaning across qualitative data (Braun & Clarke, 2022). The analysis involved familiarisation with the data, identification of initial codes, grouping of codes into broader themes and interpretation of these themes in relation to the research question.

The analytical dimensions were informed by the objectives of the study and included research competence development, scientific communication, collaborative and international learning, co-creation dynamics, tutor guidance and milestone-based research development. These dimensions were used to organise the findings and discussion.

4. The Blended Intensive Programme: Design and Implementation

4.1 Pedagogical Design

The Blended Intensive Programme analysed in this study was designed as a structured research training experience for Master's students, PhD students and other early-stage researchers. Its main pedagogical purpose was to create a supportive environment in which participants could develop research ideas, engage in academic dialogue and progressively transform initial research interests into more structured research proposals.

The programme followed a blended structure, combining online sessions with a physical mobility week. This design allowed research development to be organised as a gradual process rather than as a single intensive event. The online component supported preparation, initial orientation and early interaction among participants and tutors. The physical mobility week then created the conditions for more intensive academic exchange, collaborative work, feedback and presentation of research proposals.

The pedagogical design was based on four interconnected principles. First, research training was understood as a developmental process that requires the progressive refinement of ideas and outputs. Second, learning was organised around active participation, encouraging participants to discuss, present, question and revise their research work. Third, co-creation was embedded in the programme through peer interaction, tutor matching and collaborative project development. Fourth, the international nature of the BIP was used to expose participants to different academic perspectives, institutional contexts and research cultures.

Its structure connected blended learning, co-creation, international academic exchange and output-oriented learning. This is consistent with the abstract, which describes the programme as combining online sessions with a physical mobility week structured around expert-led workshops, tutor matching, collaborative project work and research proposal presentations.

4.2 Learning Activities

The programme included a sequence of learning activities designed to support different stages of research development. These activities focused on literature review, scientific collaboration, researcher profiling, scientific communication, dialogue with reviewers, quantitative research insights and proposal development.

The literature review activities helped participants position their research ideas within existing academic debates. Through these activities, participants were encouraged to identify relevant literature, clarify conceptual frameworks and strengthen the theoretical grounding of their research proposals. This was important for early-stage researchers, who often need support in moving from broad research interests to more focused and academically situated research questions.

Research profiling activities helped participants reflect on their identity and research interests, clarify their academic objectives and communicate their work more effectively in an international context.

Scientific communication was another central dimension of the programme. Participants were invited to present and discuss their research ideas, receive feedback and refine their ability to communicate academic arguments. Activities related to dialogue with reviewers further strengthened this dimension by familiarising participants with academic critique, revision processes and expectations associated with scientific publication and peer review.

Finally, collaborative project work and proposal presentations functioned as key integrative activities. They allowed participants to apply what they had learned, receive feedback from tutors and peers, and present more developed versions of their research proposals. These activities made the output-oriented nature of the programme visible, as participants were expected to progress from initial ideas towards more structured academic outputs.

4.3 Co-Creation Dynamics

Co-creation was embedded in the BIP through the way participants, tutors and peers interacted throughout the programme. Rather than positioning participants as passive recipients of content, the programme encouraged them to actively develop, discuss and refine their research ideas. This was achieved through tutor matching, peer interaction, collaborative project work and proposal presentations.

Tutor matching played an important role in supporting individual and group research development. By connecting participants with academic staff, the programme created opportunities for targeted guidance and formative feedback. Tutors helped participants clarify research questions, strengthen theoretical and methodological choices and improve the coherence of their proposals.

Peer interaction also contributed to the co-creation process. Participants were encouraged to share their ideas, discuss challenges and compare perspectives with colleagues from different academic and institutional backgrounds. This interaction helped create a collaborative learning environment in which participants could learn not only from experts, but also from one another.

The international composition of the programme further strengthened these dynamics. Because the BIP involved partner institutions from Portugal, Romania, Germany and Italy, participants were exposed to different academic traditions, research cultures and ways of approaching scientific work. This international dialogue supported broader reflection on research problems and helped participants situate their work in a wider academic context.

