DESIGNED INSTRUCTIONAL SYSTEM IN A TIME OF VULNERABILITY AND CRISIS: AN EMBODIED APPROACH TO DESIGNING MEANINGFUL EXPERIENCES WITH MEDIA LEARNING EDUCATION

PROGETTARE SISTEMI DI ISTRUZIONE IN TEMPI DI VULNERABILITÀ E CRISI: L'APPROCCIO EMBODIED ALLA PROGETTAZIONE DI ESPERIENZE SIGNIFICATIVE IN CONTESTI MEDIA LEARNING EDUCATION

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Abstract

The emergency scenario due to the SARS-CoV-2 outbreak has urgently required substantial changes in our living environments, socio-educational networks and media. Managing this complexity in contexts of individual, socio-relational and institutional vulnerability, demands the urgent mandate to reorganise and innovate the way education is delivered. Interaction with the digital ecosystem has accelerated the need to draw on strategies of decision making, creative problem solving and tinkering. Reconsidering transversal competences, which are necessary to promote the development of new cognitive/metacognitive and learning strategies in students, aligns with the programmatic guideline Goal 4 of the UN 2030 Agenda, aiming for quality, equitable and inclusive education. The focus of the research is on the methodology of Design Thinking in Media Education contexts and on the integration of situational expertise of a "Human-Centred" psycho-pedagogical approach. More specifically, following the experimental Design-Based Research (DBR) lines, the aim will be that to implement a strategy-intervention starting from the "Design Thinking Embodied Approach" construct and the Mindfulness protocols. The Embodied Design Experiment directly involves the student in the co-design, testing and experimentation phases, in order to verify personal strategies of problem solving, decision making, self-efficacy, mindful awareness and creativity, in correlation with learning and digital awareness.

Lo scenario emergenziale dovuto alla diffusione SARS-CoV-2 ha impellentemente richiesto cambiamenti sostanziali degli ambienti di vita, delle reti socioeducative e dei mezzi di comunicazione. Gestire tale complessità in contesti di vulnerabilità individuale, sociorelazionale ed istituzionale, impone il mandato urgente di riorganizzare e innovare le modalità di erogazione della didattica. L'interazione con l'ecosistema digitale ha accelerato la necessità di attingere da strategie di decision making, problem solving creativo e di tinkering. Riconsiderare competenze trasversali, necessarie per promuovere lo sviluppo di nuove strategie cognitive/metacognitive e apprenditive degli studenti, si allinea con l'indirizzo programmatico Obiettivo 4 dell'Agenda ONU 2030, per un'educazione di qualità, equa ed inclusiva. La centralità della ricerca si focalizza sulla metodologia del Design Thinking in contesti Media Education e sull'integrazione di expertise situazionali di approccio psicopedagogico "Human-Centered". Nello specifico, seguendo le linee sperimentali Design-Based Research (DBR), l'obiettivo sarà quello di implementare una strategia-intervento partendo dal costrutto «Design Thinking Embodied Approach» e dai protocolli Mindfulness. Il

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Design Experiment Embodied coinvolge direttamente lo studente nelle fasi di co-progettazione, testing e di sperimentazione, per verificare le personali strategie di problem solving, decision making, self-efficacy, consapevolezza mindful e la creatività, in correlazione agli apprendimenti formativi e alla consapevolezza digitale.

Introduction

The increasingly widespread use of digital technologies for educational delivery that involves students in designing activities that elicit creative problem solving and strategic decision making opens up the debate again on how the creation of digital artefacts (such as creating a narrative through digital storytelling) can be a central strategy for learning. Exemplary research work is IDeAL: A methodology for building artefacts and promoting transversal skills in the classroom (Niewint, Mori, Naldini, Benassi, Guasti, 2019). The didactic mediation of new technologies offers opportunities for meaningful learning and the development of transversal skills, if the methodological framework used is aimed at promoting better cognitive activation (Trinchero, 2018). The international literature highlights that it is the instructional strategy that supports the use of new technologies that guarantees results and not the technology itself that has a decisive impact on learning (Calvani & Vivanet, 2016; Mayer, 2013).

"*How the next generation digital workplace will leverage technology to create personalized experiences for students?*" and "*How do we manage to respect the human-to-human relationship, with the immersive use of digital technologies*?". With the emerging trend in human-computer interaction (HCI) that shifts the focus from usability to the facilitation of meaningful experiences, the notion of embodied cognition provides e-learning designers and researchers with strategies on how body-mind interaction can influence the creation of meaning during embodied experiences. This paper offers an approach to the design of embodied interactions from an 'Ecopedagogical' theoretical framework. Ecopedagogy, as a matter of fact, emphasises the need to place praxis alongside theory (Gaard, 2008). A pedagogical approach that browses and thrives in the perspective of prevention and education to "emergencies" is prefigured as an approach that considers the variables of vulnerability and that strives for resilience, that is able to reconnect with real life, that knows how to move in the fertile field of resources, attitudes, situational life-skills, creativity and constant adaptation to the context (Piceci, Cancellara, 2020). The possibility of adopting new behaviours, which are suitable for "emerging" contexts, implies the ability to revise the pedagogical device as "space-time intentionally arranged to support a subjective change, which depends on the perspectives with which the planner looks at a problem" (Rossi, Toppano, 2009). In this specific case, the experimental lines of Design-Based Research (DBR) will be used. The road map to achieve this goal involves a radical action that is broadly problem-solving and connectivist, both in humanitarian and pedagogical terms, that is in line with the ''emerging design'', that is inquiry-based, that is adaptive and at the same time generative. The implementation of such educational-formative implementation directives and the integration of critical relational frameworks into an adaptive and complex pedagogical approach have given our research team the opportunity to prepare an opening towards "situational expertise", thereby enabling the formulation of a design with a "humanising and transformative" (Piceci, Cancellara, 2020) approach, precisely Human-Centered, through Design Thinking (DT). We will see how DT in Media Education contexts, presents itself as a useful methodology in solving complex problems, and it is "a way of using systemic reasoning and intuition, to explore the ideal predictive value of organisation and organisational planning" (Langenfeld, 2019). The present research contribution is applied in a university-based context. The innovativeness of the present research is focused on the student's embodied ability to connect and

