COMPARISON EXPERIENCES OF ACTIVE UNIVERSITY DIDACTICS SUPPORTED BY TECHNOLOGIES, BEFORE, DURING AND AFTER THE PANDEMIC, TO ENHANCE PARTICIPATORY PROCESSES, THE EDUCATIONAL RELATIONSHIP, HARD AND SOFT SKILLS

ESPERIENZE A CONFRONTO DI DIDATTICA UNIVERSITARIA ATTIVA SUPPORTATA DALLE TECNOLOGIE, PRIMA, DURANTE E DOPO LA PANDEMIA, PER VALORIZZARE I PROCESSI PARTECIPATIVI, LA RELAZIONE EDUCATIVA, HARD E SOFT SKILLS

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ABSTRACT

The contribution, as a case study, investigates, with respect to three different periods (before, during and after the Pandemic), the perception that students have of active learning (Peluso Cassese, Torregiani, 2017) supported by digital technologies, highlighting the perceived link with the development of participatory processes, the educational relationship and the implementation of hard and soft skills. The results that emerge can represent significant points of reflection for professors.

Il contributo, come studio di caso, indaga, rispetto a tre periodi differenti (prima, durante e dopo la Pandemia), la percezione che gli studenti hanno dell'apprendimento attivo (Peluso Cassese, Torregiani, 2017) supportato dalle tecnologie digitali, evidenziandone il legame percepito con lo sviluppo dei processi partecipativi, la relazione educativa e l'implementazione di hard e soft skills. I risultati emersi possono rappresentare spunti significativi di riflessione per i docenti.

Introduction

The institutions that deal with university education are aware of the need to reformulate the acquisition of disciplinary contents also in terms of soft skills and competences that allow students to face a composite and mutable reality, to provide a corpus of knowledge aimed at forming an individual ready for dialogue, able to accept change and the pluralism of perspectives. This requires investment in training interventions that translate into empowerment processes through the proposal of experiences that make it possible to enhance everyone's skills and implement active citizenship.

Today more than ever, therefore, it is necessary to resort to different forms of teaching than those used in the past. (Beach, Sorcinelli, Austin & Rivard, 2016; Mortari, Bevilacqua, Silva & Borzellino, 2021). This can happen provided that, during university training courses, opportunities are favoured where learners can actively experience putting skills into practice that go beyond hard knowledge and which guide them to manage complexity and changes (Council of the European Union, 2018).

Precisely this development of soft skills presupposes that the teaching-learning processes are implemented through teaching based on active methodologies characterized by techniques, tools and intervention practices created ad hoc (Boffo & Fedeli, 2018; Cinque, 2010; Tino, 2019).

Especially after the Pandemic, we realized that we can no longer underestimate the valid help, in the teaching environment, of the various technologies, contemplated not as electronic learning but through the integrated and systematic use in educational and training actions and aimed at promoting learning processes (Calvani, 2001; Galliani, 2004; Ranieri, 2015) and capable of amplifying communication, knowledge sharing, cooperation and interpersonal integration.

The solution is therefore to also encourage active learning, supported by educational technologies which involve students through intentional processes orientated on the student centered perspective, according to which the teacher is seen as a facilitator that co-promotes change and co-design learning, in collaboration with the students themselves, creating an authentic atmosphere. Even neuroscience studies agree with this possibility which would bring added value to teaching practices (Contini, Fabbri and Manuzzi, 2006; Rivoltella, 2012; Della Sala, 2016; Damiani & Gomez Paloma, 2020).

1. **Theoretical Framework**

The theoretical framework supporting this study is based, on the one hand, on neuroscientific studies that reflect on the plural and complex nature of teaching with respect to the multiple levels of the training proposal, which must take into account the intellectual, physical, affective and relational dimensions of the person (Arboix-Calas, 2018; Francesconi, 2011; Damiani, Santaniello & Gomez Paloma, 2015); and on the other, it reflects on the link between learning and the use of technologies in formal training.

Neuroscience encourage an approach to didactic research from a multidisciplinary point of view: it must be open to comparison by using models deriving from other scientific knowledge surrounding the holistic vision of mind-body through the concept of embodiment, which describes the idea of knowledge as an embodied action (Peluso Cassese, 2017). Zambianchi and Scarpa (2020) highlight that perception represents a type of action that requires practical knowledge; they are of the opinion that it is a particular holistic view of mind-body which becomes a middle ground of knowledge.

