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TECHNICAL FILE

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01

EDITORIAL

This month, we will meet at the 9th LQRC-CIEQV anniversary, held at ESDRM, on 24th May, at 14h30. Also, the new LQRC-CIEQV consortium will be signed by the Polytechinic Universities of Santarém, Leiria and Setúbal, on 5th June, at the Polytechinc University of Santarém anniversary. The most important subject for the life of our research center is the election of the new coordination team, on the 27th June. The applications to the coordination position must be sent until 20th June.

Fernando Santos, Coordinator of the LQRC-CIEQV's Scientific area of Education and Training, highlights, in his Editorial, the research development in the different areas of LQRC-CIEQV, namely in the one he coordinates. In this newsletter, this area is presenting us with an overview of interesting different activities and outcomes. That is the case of the book authored by Prof. Valter Pinheiro and colleagues "Fun Activities in Sport" and scientific events that will be held at the Polytechnic Institute of Setúbal – School of Education. An interview to Vítor Ferreira, a newly integrated member of this area, is presented. Furthermore, the article "Pre-service teachers attitudes and perspectives toward an integrated STEAM approach", from Marisa Correia e Maria Clara Martins, respectively integrated and collaborator members of this area, can be read.

As usual, publications, activities, and other important information are presented through the newsletter.

Good readings!

Rui Matos [1,2]

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The LQRC-CIEQV newsletter of April is dedicated to the scientific area of Education and Training. This newsletter presents some activities in the scientific area, publications, interviews with researchers and an article to disseminate the research that has been developed.

It is with pleasure that we have been watching the research development, with national researchers and in partnership with international researchers' teams in the different areas of LQRC-CIEQV, resulting in an increasing number of publications, a fact that is also evident in the scientific area of Education and Training. These results have been the result of the excellent work developed by the researchers, in projects in the area or in partnership with the different research center areas.

The recent entry of new researchers in the LQRC-CIEQV, makes us maintain the high expectations in the evolutionary course of research in the field of life quality.

Fernando Jorge Lourenço dos Santos [1,2,3]

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02

INFORMATION #1

Valter Pinheiro [1,2]

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[2] Life Quality Research Centre

The *Fun Activities in Sport* book is now out for sale. The book is authored by LQRC-CIEQV researcher Valter Pinheiro, with the collaboration of authors Mónica Fiuza Pinheiro, Bruno Baptista, and LQRC-CIEQV researcher Fernando Santos. It is a book that explains the *Fun Activities in Sport* method, being a valid contribution for physical education teachers of different education levels. It is a method that, considering its pillars, can be used with senior populations and with students with disabilities.

This book explains the pillars that guide the application of this method and presents a set of strategies and exercises for its application. The correct application of Fun Activities in Sport does not allow the development of physical activities in conjunction with other content (mathematics, English, Portuguese, etc.). in a motivating, challenging, and fun way, contributing to the promotion of healthy lifestyle habits and life quality.

03

INFORMATION #2

From May 10 to 11, Exercise, Biomechanics, and Nutrition will take place at the Polytechnic Institute of Setúbal – School of Education. The International Congress is an organization of the Integrated Researcher of LQRC-CIEQV Luís Leitão. The Congress can also be watched online **here**.

Abstracts submission deadline: 5th May.

04

INFORMATION #3

In the current academic year will be held another edition of the Week of Sports Sciences at the Polytechnic Institute of Setúbal – School of Education. The event runs from May 22 to 24, 2023. The 22nd is dedicated to Training, the 23rd to Physical Exercise and Health, and finally the 24th to Sports Management.

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INTERVIEW

— Interview with Vítor Ferreira

Vítor Ferreira [1,2]

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[2] Life Quality Research Centre

Brief curricular presentation

Associate Professor with "*tenure*".

He obtained the title of Aggregate in Education in the specialty Didactics of Physical Education and Sport (2023) at the Faculty of Human Motricity of the University of Lisbon; the doctor's degree (1998) and the master's degree in Educational Sciences (1990) at the Faculty of Human Motricity of the Technical University of Lisbon, and the graduation degree (1984) and bachelor's degree (1982) in Physical Education at the Superior Institute of Physical Education of the Technical University of Lisbon.

He has developed work in Sport Pedagogy, Sport Psychology, Education, and Specific Didactics (in particular, gymnastics).

He teaches courses in the three teaching cycles, with special emphasis on the master's in physical education teaching in basic and secondary education, and, on the master's in sports training.

At the Faculty of Human Motricity of the University of Lisbon (UL-FMH), he was a member of the Department of Sport and Health (DDS) from 1983 to December 2016; after January 2017 he joined the Department of Education, Social Sciences and Humanities (DECSH).

He is a member of the governing bodies of the Portuguese Society of Sport Psychology (SPPD) and the Scientific Society of Sport Pedagogy (SCPD).

What are your objectives as a member of the LQRC-CIEQV?

Contribute, through research carried out in pedagogy and sports psychology, to the scientific improvement of the curricular units that I conduct at UL-FMH, training students in the formation of current scientific and pedagogical knowledge. In this sense, we have systematically sought to involve students in research, contributing to the development of critical analysis skills as a scientific-pedagogical training process.

Through the LQRC-CIEQV, as a multidisciplinary center, we intend to open interaction with other colleagues either from the same area or from other areas of knowledge to provide a holistic look at our object of study, the human being who acts in different contexts.

Which are your main research projects?

Member of the research team for the project “Training and Educating with Adapted Sport” financed through the National Program for Sports for All (PNDpT) promoted by the IPDJ.

He has collaborated and developed several projects with a current focus on three lines of research: ‘Attitudes and Aggressiveness in Sport’, ‘Beliefs and Attitudes towards Persons with Disabilities’, and ‘Systematic Observation in Physical Education and Sport’.

At this stage of my career, I dedicate myself essentially to developing projects to, for, and with students that are meaningful for their scientific and pedagogical training, aiming at the need for lifelong training.

Knowing that knowledge should be transferred to society, how can the area of scientific research and professional intervention in which you are involved contribute to the union of theory and practice?

The results of the various works carried out have been regularly presented at scientific events (congresses and the like) to share the knowledge acquired among peers, namely at the congresses of the Scientific Society of Sport Pedagogy, the Portuguese Society of Sport Psychology, etc.

These works have also resulted in some articles published in specialized magazines, and the knowledge obtained is presented and used in the training courses we provide.

As a university supervisor of the professional internship in Physical Education and School Sports, it is gratifying to see how students adapt their intervention and interaction strategies based on the knowledge they have acquired in their quest to create conditions for success for primary and secondary school students, seeking and contributing to the development of approaches with more integrative and interdisciplinary characteristics shared with their peers.