Co-creation therefore emerged as a practical and pedagogical process. It was not limited to group work, but was expressed through the joint development of ideas, the exchange of feedback, the negotiation of perspectives and the progressive refinement of research outputs. In this sense, the BIP created a shared learning space in which research training was closely connected to collaboration and academic dialogue.

4.4 Milestone-Based Research Development

A central feature of the programme was its milestone-based structure, which enabled participants to move progressively from initial research ideas to more developed proposals through moments of reflection, feedback and revision. Early activities, such as literature review and research profiling, supported conceptual clarification and helped participants define their research interests and project focus. Subsequent sessions on quantitative research, scientific communication and dialogue with reviewers strengthened methodological awareness and prepared participants for proposal discussion. Collaborative project work allowed participants to test ideas, receive feedback and revise their proposals with peers and tutors. The final research proposal presentations made progress visible and connected research training, co-creation and academic communication.

5. Findings/Discussion

The discussion below draws on multiple sources of information collected for this study, namely programme documentation, observation of learning activities, participant feedback and the outputs produced during the BIP. As outlined in the methodology, using these different sources made it possible to capture not only the intended design of the programme, but also its perceived pedagogical value and the academic products that emerged from it.

5.1 Development of Research Competences

The programme documentation shows that the BIP was designed as a structured research training pathway, combining online sessions, a physical mobility week, expert-led workshops, tutor matching, collaborative work, peer interaction and proposal presentations. This structure, built around literature review, scientific collaboration, researcher profiling, scientific communication, dialogue with reviewers, quantitative research input and proposal development, suggests a clear pedagogical intention to support the gradual development of research competences.

The observation of learning activities reinforces this interpretation, as it suggests that proposal development was not treated as a final or isolated task, but as a staged process supported by interaction, feedback and revision. In this sense, the programme appears to have supported participants in shaping research topics, clarifying research questions and organising their academic work in a more systematic way. The outputs produced during the BIP, particularly research ideas, proposal drafts and final presentations, provide further evidence of this milestone-based and progressive approach.

Proposal writing therefore emerges as one of the central competences developed through the programme. The combination of tutor matching, collaborative work, interim feedback and final presentation suggests that research proposals were built through successive stages of refinement. This reading is strengthened by the publication produced from the programme, whose editorial explicitly states that the published papers were developed within the Connected Minds – Research and Co-Creation Exchange context and were supported by tutors and trainers through a process of review and improvement.

Critical thinking also seems to have been encouraged by the way the programme structured research work. The pedagogical documentation and the observation of activities suggest that participants were asked to question assumptions, discuss alternatives, justify theoretical and methodological choices, and revise their projects.

A similar pattern can be seen in relation to methodological awareness. The programme documentation explicitly refers to activities focused on literature review, quantitative research input and proposal development, while the observation of activities suggests that these aspects were addressed in direct connection with participants' own projects. Rather than engaging with methods in the abstract, participants worked through methodological issues in relation to their own emerging research, which is likely to have strengthened both understanding and applicability.

5.2 Scientific Communication and Confidence

The observation of activities shows that the programme included regular moments in which participants presented and discussed their research ideas, particularly through proposal presentations and interactions with tutors and peers. These moments appear to have supported the development of presentation skills, as participants were required to organise arguments, communicate research aims and position their work before an academic audience. Scientific communication was therefore treated as an integral part of research training rather than as an additional skill.

In terms of academic dialogue, both the programme documentation and the observation of activities suggest that the BIP moved away from a traditional lecture-based model. Tutor matching, peer interaction, collaborative work and activities focused on dialogue with reviewers brought participants closer to real academic practices, in which ideas are defended, negotiated, revised and strengthened through exchange. This seems particularly valuable because it allowed participants to experience forms of communication that are central to academic life.

Confidence building appears to have grown out of this combination of expert guidance, active participation and peer support. The participant feedback provides indications that the environment created by the programme helped reduce insecurity and strengthened confidence in presenting and discussing research ideas. This reading is reinforced by the outputs produced during the programme and the subsequent publication, which suggest that participants were able to turn early-stage ideas into academic outputs that were both communicable and publishable.