Recovering the idea of knowledge as an embodied action, they enhance the theme of corporeity as an essential dimension of the processes of knowledge. In this way *'every experience would become knowledge not only for our minds but, contextually, also for our bodies, thanks to a circularity between perception and action which would precisely outline a sort of reciprocal coupling between reality in knowledge, or world, and subject acquaintance'* (p. 132).

We, therefore, understand that cognition arises from the dynamic collaboration between the subject who performs the action and their environment. This happens through the individual's ability to interact with the world through relational processes which, referring to the learning context, translate into relational links with peers and teachers. The EDUFIBES research has investigated these aspects by enhancing corporality as a mediator between experience and personal experience, considering it the pivot around which the relationship revolves and demonstrating that, it facilitates personal dynamics during learning processes (cf. Gomez Paloma, Raiola, Tafuri, 2015).

The study by Damiani, Santaniello and Gomez Paloma (2015) agree with the study's assumptions. Reflecting on the central role of Executive Functions and on the emotional aspects on which behavioural responses and the possibility of learning, effectively depend, they confirm the centrality of the mental processes of relationship and integration, necessary to carry out learning, therefore education must implement experiences that meet these characteristics.

With respect to these perspectives, students also learn from experience (Kolb, 1984). In fact, the brain acquires concepts, notions and relationships much faster if it is forced to put them into practice, if it also experiences them first-hand through physical and emotional involvement they facilitate attention and memory (Maggi 2020). Active teaching fosters the development of metacognition, the

indicator par excellence of the success of the teaching-learning process (Cornoldi, Friso, Palladino, 2006).

Reflection on the experiences made allows us to think about the teaching methodologies used which stretch from student centred approaches (Weimer, 2013), through the enhancement of the theory-practice combination which allows students to develop technical and transversal skills to be transferred in contexts of real life, to the use of technology as a culture produced by man which transforms our intelligence without neglecting the educational relationship. These are opportunities for developing a space for creativity, communication and problem solving (Tore, Tino, Fedeli, 2021, b) or for experimenting with team-based projects that contribute to learning through group work processes, allowing to enhance the relational and participatory areas and thanks to active teaching, allow each student to participate in the cultural and relational life of the group.

As far as the link between learning and the use of technology is concerned, the discussion is quite clear. In the human species, the development of the brain is closely connected to the learning processes but the genetic endowment at birth is not sufficient to guarantee its survival; in fact, it is the learning processes which make up for this incompleteness by triggering the development of the human brain: development consists in using the stimuli of the natural and cultural environment to evolve (Siegel & Sapru, 2019).

Man has produced objects that help him in his daily life to remedy his biological deficiencies and amplify physical deficiencies, an example is represented by the computer. However, pedagogy moves, divided between diversified and divergent positions ranging from accepting technological developments as an educational resource to the most stubborn criticism.

The pandemic has irrevocably changed the approach to traditional training and research that has studied this impact has shown that it is necessary to equip the structures that deal with technology training, but it is equally important to train teachers to implement quality teaching (Piceci, Mariani, Peluso Cassese, 2021). Didactics experienced through technologies and the web significantly change the fundamentally dispensing methods of classical training by triggering an explosion of the quantitative and qualitative implications of interaction; the subjects involved have a more active and participatory role marked by: negotiation and cooperative activities; a strong sense of presence and belonging (groups, work communities, virtual classes) (Calvani, 2012). E-learning exploits the potential of the web to provide synchronous or asynchronous access to contents or training reports at any time and in any place where there is an internet connection. With online training it becomes possible to really learn how to learn again, learn together, learn from comparison with others, on a collaborative way (Rivoltella, 2020). It must be recognized that digital technologies shape increasing forms of social participation

and ways of knowing. The university, as an organization that takes care of higher education, must feel responsibile to integrate a systematic use of digital technologies to improve the expected learning outcomes. Professors should value active learning experiences that involve mind and body in the light of the most recent neuroscientific discoveries.