Considering that the LQRC-CIEQV promotes research on quality of life, what are the practical implications of the research it carries out?

Knowledge about the different behavioral profiles of both sports professionals (physical education teachers, coaches, etc.) and practitioners (students and/or athletes) is relevant in undergraduate courses for future professionals.

Equally important is knowing the aggressive behaviors in a school context and a competitive context, their differences considering various variables such as gender, age, type of sport practiced, etc.; this makes it possible to preventively prepare intervention strategies that are more adjusted to the different teaching-learning situations.

A sedentary lifestyle and obesity, as well as the various associated diseases, are obstacles to people's quality of life, so future teaching professionals – physical education and school sports teachers, sports coaches, physical exercise coaches, etc. – have the responsibility of making an informed contribution to the physical and sporting literacy of people in general, as a guarantee of the individual's quality of life throughout life, which is why research carried out in this area is essential to contribute to improving quality of life of the general population (children, young people, adults and the elderly).

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ARTICLE #1

— Research on Quality of Life

(Conference held at the 2nd International LQRC-CIEQV Congress, on 23rd February 2023)

José Fernandes Rodrigues [1,2]

[1] Sports Science School of Rio Maior – Polytechnic University of Santarém

[2] Life Quality Research Centre

In the eyes of the public and those responsible for the development of scientific knowledge in Portugal, scientific research in societal areas with an impact on the community has little value.

This statement has only one purpose, which is to contribute to a better understanding and classification of the scientific activity of the Life Quality Research Centre.

The concept of “quality of life” is multifactorial, wide, and comprehensive, and can be understood under different paradigms: individual, social, economic, and environmental. Overall, quality of life refers to the level of individual satisfaction and perceived well-being in relation to life in general.

From an individual perspective, quality of life can include aspects such as health, physical activity (sports), interpersonal relationships, and satisfaction with life. From a social point of view, security, education, and medical care can influence the quality of life.

In terms of economic dynamics, quality of life can be affected by financial capacity and the security and sustainability of jobs and organizations. The environmental perspective can include factors such as the quality of food and food production, air and water quality, and the availability of green spaces.

In summary, quality of life is a subjective measure of individual well-being and can be influenced by many different factors, including health, physical activity (sports), interpersonal relationships, the economy, education, and the environment.

Research on quality of life can be carried out in different scientific areas, depending on the focus and specific approach. At LQRC-CIEQV, we considered developing some of the scientific areas that may include research on quality of life:

- **Sport, Education, and Psychology:** Research in Sport, Education, and Psychology can be developed in the evaluation and understanding of physical activity (sports) and well-being, in processes and programs of education and behavioral modification for a healthy lifestyle, and in the subjective perception of quality of life and the associated psychological environment, including the role of psychological and emotional factors;
- **Individual and Community Health – Public Health:** Research in individual and community health can focus on factors such as access to health care, assistance to individuals at different stages of life, a healthy lifestyle, and the presence of chronic diseases that affect the quality of life;
- **Education, Sociology, and Anthropology:** Research in Education, Sociology, and Anthropology can concentrate on educational and social structures, processes and programs developed to train technicians and professionals, and who can influence interpersonal and social relationships to the quality of life;
- **Economics, Sociology, and Psychology:** Research in the field of economics, in organizational dynamics, implies the sustainability of these organizations and interferes with the paradigms of social and psychological research, being able to be situated in factors such as income, employment, wealth, performance, leadership, etc., affecting the quality of life;
- **Food, Education, and Psychology:** Research in food production and technology, as well as individual eating habits, is linked to educational processes, and the mechanisms of motivation, resilience, and affiliation to behavioral change that can focus on how different products and eating habits contribute to a successful quality of life.

In general, research on quality of life involves a combination of quantitative and qualitative approaches and paradigms, being conducted by researchers from different scientific areas and specialists in different disciplines. The ultimate goal is to provide a deeper and better understanding of quality of life, educational and behavioral change processes, and ways to improve citizens' lives.

We present our reflection on multidisciplinary scientific research and its implications for the evaluation processes of the research centers, knowing that this topic has been discussed and considered by the Foundation for Science and Technology. This issue is currently on the agendas of scientific organizations and science leaders in Portugal and worldwide.

LQRC-CIEQV is a research center in a consortium of polytechnic universities (Santarém, Leiria, and Setúbal) whose external evaluation has been good and which, in this last cycle (2018-2022), has grown and reached a very significant national and international dimension. Actually, LQRC-CIEQV comprises 72 PhD members, senior and junior researchers, 19 PhD students, and dozens of external collaborators. In 2022, it had a significant scientific production with 201 published articles (127 JCR and 48 SJR, half of which were from Q1 and Q2) and other works and actions of importance to society within the scope of quality of life.

The LQRC-CIEQV is organized into scientific areas, although its matrix and research projects are multiplied by multidisciplinary teams, seeking to look at research problems from a multidimensional and intersectoral perspective. In this way, research teams are made up of researchers and specialists who work in different scientific areas.

This scientific investigation, carried out and published by the members of the LQRC-CIEQV, has multidisciplinary characteristics and is oriented towards knowledge in the thematic area of quality of life. Its five scientific areas intersect in the space of the social sciences, with the mission of improving citizens' lives through the knowledge produced and valued practices.

In this congress, 63 integrated members of the LQRC-CIEQV present themselves in teams of researchers with communications. The congress has 92 communications (60 oral and 32 posters) and 5 conferences. Communications were distributed by the scientific areas of LQRC-CIEQV: Education and Training - 24; Physical Activity and Healthy Lifestyles - 16; Food Production and Technology/Food Behaviour - 7; Motor Behaviour - 6; Organizational Dynamics - 5; Individual and Community Health - 4. There are 170 participants registered for the congress. These results show the dynamics and participation of researchers in the scientific production of life quality. Almost all communications are presented by multidisciplinary teams of researchers involving the various scientific areas of the LQRC-CIEQV.

In the previous application, in 2018, the LQRC-CIEQV was designed within the scope of social sciences. But since we did not find space in the taxonomy for affiliation with any of the existing subareas, we decided to select the category "other social sciences". However, the FCT appointed an evaluation jury

for the subcategory “educational sciences” thus placing the LQRC-CIEQV in a subarea that does not correspond to the typology of the research carried out, which is manifestly multidisciplinary (various scientific areas) and thematic (quality of life). This incongruity is even manifested in the report of the evaluation committee.