5.3 Collaborative and International Learning

The programme documentation makes clear that collaborative and international learning were not peripheral features of the BIP, but central principles of its pedagogical design. The programme was explicitly organised around co-creation, peer interaction, tutor guidance, collaborative work and international dialogue across

partner institutions. The article itself also frames these elements as core pedagogical principles rather than complementary activities.

Peer learning emerges particularly strongly from both the observation of activities and the interpretation of the outputs produced during the BIP. Participants seem to have benefited from opportunities to test ideas, receive feedback, compare approaches and improve their projects through interaction with others. In this sense, academic development was not confined to individual work, but distributed across a shared process of discussion and co-creation.

International academic exchange is another strong dimension of the programme. The case documentation shows that the BIP was developed by the Polytechnic Institute of Setúbal in collaboration with the Politehnica University of Timisoara, Fulda University of Applied Sciences and the University of Foggia. The editorial of the publication produced from the programme confirms this collaborative network and states that the published papers emerged from the Connected Minds context, involving participants and tutors from several institutions. This publication reinforces the idea that the BIP was more than a mobility experience; it created an international framework for collaborative knowledge production.

5.4 Pedagogical Value of the BIP Format

The evidence also highlights the pedagogical value of the BIP format as a model for research training. In terms of flexibility, the programme documentation and the editorial of the publication show that the BIP combined online sessions with a physical mobility week and follow-up sessions afterwards. This made it possible to distribute research development over time, creating space for preparation, immersion, feedback and revision, which appears particularly valuable in early-stage research training. The editorial explicitly refers to an initial online session and follow-up sessions with supervisors aimed at supporting the improvement of the final papers.

Active participation is especially visible through the observation of activities and the nature of the outputs produced. The programme required participants to do more than listen: they were expected to discuss, present, revise and develop outputs throughout the process. This distinguishes the BIP from more traditional research training formats that rely mainly on lectures or individual supervision.

The analysis of the outputs produced during the programme suggests that participants worked on their own research ideas and were able to see those ideas evolve through successive stages.

5.5 Challenges and Limitations

Despite these contributions, the findings should be interpreted with caution. This is a single case study, based on one programme, one group of participants and a specific partnership, so the conclusions cannot be broadly generalised. The qualitative evidence provides a rich understanding of the BIP, but does not allow strong causal claims or longitudinal assessment of its impact. Moreover, the success and transferability of the model depend on pedagogical design, tutor engagement, alignment between activities and outputs, and institutional conditions. The subsequent publication indicates academic productivity, but does not demonstrate longer-term effects on participants' research trajectories or collaborations.

6. Conclusions

Drawing on the analysis of programme documentation, observation of learning activities, participant feedback and the outputs produced during the BIP, this study suggests that Connected Minds – Research and Co-Creation Exchange offered a meaningful pedagogical format for supporting early-stage researchers in higher education. Bringing these sources together made it possible to understand the programme not simply as a blended mobility initiative, but as a structured learning environment that supported the development of research competences, scientific communication, collaborative learning and international academic exchange.

The programme documentation shows that the BIP was designed with a clear pedagogical purpose, combining online sessions, a physical mobility week, expert-led workshops, tutor matching, collaborative work and proposal presentations. The observation of learning activities suggests that this structure encouraged active participation, academic dialogue and the gradual development of research ideas. In turn, participant feedback points to the value of the programme in strengthening confidence, scientific communication and the experience of learning through co-creation. Finally, the outputs produced during the programme, together with the subsequent publication of papers in a special issue of the Scientific Bulletin of Politehnica University of Timisoara,

reinforce the view that the BIP generated concrete academic results rather than simply short-term learning experiences.

The case analysed here suggests that BIPs can offer a promising format for connecting blended learning, internationalisation and output-oriented learning in advanced research training. Much of the programme's value seems to lie in the way it brings together expert guidance, peer learning, clear developmental milestones and exposure to different academic cultures.

At the same time, these conclusions need to be read considering the study's limitations. As a single case study, based on qualitative sources and a specific programme context, the findings cannot be generalised automatically. In addition, although the publication of papers is an important indicator of academic output, there is still no longitudinal evidence showing the longer-term impact of the programme on participants' future research trajectories, publication practices or the continuation of the international collaborations established during the BIP.