2. The case study

2.1 Method and tool

This contribution, developed as a case study (Yin, 2005), aims to investigate, in the light of the theoretical framework presented, the application of active learning and educational technologies in university teachings of Game Methodology and Animation, Methodologies Techniques of Group Work and Animation Methodology of Training.

They were carried out in three different periods: pre-pandemic phase, pandemic-phase and post-pandemic phase but they benefited from a common denominator:
1) active and participatory teaching
2) use of the MOODLE (Modular Object-Oriented Dynamic Learning Environment) operating system, its resources and activities and other educational technologies.

The study aims to answer the following research question "What is the effectiveness perceived by students, in face-to-face and distance learning, on the use of active university teaching and educational technologies and what are the effects on expected learning outcomes?

The tool used to analyse the students' point of view was the questionnaire constructed with open-form items (Coggi, Ricchiardi, 2020) that encouraged the reflection of the students on the knowledge process to contextualize and understand their role with respect to contents and practical activity, processes, emotions and emerging competences. Its compilation took place at the end of the courses attended and represented a moment of self-assessment with respect to the training activity.

Through the qualitative analysis (Corbetta, 2003) the following areas were investigated:
1) Knowledge building and use of technology face to face and remotely
2) Group and learning processes
3) Skills activated through the combination of theory and practice
4) Transfer of skills in real life and/or professional contexts through reflexivity
5) Emotional state connected to the involvement of the teaching used.

2.2 Context and participants

The study investigated two experiences already published: one followed by three teachers and referred to the courses of Methodology and Techniques of Group

Work and Training (2020/2021, pandemic period, E-learning mode) (Tore, Tino, Fedeli, 2021 b); the other, the Game and Animation Methodology (pre-pandemic period, face-to-face mode) (Tore, 2020). To these has been added the new analysis of Game and Animation Methodology managed mixed mode during the post-pandemic phase (2021-2022), all carried out at the University of Padua and followed by 215 students.

2.3 The sharing of the teaching-learning process between teachers and students: operations

The operation in the teaching-learning process was outlined through two steps: the first was represented by the sharing of the teaching methodology between teachers and students who reasoned on the Syllabus, considered as a guidebook for managing the course. In this regard, the document explained everything in detail:

-didactic planning with the representation of the objectives in terms of expected learning outcomes, declined through the Taxonomy of Dublin Descriptors and related contents

-the description of the learning environment

-the ongoing evaluation process as a formative, constructive, transformative evaluation for learning and final assessment.

Before the start of lessons, the Syllabus was inserted in a specific folder in the MOODLE space of the course and it was indispensable for illustrating the coherence of the disciplinary objectives with the professional skills required by the Study Programme, with the teaching methods and tools of teacher evaluations (Biggs, 2007). It was well explained that the teaching would take place through a composite lesson with a part reserved for the explanation of the theoretical contents, bound however to experiential practice, to the exchange of knowledge between students in small groups through laboratory activities, case studies, use of sources, reasoned bibliographic references, problem solving exercises as well as individual study.

It was also specified that for the management of educational content, teacher and students would make use of the MOODLE platform with all its resources (files, folders, URLs, web pages, books) and activities (forums, chats, questionnaires, feedback quizzes, assignment, workshop, glossary, wiki) as well as other technologies (Padlet, Wooclap, Mentimeter) in order to allow students to autonomously create artefacts: design simulations, games and multimedia products (Podcasts) (Tore, Tino, Fedeli, 2021a).

In the construction of the products, the main phases concerned:

- the selection of the topic among the course contents

- the search for bibliography and digital resources to enhance the chosen theme

- the start of online and/or face-to-face group work to identify the operational process in the implementation
- the graphic organization of the ideas that emerged
- the definition of the roles and functions of the different members of the group
- the production of the artefacts and evidence of the phases in the design
- the presentation of the process and the product in the classroom
- the return of the peer evaluation

The second step concerned the information on the methodology acted upon by the teachers for the assessment of learning, clarifying that it would be an ongoing process (formative-constructive-transformative assessment) and final, both described with clear and transparent criteria (Tore, Peretti, Usai, 2023). The first was explained through reflections, construction of glossaries, maps, group work, this would represent the feedback on the work done, allowing to modulate the teaching-learning process and to implement educational gains for students and teacher who in this way would direct their didactic action. A score was assigned to this phase to be taken into account in the assignment of the mark with respect to the final exam. The second, carried out at the end of the course, would represent the certification phase expressed by the final grade (written test).