It is the FCT itself that, on its website, regarding the announcement of the evaluation of the Research Units (https://www.fct.pt/apoios/unidades/index.phtml.pt), says that (quoting) “The research units represent a fundamental pillar in the consolidation of a modern and competitive scientific system. They must gather a critical mass adequate to their mission and promote creative environments, in which new ideas can emerge and where researchers find the appropriate conditions to carry out their scientific projects and to the development of their career. Whenever applicable, they must gather interdisciplinary and multidisciplinary resources that enhance the approach to complex problems and new societal challenges”.

Now, we would like the FCT to consider our area and dynamics of action in this inter- and multidisciplinary dynamic. All the scientific areas that make up the LQRC-CIEQV (Physical Activity and Healthy Lifestyles; Organizational Dynamics; Education and Training; Food Production and Technology/Eating Behaviour; Individual and Community Health) contribute to the aim of promoting the quality of life of people in general. Sometimes, the focus is more salutogenic; other times, the gaze is more pedagogical. Attention can be focused on the dynamics of institutions that allow them to serve their customers in the most appropriate way or, from another perspective, studying how adequate nutrition and well-oriented physical activity can contribute to the much-desired quality of life, itself composed of multiple valences, some more physical, others more psychological and emotional, others even more relational and environmental.

Thus, we conclude with the determination that the affiliation of LQRC-CIEQV must be true to its essence, corresponding to the thematic area of quality of life, as the center is classified in the large sector of social sciences, impacting its results for society.

We think that this is the only way that we should be targeted for an adequate assessment, safeguarding the diversity of subareas existing in the center and the inter-, trans-, and multidisciplinary nature of the scientific research carried out and published. We hope that FCT can assure a fair evaluation.

And finally, we hope that this Congress, as the result of our efforts, will be fruitful for researchers’ knowledge and provide an excellent moment for sharing scientific knowledge about quality of life.

Thank you for your attention!

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07

ARTICLE #2

— Pre-service teachers attitudes and perspectives toward an integrated STEAM approach


Marisa Correia [1,2], Maria Clara Martins [1,2]

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[2] Life Quality Research Centre

Abstract

The technological growth of today's society points to an educational interest growth involving approaches in STEAM areas (Science, Technology, Engineering, Arts and Humanities, and Mathematics). However, to contribute to increasing students' interest in these subjects from an early age it is crucial to prepare primary teachers to carry out an integrated STEAM approach in schools. The study presented in this article aimed to points aims to demonstrate the potential of engaging primary pre-service teachers in a STEAM program within a science and a mathematics course. For this purpose, the participant's responses to a pre-post-survey were analyzed. The results show that the development of lesson plans by preservice teachers fostered more positive attitudes towards the integrated STEAM approach. Participants show that they can reflect on the process of planning STEAM activities, identifying benefits and challenges, and showing confidence to implement an integrated STEAM approach in the context of practice.

Keywords: Integrated approach, Primary Education, STEAM Education, Teacher Education.

1. Introduction

STEM (Science, Technology, Engineering, Mathematics) education movement emerged about 30 years ago with the purpose to encourage young people to pursue careers in these areas has been widely pointed out in several international reports (Hurley & Hallissy, 2017; Kelley & Knowles). Research suggests that students should be involved in carrying out STEM activities, according to an integrated approach, from the earliest levels of schooling (Dejarnette, 2012). In recent years, a more broad approach has emerged that includes other curricular areas (arts, languages, history, etc.), identified by the acronym STEAM (Yakman, 2012; Quigley et al., 2017). In this context, it is imperative to study ways to support teachers and pre-service teachers to conceptualize and implement an integrated STEM approach (Estapa & Tank, 2017).

In this context, a STEAM program was developed in teacher education to prepare primary pre-service teachers (PSTs) to create and use STEAM lessons that take full advantage of the interdisciplinary connections between science and mathematics topics. The goal of the current study is to investigate how primary PSTs develop STEAM lessons during a science and mathematics methods course and to analyze their attitudes and perspectives. This study aimed to analyze the impact of the program on the attitudes and perspectives of PSTs about the integrated STEAM approach, as part of a broader study (Correia & Martins, 2023).

2. Methods

This study used a mixed-methods research design that combined both quantitative and qualitative data to investigate the effect of a STEAM program on PSTs' attitudes and perspectives toward STEAM pedagogy.

The participants were PSTs attending the last year of a teacher education program in the School of Education of the Polytechnic University of Santarém. The study sample was composed mainly of females (23 - females; 1 - male; 23-28 years old) that were enrolled in a science and mathematics methods course and had no prior experience in planning STEAM lessons.

For eight weeks (2,5 hours per week), over a total of 40 hours, PSTs learn about the theoretical background behind STEAM education. During the first part of the program, PSTs performed several STEAM activities and reflect on underlying instructional practices and identified the math and science curriculum topics covered.

In the last 8-week period of the course, students developed STEAM lesson plans about science and mathematics topics; and reflected on the advantages and challenges of the integrated STEAM approach. After completing the science and mathematics course, PSTs had the opportunity to implement STEAM activities during 5 weeks of teaching practice.

PSTs agreed to complete a questionnaire before attending the methods course. The instrument was adapted from a validated instrument developed by Mahoney (2010) and later modified by Kim and Bolger (2017). To further investigate participants' views about developing STEAM lesson plans, a few open questions were added to the post-questionnaire adapted from Kim and Bolger (2017). 24 participants responded to the first questionnaire but only 20 responded to the second. For the quantitative data analysis, we considered a sample size of 20 participants who completed both questionnaires.

To analyze the qualitative data from the open-ended questions, we developed a set of categories to describe the themes present in the responses using coding analysis. Finally, each response was coded with one or more categories since some responses contained multiple ideas that fitted distinct categories.

3. Finding and discussion

The attitudes towards the importance and relevance of STEM education in their future role as teachers were analyzed with a questionnaire with four dimensions, each with four questions. They were asked in two different moments the same set of questions (before and after the course) to measure the differences in their perspectives on STEAM pedagogy. Summaries of interest variables are presented as mean ± standard and available in Table 1, as well as more detailed results like minimum and maximum values of the sums of the variables under study.

Categories		N	Minimum	Maximum	Mean	Std. Deviation
Interest in STEAM activities	SumQA1_4	20	10,0	16,0	14,800	1,5079
	SumQB1_4	20	10,0	16,0	15,350	1,4609
Motivation to develop STEAM activities	SumQA5_8	20	4,0	12,0	9,100	2,5319
	SumQB5_8	20	10,0	15,0	11,300	,9787
Valuing education with STEAM	SumQA9_12	20	14,0	16,0	15,150	,7452
	SumQB9_12	20	14,0	16,0	15,550	,6863

Deepening knowledge about STEAM	SumQA13_16	20	9,0	16,0	14,200	1,8806
	SumQB13_16	20	12,0	16,0	14,800	1,0052

Table 1. Summary measures of four variables were analyzed in the pre-test (QA) and post-test (QB).