Even so, the Connected Minds case suggests that Blended Intensive Programmes can offer a relevant pedagogical response to some of the current challenges of advanced research training in higher education. Future studies could usefully explore the medium- and long-term effects of these programmes, compare different models of blended research training, and look more closely at the role of tutoring, interdisciplinarity and internationalisation in the development of research competences in higher education.

Ethics Declaration

This research did not require formal ethical clearance as it did not involve any vulnerable populations or sensitive topics. All participants provided informed consent prior to their participation in the study.

AI Declaration

Artificial Intelligence tools were used for language editing and proofreading only. The intellectual content, analysis, and conclusions remain entirely the product of the authors' original work, and AI was not used to generate substantive ideas or interpret empirical findings.

References

- Alves, P., Lopes, A., Cruz-Correia, R., & Menezes, I. (2025). The value of doctoral education in the intersection of the multiple purposes of higher education. *European Educational Research Journal*, 24(2), 194–216. <https://doi.org/10.1177/14749041231206197>
- Ashonibare, A. A. (2023). Doctoral education in Europe: Models and propositions for transversal skill training. *Studies in Graduate and Postdoctoral Education*, 14(2), 164–170. <https://doi.org/10.1108/SGPE-03-2022-0028>
- Ashraf, M. A., Yang, M., Zhang, Y., Denden, M., Tili, A., Liu, J., Huang, R., & Burgos, D. (2021). A Systematic Review of Systematic Reviews on Blended Learning: Trends, Gaps and Future Directions. *Psychology research and behavior management*, 14, 1525–1541. <https://doi.org/10.2147/PRBM.S331741>
- Braun, V., & Clarke, V. (2022). *Thematic analysis: A practical guide*. SAGE Publications.
- Bruggeman, B., Tondeur, J., Struyven, K., Pynoo, B., Garone, A., & Vanslambrouck, S. (2021). Experts speaking: Crucial teacher attributes for implementing blended learning in higher education. *The Internet and Higher Education*, 48, Article 100772. <https://doi.org/10.1016/j.iheduc.2020.100772>
- Carthy, Ú. (2022). Blended mobility project: Ireland, Germany, and Spain. In B. Arnbjörnsdóttir, B. Bédi, L. Bradley, K. Friðriksdóttir, H. Garðarsdóttir, S. Thouësy, & M. J. Whelpton (Eds), *Intelligent CALL, granular systems, and learner data: short papers from EUROCALL 2022*, 41–46, Research-publishing.net. <https://doi.org/10.14705/rpnet.2022.61.1432>
- Clarke, L., & Kirby, D. (2022). Internationalizing higher education curricula: Strategies and approaches. *Universal Journal of Educational Research*, 10(6), 408–417. <https://doi.org/10.13189/ujer.2022.100605>
- Costa, T., Machado, A. T., Nunes, S. C. D., Santos, Z. R., Severino, F. S., Calisto, M. L., & Roque, A. G. (2025). Sustainability, technology and co-creation: A virtuous circle for sustainable tourism in Lisbon region. *Investigaciones Turísticas*, 30, 315–338. <https://doi.org/10.14198/INTURI.28524>
- Costa, T., Mares, P., Borges, W., & Teixeira, N. (2022). Entrepreneurship education: The international pedagogical project COTADAS – Co-creation to analyses and development of strategic scenarios. *European Conference on Innovation and Entrepreneurship*, 17(1), 159–168. <https://doi.org/10.34190/ecie.17.1.382>
- Creswell, J. W., & Poth, C. N. (2024). *Qualitative inquiry and research design: Choosing among five approaches* (5th ed.). SAGE Publications.