2.4 Data analysis

In order to investigate the perceptions of students, I reflected on the content of the information collected through the questionnaires and proceeded with a rationalised reading of the answers given. This examination was carried out with reference to the Theory of Speech Acts (Austin 1982; Grice 1989), considering sentences as textual units that can be classified by their properties because they come from communicative interaction (Sbisà, 1993).

For the formal organization of the data, we used the Atlas.ti software in versions 9 and 22, a tool that made it possible to show the properties and relationships between the parts of the content of Hermeneutic Unit in graphic form to give meaning and structure to the data through two main ways of working: the textual level (*Quotations*) and the conceptual level (*Group- codes and Families*). The textual level concerned activities such as the process of segmentation and coding of the material but also the retrieval of the text; the conceptual level involved the process of constructing the categories and the theoretical model for the training. The overall analysis of 1283 quotations made it possible to group-codes (1967), into 5 families, in order: 1) to investigate the effectiveness perceived by the students on the use of active-participatory teaching in the traditional environment (face to face)

but supported by technology and in an e-learning environment; 2) to contextualize the effects with respect to the expected learning outcomes.
(Tab. 1).

Families	PRE-COVID PERIOD 2019-2020 (Face to face) (n. 406 quotations)		COVID PERIOD 2020-2021 E-learning (n. 434 quotations)		POST-COVID PERIOD 2021-222 (Mixed mode) (n. 443 quotation)		Conceptual analysis (1283 total quotations for the three years)
	Number Group-codes	Percentage quotations	Number Group-codes	Percentage quotations	Number Group-codes	Percentage quotations	
First family: Methods of building knowledge and using technology face to face and remotely (intersects with the second and fifth families)	121	90%	127	120%	109	116%	Description of the acquisition of knowledge through the evidence of cause-effect links produced with the teaching tools in use
Second family: Learning processes activated face to face and remotely (intersects with the third and fifth families)	130	110%	128	95%	104	90%	Description of the processes activated for group learning characterized by collaboration, comparison, problem solving, negotiation of ideas, innovation for production of artefacts.
Third family: Theory-practice combination and activated skills (intersects with the fourth and fifth families)	132	88%	124	127%	129	115%	Reference to the use of theoretical contents and practical activities that have influenced the learning process for the activation of knowledge, hard and soft skills
Fourth family: Transfer to real-life and/or professional contexts (intersects with second and fifth families)	124	120%	124	95%	112	97%	References to knowledge and skills useful for professional and/or personal continuation
Fifth family: Emotional state and educational relationship connected to the involvement of active	137	115%	196	167%	170	130%	Reflections on one's own emotional experience linked to active/participatory teaching Evidence linked to the ability to reflect on life

teaching face to face and remotely (transversal to all families)							experience with awareness of the importance of the educational relationship
ANNUAL TOTAL	644		699		624		1967 (TOTAL THREE YEARS)

Table 1: Overall analysis of the hermeneutic units relating to the teachings analysed.

3. Students' opinions reported in the teacher evaluation questionnaires

In order to acquire further feedback on the quality of the proposed teaching, the results of the items of the Questionnaires on students' opinions were taken into consideration, congruent in terms of content with the areas investigated in the questionnaires used for the analysis of student perceptions of our study, with respect to teaching compiled for the academic years from 2019/2020 to 2020/2021, 2021/2022 and published on the university website.