The extreme and quartile diagrams (Figure 1) show how data behave as well as its variability in the two moments (QA and QB). PSTs reveal a growing alignment with STEAM pedagogy. For instance, regarding interest in STEAM activities, it appears that the variable under study assumes, on average, values very close to the maximum value (Mean – 15.35) with a smaller deviation (SD – 1.46) in comparison to the pre-test.

The motivation to carry out STEAM activities was the dimension with the greatest impact (Mean 9.1 and SD 2.53 in QA; Mean 11.3 and SD 0.98 in QB). These results are consistent with the extreme and quartile diagram measurements (figure 1) since in QB there was a small variability in the data. Descriptive measures of the data suggest that PSTs have come to value STEAM pedagogy much more. Although the average of the sum of the indicated levels is slightly higher in QB (Mean 15.55), there is a lower deviation after the program (SD 0.68).

With regards to the further development of the STEAM approach, the data indicate that following the course, PSTSs exhibited a stronger desire to pursue further knowledge about this approach and to recognize its importance in their planning (Cf. Table 1). In addition, there was less variability in the data, and it tended to show an increase (Cf. Figure 1).

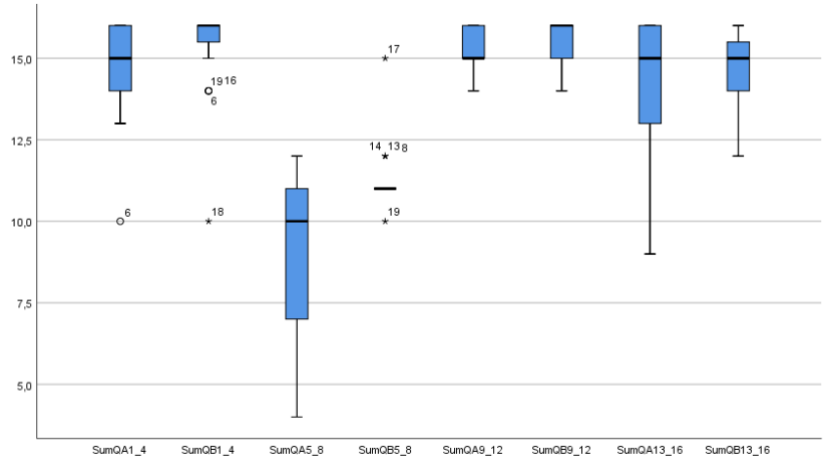

Figure 1. Comparative diagram of extremes and quartiles for the four dimensions.

To evaluate the changes in perspective teachers' attitudes, we added up the scores for each question within the four dimensions of the questionnaire. We conducted a Wilcoxon test for paired samples to compare the variables at two moments, QA and QB (Table 2), and performed several Kolmogorov-Smirnov tests to evaluate the normality assumption for each of the summations, but the results indicated that this assumption was not met.

Test Statistics				
	SumQB1_4 - SumQA1_4	SumQB5_8 - SumQA5_8	SumQB9_12 - SumQA9_12	SumQB13_16 - SumQA13_16
Z	-1,992[b]	-3,124[b]	-2,309[b]	-1,208[b]
Asymp. Sig. (2-tailed)	,046	,002	,021	,227
a. Wilcoxon Signed Ranks Test | b. Based on negative ranks.				

Table 2. Test statistics used to compare samples.

The first three dimensions exhibited a positive change, which was statistically significant according to the Wilcoxon test (p-value<0.05). However, for the fourth dimension, there were no significant statistical differences observed between the two moments (p-value=0.227), suggesting that the developed lessons had a positive impact on the PSTs' attitudes towards the STEAM approach, particularly in terms of motivation and value. However, it remains inconclusive whether the lessons had a significant effect on deepening the prospective teachers' knowledge about the STEAM approach. In summary, the experience of creating STEAM lesson plans within the science and mathematics methods course had a positive influence on the attitudes of PSTs toward STEAM pedagogy (Kim & Bolger, 2017).

From the analysis of the PSTs' responses to the open-ended questions, a set of categories emerged related to the STEAM approach and the development of STEAM activities based on their experience. In terms of the difficulties that PSTs face in developing a STEAM activity, several aspects were mentioned by the participants, with many identifying more than one aspect (Table 3).

What do you consider most difficult in developing a STEAM lesson plan?	**Number of responses (n=20)**
Interdisciplinarity	11
Preparation of an activity guide	7
Including technology	2
Include engineering	2

Other responses (vague or imperceptible)	2
Classroom practice	1

Table 3. PSTs' perspectives, after the course, shared their perspectives on the difficulties they faced in developing an integrated STEAM approach.

Approximately 55% of the PSTs mentioned that interdisciplinarity was one of the most challenging aspects of developing a STEAM lesson plan ("Create an activity that brings together all the desired areas". (APST14, QB)).

Around 35% of the participants mentioned that developing an activity guide following the 6E model and inquiry-based learning was a demanding process, especially in terms of elaborating and identifying the different stages involved ("For me, the most difficult thing was to distinguish between the exploration phase and the elaboration phase". (APSST18, QB)).

A smaller percentage, around 10% of the participants, indicated that the inclusion of technology was a challenge in the process of developing a STEAM activity ("Sometimes, understanding the use of certain digital resources". (APST11, QB)).

10% of the participants specifically identified the difficulty in integrating engineering into the development of STEAM activities ("I consider engineering integration more difficult in the approach since I do not have much knowledge about it". (APST12, QB)).

During the course, PSTs had the opportunity to reflect on the benefits and challenges of implementing an integrated STEAM approach. In Table 4, the challenges and difficulties inherent in the implementation of STEAM activities are highlighted. One challenge mentioned by participants (20%) was that certain activities required more time, which could represent a challenge compared to other types of tasks ("I highlight the lack of time to implement this type of activities". (APST20, QB)). Some PSTs (10%) perceived the autonomy required for students to engage in STEAM activities as a difficulty or challenge in implementation. ("(…) it is necessary for the teacher to practice frequently so that students become familiar with this type of activities"). As shown in Table 4, 30% of PSTs identified the need for teachers to promote interdisciplinary integration and integrate multiple STEAM areas as a challenge in implementing STEAM activities. This requires a higher level of skill and knowledge from the teacher, which can be seen as a difficulty or challenge ("As a challenge, I identify the need to interconnect all areas of knowledge, including engineering". (APST6, QB)). 20% of the participants mentioned that the lack of resources in schools makes it difficult to implement these types of activities

and demands greater and more effective resource management ("(…) I emphasize the fact that sometimes there are no materials needed to carry them out in institutions." (APST7), QB)). Finally, 25% of the participants do not perceive any challenges.