- Dang, D., Alani, N., Nayani, W., & Erturk, E. (2026). Blended Learning Design in Higher Education: A Systematic Review Through TPACK and AI Role Perspectives (2020–2025). *Education Sciences*, 16(6), 848. <https://doi.org/10.3390/educsci16060848>
- European Commission. (2021). *Erasmus+ Programme Guide 2021–2027*. European Union. <https://erasmus-plus.ec.europa.eu/programme-guide/erasmusplus-programme-guide>
- European Commission/DG EAC. (2022). *Blended mobility implementation guide for Erasmus+ higher education mobility KA131*. Publications Office of the European Union, 2022. <https://data.europa.eu/doi/10.2766/467485>
- Frank, E., & Hogendoorn-Schweighofer, P. (2026). Erasmus+ Blended Intensive Programmes' role in promoting inclusivity and sustainability in management education: A survey-based evaluation. *The International Journal of Management Education*, 24(1), Article 101358. <https://doi.org/10.1016/j.ijme.2026.101358>
- Garcés, P., & O'Dowd, R. (2021). Upscaling virtual exchange in university education: Moving from innovative classroom practice to regional governmental policy. *Journal of Studies in International Education*, 25(3), 283–300. <https://doi.org/10.1177/1028315320932323>
- Godbold, N., Hung, T. Y., & Matthews, K. E. (2022). Exploring the role of conflict in co-creation of curriculum through engaging students as partners in the classroom. *Higher Education Research & Development*, 41(4), 1104–1118. <https://doi.org/10.1080/07294360.2021.1887095>
- Hildebrandt, A. M., Barana, A., Chatzea, V. E., Henao, K., Marchisio Conte, M., Samoilovich, D., Vidakis, N., & Triantafyllidis, G. (2025). A Learning Design Framework for International Blended and Virtual Activities in Higher Education. *Trends in Higher Education*, 4(3), 40. <https://doi.org/10.3390/higheredu4030040>
- Leask, B. (2015). *Internationalizing the curriculum*. Routledge. <https://doi.org/10.4324/9781315716954>
- Lee, J., Leibowitz, J., & Rezek, J. (2022). The impact of international virtual exchange on participation in education abroad. *Journal of Studies in International Education*, 26(2), 202–221. <https://doi.org/10.1177/10283153211052777>
- Li, D., Zou, T., Anand, P., & Krautloher, A. (2024). Internationalisation of teaching, learning, and the curriculum in context: Emerging perspectives and new possibilities. *Journal of University Teaching and Learning Practice*, 21(04). <https://doi.org/10.53761/7hbswk35>
- Lubicz-Nawrocka, T. M. (2023). Conceptualisations of curriculum co-creation: “It is not them and us, it is just us”. *Higher Education*, 86, 645–660. <https://doi.org/10.1007/s41297-022-00180-w>
- Mantai, L., & Marrone, M. (2022). Identifying skills, qualifications, and attributes expected to do a PhD. *Studies in Higher Education*, 47(11), 2273–2286. <https://doi.org/10.1080/03075079.2022.2061444>
- Mydin, F., Surat, S., & Ibrahim, F. (2021). Research capability: Early-career academics' perception of doctoral studies. *European Journal of Educational Research*, 10(4), 1893–1905. <https://doi.org/10.12973/eu-jer.10.4.1893>
- O'Dowd, R., & Werner, S. (2024). The first steps of blended mobility in European higher education: A survey of Blended Intensive Programmes. *Journal of Studies in International Education*, 28(5), 798–817. <https://doi.org/10.1177/10283153241235704>
- Omland, M., Hontvedt, M., Siddiq, F., Amundrud, A., Hermansen, H., Mathisen, M. A. S., Rudningen, G., & Reiersen, F. A. (2025). Co-creation in higher education: A conceptual systematic review. *Higher Education*. <https://doi.org/10.1007/s10734-024-01364-1>
- Taylor, S. (2023). The changing landscape of doctoral education. *Innovations in Education and Teaching International*. <https://doi.org/10.1080/14703297.2023.2237962>
- Theelen, H., & van Breukelen, D. H. J. (2022). The didactic and pedagogical design of e-learning in higher education: A systematic literature review. *Journal of Computer Assisted Learning*, 38(5), 1286–1303. <https://doi.org/10.1111/jcal.12705>
- Yin, R. K. (2018). *Case study research and applications: Design and methods* (6th ed.). SAGE Publications.