As regards to the students' opinions of the pre-Covid period, the synthesis of the answers of 89 students attending the Game and Animation Methodology course was considered; for the pandemic period, a summary of the answers to the questions of the Training Methodology course (19 students) and Group Work Methodology and Techniques (32 students) was presented, while for the post-Covid period, a summary of the answers to questions for the teaching of Methodology of Game and Animation in presence mode for 34 students and remotely for 56 students (Fig. 1).
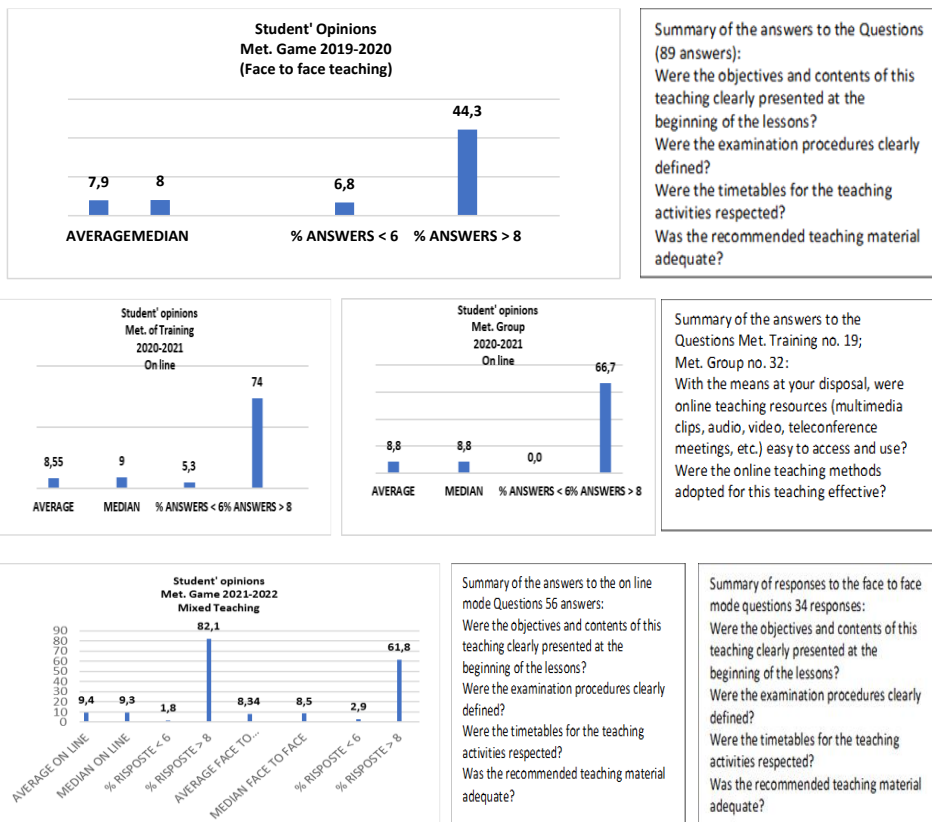
Figure 1: The students' opinions

4. Discussion

The results presented to us allowed us to explore the main question of the study 'What is the effectiveness perceived by students, in face-to-face and remote learning, on the use of active- university teaching and technologies and what are the effects on the results of expected learning?', bringing out 4 categories (Tab. 2).

Category 1	The educational and training experience linked to active teaching and the use of educational technologies allows students to analyse the process of building knowledge in a way that is congruent with respect to face-to-face and remote methods.
Category 2	The group work, required for the construction of the artefacts, helps to support the learning of students with repercussions on the implementation of hard and soft skills.
Category 3	The educational and training experience, through the production of artefacts, activates students to be reflective and to recognize the importance of theory and practice for the activation of hard and soft skills and their transferability in a professional context.
Category 4	The educational and training experience linked to active teaching and the use of educational technologies, face to face and remote, has generated positive emotions in students linked to the strong involvement, highlighting the value of the educational relationship.

Table 2: Categories

Results: Category 1. The educational and training experience linked to active teaching and the use of educational technologies has allowed students to analyse the process of building knowledge in a way that is congruent with respect to face-to-face and remote methods (1222 quotations).

The category illustrates the acquisition of knowledge by means of cause-effect links that enhance the importance of contents, experiential and interactive activities produced with the teaching tools used, furthermore it links the educational and training effectiveness face to face and remote to the use of active teaching that also guided the teaching-learning process by means of digital resources. The privileged processes were: learning content through the use of Moodle with its resources and activities, Wooclap, Padlet, videos; the educational relationship (supported by the exchange of knowledge and negotiation of ideas, dialogue with peers and teachers) (Prestridge & Cox, 2023); the exchange of knowledge deriving from previous studies; extensive discussions and feedback; meeting and sharing of ideas, contents, (search for information related to the themes chosen for the contents).