Challenges	**Number of responses (n=20)**
Require, from the teacher, a greater ability to promote interdisciplinarity	6
There isn't or aren't indicated.	5
Need to spend more time.	4
More demanding resource management.	4
Require greater autonomy from students	2

Table 4. Challenges associated with an integrated STEAM approach according to PSTs.

Regarding the inherent advantages of implementing an integrated STEAM approach, all participants identified several benefits (Table 5). 50% of them mentioned the more active role of students. ("I believe that STEAM activities have several advantages such as the approach of several contents at the same time from different areas at the same time, the fact that they favor learning since students learn through more practical significance, as it starts from everyday situations and issues." (APST12, QB)). 40% of PSTs refer to interdisciplinarity as a great advantage of STEAM activities providing more meaningful contexts for students, while 10% identify the ability to work collaboratively as an advantage ("The main advantage is the combination of several areas. For example, in the class where I implemented, I felt that everyone felt excited, they were divided into groups, they set out to discover, among others" (APST4, QB)), and 25% refer to the learning of knowledge and the development of competencies as advantages of implementing an integrated STEAM approach ("The big advantage is the development of skills such as scientific and critical thinking." (APST17, QB)).

Benefits	**Number of responses (n=20)**
The more active role of students	10
Interdisciplinarity / Meaningful Contexts for Students	8
Knowledge learning and skills development	5
Collaborative work	2

Table 5. Advantages associated with an integrated STEAM approach according to PSTs.

PSTs also value the opportunity to experience planning and implementing STEAM activities during their initial training. When asked about the most positive aspect of being involved in the development of STEAM activities, they mentioned gaining knowledge about the characteristics of the STEAM approach. ("Learning a new methodology in the classroom and designing a way of collaborative work involving several areas STEAM". (APST2, QB)). They also mention that an added value of their involvement in developing STEAM activities is the symbiosis that enriches the school itself, which may not be familiar with this approach. They also express that this experience enhances their self-confidence to implement STEAM activities in their future teaching practice ("It was great to give us security in developing STEAM activities in the future". (APST15, QB)).

During the program, all PSTs planned STEAM lesson plans, but only 65% of them experienced the implementation of a STEAM activity. When asked about the reasons, 35% mentioned that they had to comply with the planning of their cooperating head teacher, who did not include any STEAM activities in their plans. Some also cited time management issues or existing projects in the school. These findings suggest that although PSTs have developed a positive attitude towards the STEAM approach, planning activities in the training course may not be enough to ensure implementation in the classroom. Therefore, it is necessary to provide additional support and closely monitor future teachers' practices to prepare them for the challenges of implementing STEAM activities.

4. Conclusion

The quantitative analysis of the questionnaires showed that PSTs gained more confidence in designing STEAM lesson plans after participating in the methods course and classroom practice. However, the qualitative analysis also revealed that some PSTs still had concerns about their ability to effectively implement STEAM activities. This highlights the importance of ongoing support and professional development to ensure that PSTs are fully prepared and confident in implementing STEAM approaches in their future classroom practice.

It is important to note that while some PSTs expressed confidence in implementing STEAM activities, not all of them had the opportunity to do so in a practical setting. As a result, it is imperative to continue to develop opportunities for future teachers to plan and implement STEAM activities in the context of their professional practice. Teacher education programs should focus on providing more practice opportunities, where PSTs can gain experience and work in contexts where STEAM activities are a reality.

References

Correia, M., & Martins, M. C. (2023). Primary Pre-Service Teachers' changing perspectives about integrated STEAM approach. In B. Cavadas & N. Branco (Eds.), *Handbook of Research on Interdisciplinarity between science and mathematics in education* (pp. 308-333). IGI Global. https://www.igi-global.com/book/handbook-research-interdisciplinarity-between-science/297139

Dejarnette, N. (2012). America's children: Providing early exposure to STEM (science, technology, engineering, and math) initiatives. *Education, 133*(1), 77-84.

Estapa, A., & Tank, K. (2017). Supporting integrated STEM in the elementary classroom: a professional development approach centered on an engineering design challenge. *International Journal of STEM Education, 4*(6). https://doi.org/10.1186/s40594-017-0058-3

Hurley, J., & Hallissy, M. (2017). *STEM Education Policy Statement 2017-2026*. Dublin: Department of Education and Skills.

Kelley, T., & Knowles, J. (2016). A conceptual framework for integrated STEM education. *International Journal of STEM Education, 3*(1), Article 11.

Kim, D., & Bolger, M. (2017). Analysis of Korean elementary pre-service teachers' changing attitudes about integrated STEAM pedagogy through developing lesson plans. *International Journal of Science and Mathematics Education, 15*(4), 587-605. https://doi.org/10.1007/s10763-015-9709-3

Mahoney, M. (2010). Student attitudes toward STEM: development of an instrument for high school STEM-based programs. *The Journal of Technology Studies, 36*(1), 24-34.

Quigley, C., Herro, D., & Jamil, F. (2017). Developing a conceptual model of STEAM teaching practices. *School Science and Mathematics, 117*(1-2), 1-12. https://doi.org/10.1111/ssm.12201

Yakman, G. (2012). Recognizing the A in STEM Education. *Middle Ground Magazine, 16*(1), 15-16.

08

NEWS – PROJECTS UNDER DEVELOPMENT

— Capacity building program for the Guinea-Bissau education system

The Capacity Building Program of the Education System (PRECASE) of Guinea-Bissau aims to increase the quality standards of education and learning in the preschool, basic, and secondary education subsystems in Guinea-Bissau.

Date: December 2019 and December 2023.

Coordinating entity: FEC – Fundação Fé e Cooperação

Partners: School of Education / IPSantarém, Institute of Education / University of Lisbon

ESE Team: Miguel Figueiredo and Pedro Felício (Coordination), Ana Alcântara, Ana Costa, Ana Pessoa, Ana Pereira, Ana Sequeira, Ana Cristina Figueira, António Vasconcelos, Carlos Cruz, Carlos Xavier, Catarina Delgado, Cristina Roldão, Cristina Gomes da Silva, Filipe Fialho, Gina Lemos, Helena Simões, Jorge Pinto, Joana Matos, João Pires, João Torres, Mariana Veiga, Maria de Fátima Mendes, Maria do Rosário Rodrigues, Maria Manuela Matos, Sofia Figueira.

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PUBLICATIONS

Daryanoosh, F., Alishavandi, H., Nemati, J. Basereh, A., Jowhari, A., Asad-manesh, E., Oliveira, R., Brito, J.P., Prieto-González, P., García-Calvo, T.,Khoramipour, K. & Nobari, H. (2023). Effect of interval and continuous small-sided games training on the bio-motor abilities of young soccer players: a comparative study. *BMC Sports Science, Medicine, and Rehabilitation*, 15, 51. https://doi.org/10.1186/s13102-023-00664-w

Ferreira, C., Gamonales, J., Espada, M., & Muñoz-Jiménez, J. (2023). Estado actual del rendimiento deportivo en Boccia: revisión sistemática de la literatura (Current status of sport performance in Boccia: systematic review of the literature). *Retos*, *48*, 1070-1077. https://doi.org/10.47197/retos.v48.95110

Hernández-Beltrán, V., Muñoz-Jiménez, J., Espada, M. C., Castelli Correia de Campos, L. F., & Gamonales, J. M. (2023). Análisis del lanzamiento a canasta en baloncesto en silla de ruedas (Analysis of the basket shot in wheelchair basketball). *Retos, 48*, 1007-1018. https://doi.org/10.47197/retos.v48.97205

Mata, C., Pereira, C. & Carvalhinho, L. (2023). Construction and validation of the instrument: checklist and risk assessment matrix (CMAR) in mountain sports. *Motricidade, 19*. https://doi.org/10.6063/motricidade.28118

Matos, R., Amoroso, J., Amaro, N., & Antunes, R. (2022). *Lançar e acertar, diverte-te a jogar!* EUROPE DIRECT Região de Coimbra e de Leiria; Comunidade Intermunicipal da Região de Coimbra; Centro de Documentação Europeia de Leiria; Bibliotecas do Instituto Politécnico de Leiria. ISBN: 978-989-33-4144-5.

Nobari, H., Eken, Ö., González, P.P. Oliveira, R., & Brito, J.P. (2023). Association between 2D:4D ratios and sprinting,change of direction ability, aerobic fitness, and cumulative workloads in elite youth soccer players. *BMC SportsScience, Medicine and Rehabilitation*, 15, 45. https://doi.org/10.1186/s13102-023-00654-y

Pinheiro, V., Pinheiro, M., Baptista, B., Santos, F. (2023). *Aprender de modo divertido com o método Fun Activities in Sport.* Estoril: PrimeBooks

Ruívo, M., Frontini, R., & Pernencar, C. (2023). Virtual Reality in Depressive and Anxiety Symptomatology – Contributions to REVIDA project from a mobile app mapping. *Procedia Computer Science, 219*, 1185-1192. https://doi.org/10.1016/j.procs.2023.01.400

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R&D ACTIVITIES

- **Invitation for publication in International Journal of Environmental Research and Public Health (IJERPH)**

The researcher Prof. Dr. João Brito with researcher Prof. Dr. Rafael Oliveira are the guest editors of a special issue with the topic: *Exercise Monitoring, Testing and Prescription Strategies to Improve Quality of Life in Athletes and Non-athletes*. Deadline for manuscript submissions: 31 May 2023. For more information **CLICK HERE**.

- **Invitation for publication in Healthcare journal**

The researcher Prof. Dr. Roberta Frontini is the guest editor of a special issue with the topic: *Research and Survey on Mental Health of Children and Adolescents*. Deadline for manuscript submissions: 30 June 2023. For more information **CLICK HERE**.

- **Invitation for publication in Education Sciences journal**

The researcher Prof. Dr. Susana Franco with researcher Prof. Dr. Vera Simões are the guest editors of a special issue with the topic: *Contemporary Research in Sport, Physical Activity, and Physical Education*. Deadline for manuscript submissions: 1 July 2023. For more information **CLICK HERE**.

- **Invitation for publication in Behavioral Sciences journal**

The researcher Prof. Dr. Filipe Rodrigues, Prof. Dr. Diogo Monteiro and Prof. Dr. Raul Antunes are the guest editors of a special issue with the topic: *Current Opinion in Sport Psychology*. Deadline for manuscript submissions: 30 September 2023. For more information **CLICK HERE**.

- **Invitation for publication in Healthcare journal**

The researcher Prof. Dr. João Brito with researcher Prof. Dr. Rafael Oliveira are the guest editors of a special issue with the topic: *Exercise Testing and Prescription Strategies to Improve Quality of Life*. Deadline for manuscript submissions: 23 October 2023. For more information **CLICK HERE**.

- **Invitation for publication in Healthcare journal**

The researcher Prof. Dr. Rafael Oliveira is the guest editor of a special issue with the topic: *Supporting Athlete Development: The Role of Supporting Structures*. Deadline for manuscript submissions: 31 December 2023. For more information **CLICK HERE**.

- **I&D Projects in the scientific areas of LQRC-CIEQV**

For more information **CLICK HERE**.

- **Book publication / presentation:**

Matos, R., Amoroso, J., Amaro, N., &Antunes, R. (2022). *Lançar e acertar, diverte-te a jogar!* EUROPE DIRECT Região de Coimbra e de Leiria; Comunidade Intermunicipal da Região de Coimbra; Centro de Documentação Europeia de Leiria; Bibliotecas do Instituto Politécnico de Leiria. ISBN: 978-989-33-4144-5.

Although published in 2022, it has only now been possible to bring together all the partners involved for its public presentation.

Thus, on April 21, 2023, at the Exploratório – Centro de Ciência Viva de Coimbra, the book "*Lançar e acertar, diverte-te a jogar!*" was presented, including 27 traditional games (one for each country) from countries that are currently part of the European Union.

On the 9th of May, a dynamic will be carried out, under the guidance of the authors and with the intervention of 1st year students of the ESECS-IPLeiria Sports and Well-Being bachelor, with the experimentation of 4 of these 27 games within the scope of the celebrations of Europe Day, in Leiria. Europe Day is celebrated on the 9th of May and, this year, Leiria will be the stage for a series of activities, organized between the Office of the European Parliament in Portugal, the Representation of the European Commission in Portugal and the Municipality of Leiria, with the collaboration of several local entities, including the LQRC-CIEQV – Polytechnic University of Leiria.