A demonstration can be found in the thoughts of students who have attended only in e-learning mode as shown below:

'This type of teaching, which in my opinion seems rather technical, followed online didn't lose its character, as may of happened to other teaching methods that need a more philosophical exchange. I don't believe the interaction between students and the teacher suffered shortcomings.'

The same opinions are found in the messages of those who followed the lessons face to face with the support of technologies as in this example:

'The power point of the uploaded materials made us reflect by listening to the points of view of all the members of the group'.

From the words, comparison, construction, interaction, it is clear that learning environment is a lively place of relationships and experiences that are transformed into learning thanks to the active teaching method. The training of the methods of knowledge and skills find a synthesis in the didactic mediation which is proper to the teaching function (Boffo, Iavarone, & Nuzzaci, 2022).This does not mean denying the value of the face to face lesson and its contents but contextualizing knowledge in innovative learning environments supported by educational technologies, as can be read in the messages that explain the importance of videos, Moodle or Wooclap because they offer other expressive possibilities to students. This contextualization is necessary because it brings out the change in students' willingness to learn, by now technologically advanced and endowed with a holistic rather than analytical thinking, characterized by a strong tension towards sociability and sharing.

Results: Category 2. The group work, required for the construction of the artefacts, helped to support the learning of students with repercussions on the implementation of hard and soft skills (1250 quotations).

The second category demonstrates that the processes activated for group learning are characterized by collaboration, discussion, debate, problem solving, negotiation of ideas, production of artefacts, which connects the training effectiveness to the planning and production work in group and to the educational relationship. The privileged processes were: the motivation to learn; getting involved; the educational relationship through collaboration, negotiation, sharing; the development of ideas through problem solving activities, cooperative learning and through the personalization of products; the experimentation of interdependence in the group, feeling united and bound to each other to achieve the set goal. All the students expressed great consent for group work both face to face and remote for various reasons, as shown in the contents included below:

'I find that group work has made everything more dynamic and functional'.

'I really appreciated the space dedicated to group work both face to face and online, it gave me the opportunity to have an immediate discussion with my companions and to develop new points of view'.

The statements presented, highlight the incitement that an active approach produces in the group for a shared result, and which allows the participants to be clear and transparent in communicating objectives, tasks and results, guaranteeing mutual support. It also gave the opportunity to apply theoretical study to practice, to recognize the achievements of each participant through the development of interdependence and mutual recognition.

The students generated new ideas, overcoming their own points of view, allowing for the creation of innovative and more effective solutions (Baldwin, 2019). Group work maximized the knowledge of individuals and facilitated the acquisition of new skills.

Results: Category 3. The training experience, experienced through the production of the artefacts, allowed students to be reflective and to recognize the importance of theory and practice for the activation of hard and soft skills and their transferability in a professional context (1248 quotations).

The third category demonstrates that the combination of theory and practice has influenced the learning process; linking educational effectiveness to the awareness of students of the importance of this combination and to the identification of knowledge, skills, and competences to be transferred in real-professional life contexts. Processes such as: collaboration with colleagues in the Breakout Rooms for teaching activities in class and individual study are privileged; social relations; educational relationships; consolidation of contents, mutual aid, communicative exchange; project activity; testing of training proposals. At the same time, difficulties, potential and theory are evaluated directly in the field, allowing students to consider them useful for a possible proposal in the workplace (García-Aracil, Monteiro & Almeida, 2021). The communicative messages highlight the possibility of using the lesson as a simulation of the working environment and being

able to work with colleagues through the creation of small groups face to face and/or remotely (Yang, Luo & Sun, 2022). The use of technology is also essential because it facilitates collaboration and understanding of the work at hand. This was reported by the majority of students regarding videos used for educational purposes. To this end, the students set themselves the goal of continuing to invest in the strengths experienced such as: collaboration, reciprocity and attention to mutual needs as reported in the following message:

'The course was structured in such a way as to make us participatory and active. Ours was not just a theoretical learning and the design (which I found fun, enlightening and absolutely effective), was an excellent opportunity to develop our notional knowledge in the field'.

From the contents it is clear that the practical application was a way to consolidate the theoretical explanation of the lesson and think about the possibility of transferring the skills to a real context. The didactics used, attracted the attention of the students, implementing their commitment.