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CALLS AND FUNDING

- Calls for support to *Turismo,* START-PME. Status: open. For more information **CLICK HERE**.
- Calls for support to *Programa de Desenvolvimento Rural,* START-PME. Status: in preparation. For more information **CLICK HERE**.
- Calls for support to *Plano de Recuperação e Resiliência*, START-PME. Status: open. For more information **CLICK HERE**.
- Calls for support to *Programa ATIVAR.PT,* START-PME. Status: open. For more information **CLICK HERE**.
- Calls for support to *Apoio à Produção Nacional*, START-PME. Status: open. Deadline: to be defined. For more information **CLICK HERE**.
- Calls for support to *Programa de Incentivo para os Açores*, START-PME. Status: in preparation. For more information **CLICK HERE**.
- Calls for support to *Apoios à contratação – IEFP*, START-PME. Status: open. For more information **CLICK HERE**.
- Key Digital Technologies JU opens 3 concurrent Calls in 2023. Deadline: 3 May 2023. For more information **CLICK HERE**.
- European Driving Urban Transitions Partnership (DUT) 2022 Competition. Deadline: 3 May 2023. For more information **CLICK HERE**.
- 6th edition of the Arquivo.pt. Deadline: 4 May 2023. For more information **CLICK HERE**.
- PRIMA WEFE Nexus Award 2023. Deadline: 22 May 2023. For more information **CLICK HERE**.
- European Social Innovation Competition to Fight Energy Poverty. Deadline: 30 May 2023. For more information **CLICK HERE**.
- Public Administration Award. Deadline: 31 May 2023. For more information **CLICK HERE**.
- Call Advanced Computing Projects (3rd ed) – A1 Preparatory or Development Access (round D). Deadline: 31 May 2023. For more information **CLICK HERE**.
- AIR Centre opens Call for 5 Studentships Research. Deadline: 31 May 2023. For more information **CLICK HERE**.
- Call Advanced Computing Projects (3rd ed.) – A0 Experimental Access (round D). Deadline: 31 May 2023. For more information **CLICK HERE**.

- *Becas de grado Fundación "La Caixa"*. Deadline: 2 June 2023. For more information **CLICK HERE**.
- Healthcare of the future – THCS European Partnership Competition. Deadline: 13 June 2023. For more information **CLICK HERE**.
- *Programa Cidadãos Ativ@s* – Bilateral Cooperation Initiatives of the *Fundação Bissaya Barreto* and *Fundação Calouste Gulbenkian*. Deadline 30 June 2023. For more information **CLICK HERE**.
- *Prémio Inovação Crédito Agricola.* Deadline: 30 June 2023. For more information **CLICK HERE**.
- European Commission – Competitive calls and calls for third parties. Areas of interest: Food; Energy Transition; Climate; Mobility; Digitization. Deadline: 22 July 2023. For more information **CLICK HERE**.
- Sustainable Blue Economy Partnership (SBEP): 1st Joint Transnational Competition. Deadline: 13 September 2023. For more information **CLICK HERE**.
- Marie Skłodowska-Curie Actions (MSCA) Postdoctoral Fellowships 2023. Deadline: 13 September 2023. For more information **CLICK HERE**.
- European Humanitarian Innovation Award (InnovAid). Deadline: 3 October 2023. For more information **CLICK HERE**.
- EIC Accelerator – Challenges 2023. Deadline: 4 October 2023. For more information **CLICK HERE**.
- Call Hop On 2023. Deadline: 4 October 2023. For more information **CLICK HERE**.
- Hop-on facility. Deadline: 10 October 2023. For more information **CLICK HERE**.
- Funding networking activities – Open call. Deadline: 25 October 2023. For more information **CLICK HERE**.
- Diseases 2023 Best PhD Thesis Award. Deadline: 31 October 2023. For more information **CLICK HERE**.
- HORIZON-EURATOM-2023-NRT-01. Deadline: 8 November 2023. For more information **CLICK HERE**.

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AGENDA

- **SALP – *Seminário Aconselhamento no Luto em Portugal***, 5 May 2023, University of Aveiro, Portugal. For more information **CLICK HERE**.
- ***Congresso Internacional "Desporto para Crianças e Jovens"* – PortugalFootball School**, 5-6 May 2023, presencial. For more information **CLICK HERE**.
- ***I Seminário Desenvolvimento e Educação em Creche – Valorizar a creche: das neurociências à qualidade das interações***, 6 May 2023, online. For more information **CLICK HERE**.
- **Chapter 4 – Conference on Food Science, Nutrition & Public Health (FNPH-2023)**, 8-9 May 2023, online. For more information **CLICK HERE**.
- **INPI and FCT promote session on the initiative "*Desafios Justiça*"**, 9 May 2023, online. For more information **CLICK HERE**.
- **Inter-regional cooperation for better lifelong learning policies**, 10 May 2023, Brussels and online. For more information **CLICK HERE**.
- **Workshop the Future of Energy Materials**, 13-14 May 2023, online. For more information **CLICK HERE**.
- ***I Ciclo de Ações de Curta Duração – Metodologias, métodos e situações de aprendizagem***, 15 May 2023, online. For more information **CLICK HERE**.
- ***IV Simpósio de Economia e Gestão da Lusofonia***, 16-18 May 2023, online (iLRN Virtual Campus & Across the Metaverse). For more information **CLICK HERE**.
- **I Fórum Nacional IDAHOT – Educação**, 17 May 2023, Almada. For more information **CLICK HERE**.
- **Digital Innovation Spaces and Challenges for Higher education**, 18 May 2023, online and presential.
- **9th International Conference of the Immersive Learning Research Network**, 18-20 May 2023, online and 26-29 June 2023, San Luis Obispo, California, USA. For more information **CLICK HERE**.
- ***VI Congresso Internacional do Envelhecimento* – AGEINGCONGRESS**, 22-23 May 2023, presential and online. For more information **CLICK HERE**.
- ***2º Encontro Nacional de Investigação Clínica e Inovação Biomédica***, 23 May 2023, Coimbra. For more information **CLICK HERE**.

- ***3ª Conferência Internacional das Línguas Portuguesa e Espanhola (CILPE) | Línguas, Comunicação, Educação Intercultural, Diversidade***, 23-24 May 2023, Asunción, Paraguai. For more information **CLICK HERE**.
- **I Congresso Internacional de Walking Football**, 24May 2023, Aveiro.
- ***II Congresso do Observatório para o Futuro da Educação de Infância (OFEI) | Paz –***
- ***sustentabilidade – inclusão***, 24-26 May 2023. For more information **CLICK HERE**.
- **CPUP Spring School – Bringing online experiences to real-world extremism: Social conflict, misinformation, discrimination, and informal social control**, 25-27 May 2023, FPCEUP. For more information **CLICK HERE**.
- ***Biennale des doctorants***, 30 May 2023. For more information **CLICK HERE**.
- ***V Congresso Nacional de Educação para a Saúde | A Voz dos Agentes Educativos***, 31 May and 2 June 2023, University of Évora. For more information **CLICK HERE**.
- **European Conference on Networks and Communications & 6G Summit 2023**, 6-9 June 2023, Sweden. For more information **CLICK HERE**.
- **European Youth Event**, 9-11 June 2023. For more information **CLICK HERE**.
- **EuroNanoForum**, 11-13 June 2023, Sweden. For more information **CLICK HERE**.
- **Facing Fire project multiplier event – Interactive workshop "Education to live with fire"**, 12-14 June 2023, Santiago de Compostela, Spain. For more information **CLICK HERE**.
- **ANGES – Estimulação cognitiva de idosos: da teoria à prática**, 12-16 June 2023, online. For more information **CLICK HERE**.
- **Data meets Infrastructure at the Edge**, 13-15 June 2023, Sweden. For more information **CLICK HERE**.
- ***Corso Intensivo (BIP) di Intercomprensione fra lingue romanze***, 13-22 June 2023 (online) and 26 June and 1 July (Italy). For more information **CLICK HERE**.
- ***Curso/unidade de educação contínua – Diálogos Intergeracionais em Educação***, 15-30 June 2023, Porto, Portugal. For more information **CLICK HERE**.
- **6th International Conference on Natural Fibers**, 19-21 June 2023, Funchal, Portugal. For more information **CLICK HERE**.
- **9th International Conference on Higher Education Advances**, 19-22 June 2023, Valencia, Spain. For more information **CLICK HERE**.
- **II Conferência de Ciência de Dados para as Ciências Sociais**, 19-23 June 2023, Manaus and Itacoatiara, Amazonas, Brazil. For more information **CLICK HERE**.
- **WEd5.0 2023 – 1st Workshop on Education 5.0**, 20-23 June 2023, University of Aveiro, Portugal. For more information **CLICK HERE**.

- **ESREA Life History and Biography Network meeting 2023 | Exploring belonging and meaning: Lifescapes – Landscapes – Timescapes**, 22-25 June 2023, Trondheim. For more information **CLICK HERE**.
- ***8º Encontro Internacional Saúde com Arte – EISA***, 27-30 June 2023, Pousos, Leiria, Portugal. For more information **CLICK HERE**.
- **6º Colóquio Internacional de L'ARCD**, 27-30 June 2023, Switzerland. For more information **CLICK HERE**.
- **10th International Conference of EDiLiC | From Early Childhood to Adulthood: Transitions, Continuity, and Disruptions in Plurilingual Education**, 28-30 June 2023, University of Copenhagen, Denmark. For more information **CLICK HERE**.
- **International Conference "The Lusophone World and its Diasporas"**, 28 June – 1 July 2023. York University Toronto, Canada. For more information **CLICK HERE**.
- **EERA Summer School 2023 – Participatory approaches in educational research**, 26-30 June 2023, Faculty of Psychology and Education Sciences of the University of Porto. For more information **CLICK HERE**.
- **EvoKE 2023**, 3-5 July 2023, University of Bath, United Kingdom. For more information **CLICK HERE**.
- **ISATT Conference 2023 – Living and Leading in the Next Era: Connecting Teaching, Research, Citizenship and Equity**, 3-7 July 2023, Bari, Italy. For more information **CLICK HERE**.
- **AIESEP International Conference**, 4-7 July 2023, Santiago, Chile. For more information **CLICK HERE**.
- **Ciência 2023 – Encontro com a Ciência e a Tecnologia em Portugal**, 5-7 July 2023, University of Aveiro. For more information **CLICK HERE**.
- **IX Encontro de Jovens Investigadores do CEIS20**, 6-7 July 2023, Coimbra. For more information **CLICK HERE**.
- **The 21st Annual (1st blended) SAARMSTE Research Schoolfor Mathematics, Science and Technology Education**, 7-21 July 2023, School of Education, University of KwaZulu-Natal, South Africa. For more information **CLICK HERE**.
- **CIAIQ2023 | 12º *Congresso Ibero-Americano em Investigação Qualitativa***, 11-13 July 2023, hybrid. For more information **CLICK HERE**.
- **Facing Fire project multiplier event – Interactive workshop "Education to live with fire"**, 12-14 July 2023, Santiago de Compostela, Spain. For more information **CLICK HERE**.
- **Research Summit 2023 – Sociedades inclusivas, inovadoras e sustentáveis**

- **44th International Conference of the Stress, Trauma, Anxiety, and Resilience Society (STAR)**, 19-21 July 2023, hybrid. For more information **CLICK HERE**.
- **SMBE2023 – Science for everybody: education and outreach in molecular biology and evolution**, 23-27 July 2023, Ferrara, Italy. For more information **CLICK HERE**.
- **II Encontro Nacional de História da Química | Múltiplas facetas na história da ciência química**, 8-9 September 2023, online. For more information **CLICK HERE**.
- **XXIV das Jornadas da Sociedade Portuguesa de Psicologia do Desporto**, 14-16 September 2023, University of Madeira, Funchal. For more information **CLICK HERE**.
- **14ª Conferência Lusófona de Ciência Aberta (ConfOA)**, 18-21 September 2023, Federal University of Rio Grande do Norte, in Natal, Brazil. For more information **CLICK HERE**.
- **Adult Learning at the Nexus of Life Course, Work & Transitions**, 27-29 September 2023, Goethe University Frankfurt, Germany. For more information **CLICK HERE**.
- **I International Conference on Language and Intercultural Communication Learning (LaICL'23)**, 28-29 September 2023, ESTGA. For more information **CLICK HERE**.
- **5th EMCEI**, 2-5 October 2023, Rende (Cosenza), Italy. For more information **CLICK HERE**.
- **IUFRO Forest Environment**, 8 October 2023. For more information **CLICK HERE**.
- **11th ICESD International Congress of Educational Sciences and Development**, 18-20 October 2023. For more information **CLICK HERE**.
- **VI Simpósio Europeu de Português como Língua de Herança (VI SEPOLH) | Português como Língua de Herança: da Gestão à Formação**, 23-25 October 2023, University of Aveiro, Portugal. For more information **CLICK HERE**.
- **IUFRO Forest Environment DIV8 Conference 2023**, 24-27 October 2023, Évora, Portugal. For more information **CLICK HERE**.
- **13th International Conference on Health and Social Care ICT (HCist 2023)**, 8-10 November, Porto, Portugal. For more information **CLICK HERE**.
- **27as Jornadas de Endocrinologia e Diabetes de Coimbra**, 10-11 November 2023, Coimbra, Portugal. For more information **CLICK HERE**.
- **ICCE Global Coach Conference**, 29 November – 3 December 2023, Singapore, Singapore. For more information **CLICK HERE**.
- **IX Seminário Ibero-Americano CTS XIII Seminário CTS**, 8-10 July 2024, University of Aveiro. For more information **CLICK HERE**.