Results: Category 4. The educational and training experience linked to active teaching and the use of educational technologies, face to face and remotely, has generated positive emotions in students which were linked to strong involvement, highlighting the value of the educational relationship.

The construction of the fourth category took place through the contents of the reporting families, the reflections of students on their own emotional experience linked to the ability to reflect on the experience with awareness and on the educational relationship established between their peers and with the teachers. The training effectiveness is owed to the emotional experience of complete well-being linked to positive relationships (Hammill, Nguyen & Henderson, 2022). The privileged processes were: emotional feeling of well-being due to the participation and involvement due to the satisfactory educational relationship; the communicative exchange; negotiating ideas in class and in study exchanges; feeling at ease while working; have continuity, dialogue, feedback and direct and immediate comparison. Some examples are given.

'I strongly believe that the methods used have all been very effective. The comparison and activity done with the group were very enlightening, as we had the opportunity (even during this period of distance) to be able to compare ourselves in order to grow and hear different opinions.'

'Very positive experience for cohesion, collaboration and empathy between us'.

We can say that the atmosphere of trust and well-being has generated positive emotions in the students linked to the strong involvement, due to the use of active teaching and educational support technologies that have made it possible to share experiences and emotions also at a distance, everyone putting into play their own cultural background. The great value of the educational relationship allowed the entire knowledge process face to face and remotely. For this reason, the

construction of the learning processes took place in a relaxed way and this leads us to say the educational relationship is the pivot around which the teaching-learning process revolves.

The students' opinions reported in the teaching evaluation questionnaires and published by the University are in line with the analysis carried out in the study, settling between the values 8 and 9 on a scale of tenths, allowing the teaching used to be judged as more than good.

The repercussions in terms of expected learning outcomes are also very satisfactory with respect to the acquisition of knowledge, hard e soft skills, in fact the final average of the exam grades was 29.5 out of 30 for the 215 students.

The analysis of the categories has made it possible to enunciate the P.A.T.R.E educational prototype for the building of knowledge (Fig. 2).
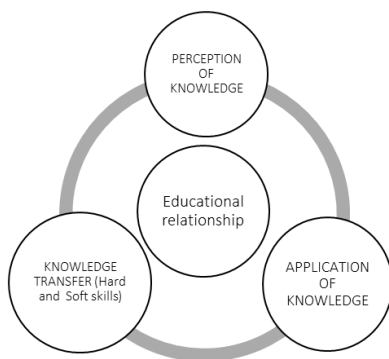

Figure 2: P.A.T.R.E educational prototype for building knowledge

The educational prototype consists of three fundamental phases all managed by the educational relationship:

1) the first phase, linked to categories 1 – 4, strengthen the perception of knowledge by building a solid basis on which to work for the selection of study content.

2) The second phase, linked to categories 2-4, allowed the application of knowledge by means of experiential teaching which always saw the educational relationship in the foreground.

3) The last phase, linked to categories 3 - 4, allowed the transfer to unguided contexts by implementing autonomy through the construction of the artefacts by the student, always through the enhancement of the educational relationship.

5. Conclusions

The study brought out some interesting aspects and, in particular, showed that the student centered training experience can be used in Higher Education and can foster the enhancement and development of knowledge, hard and soft skills as an opportunity for one's professional life (Pellerey, 2023). At the same time this work has allowed us to reflect on the integrated and systematic use of educational technologies in training actions, aimed at promoting learning processes by allowing the development of links between training participants. Their use has been successful and in agreement with Frabboni and Pinto Minerva (2004) we can say that through technical action man establishes and experiences new connections between elements and things, projecting his own action towards the construction of a possible world, in this way the technique, that is the culture produced by man, returns to man transforming his intelligence (p. 112). Of course, training is linked to the student's personal characteristics, but the teaching proposal must be able to impact learning from a transformative point of view to ensure that knowledge, skills and competences are implemented to manage the complexity of the contemporary world (Mezirow, 2000; Fabbri, Romano, 2018). In our case, the transformative value allowed us to evidence the strengths and weaknesses in the students' learning process. The arguments reported reinforce the importance of the mission of Higher Education regarding the adoption of active teaching approaches so that students feel more competent; it is important to create motivating opportunities during their learning, confirming the need for a university education that combines theory and practice, educational technologies and values individual experience.

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