interconnect in e-learning contexts. Particular attention is given to corporeality, the relationship with human factors, the ergonomics of information processing and connected technological devices (Internet of Things).

The methodology of the Experimental Protocol takes as its starting point several application contributions to facilitate student empowerment on the acquisition of key competences and the dynamic combination of knowledge, skills and attitudes, which can be particularly developed by interdisciplinarity (European Council Recommendation 2018/C 189/01).

For this reason, a multidisciplinary eco-systemic framework approach is proposed, with the contributions of different approaches:

- Embodied Education, Design Thinking in Media Education contexts;
- Empathic Design for e-learning;
- Personalised learning environment;
- Human-Computer Interaction;
- Mindfulness.

Furthermore, this contribution is in line with the framework of competences defined by the learning indicators (Voogt and Roblin 2012), skills and competences, proposed by the P21 Framework for 21st Century Learning, necessary to succeed in work, life and in the broader framework of developing an active and aware citizenship. Moreover, they are fundamental requirements for achieving 21st century learning outcomes. For such purposes, the competences defined by the Life Long Learning indicators are divided into 4 macro-areas:

1. Knowledge of the content and themes of the 21st century;
2. Aptitude for learning, innovation and creativity;
3. Information, Media and Technology skills (Computer Literacy, Media Literacy, ICT Literacy, Embodied Digital Awareness and Storytelling);
4. Life and career skills (flexibility and adaptability, initiative and personal leadership social and intercultural skills, productivity and responsibility, leadership and accountability)

Through the study of the literature and the implementation of the DT process in a university environment, the aim is to demonstrate its possible use in the educational sphere, with the primary aim of obtaining improvements in the Media Education context, in order to propose a methodology that allows the creation of products, didactic-educational services, training and "breakthrough" design systems that can provide a contribution to innovation.

1. Designed Instructional System: Design Thinking Approach

The Design Thinking (DT) model proposed by Philipp Skogstad and Larry Leifer (2010) is based on the relationship between designers and managers for implementing a design activity. The research conducted by the authors shows how designers develop "breakthroughs" thanks to the knowledge acquired during the experimentation phase. It is only in the last two decades that DT has started to be considered as a support for learning and promoting soft skills such as creative thinking, problem-solving, team-working (Darling-Hammond et al., 2015; Laurillard, 2013; Razzouk & Shute, 2012). It is widely agreed that it was the company IDEO that implemented Design Thinking as an innovative-strategic design approach, and for that reason, David Kelley can be considered one of its founders. Among the distinctive features of the methodology we recognise: the Human Centred Approach, multidisciplinarity, collaboration, creativity and the propensity for "wild ideas" that allow to go beyond the limits of knowledge, helping designers to think and elaborate ideas, quickly prototype, visualise and test new solutions. Human-Centred Design has been created with the aim of improving the development of a product/service and making it adaptable to different situations. The term is defined in ISO 9241-210:2019 (Human-Centred Design for interactive systems, 2019). It will be a useful approach to decline the DT design cycle in educational and didactic contexts as the different phases contemplate the use of methodological strategies based on the principles of cognitive activation of the learner, promote deep cognitive processing and develop capacities to produce meaningful and transferable learning (Niewint, Mori, Naldini, Benassi, Guasti, 2019).

1.1 DT: Neuropsychobiological model and transformative learning in Media Education contexts

DT activates cognitive modalities capable of suggesting open and complex problems to students, which involve multiple methods of resolution (creative problem solving, learning by doing and decision making strategies); it requires them to verbalize the design process and the reasons for the choice they made; it invites them to reflect on mistakes, enhancing intrinsic motivational processes through a decision-making process that activates neurocognitive circuits involved in procedural logic. In support of this thesis, the psychological and neurological model of Design Thinking by Reimann and Schilke (2012) is confirmed. Change occurs over time as the professional designer transforms a skill into a practice (Vaughan, 2017). Designer-professionals (thinkers) engaged in university studies learn to be comfortable with situations of uncertainty and facing new knowledge and engage in "practitioner-research." The willingness to remain open to what the data reveal is a sign of a good researcher (Reimann and Schilke 2012). Moving from skill to practice seems to include acquiring the capacity for critical reflection. Furthermore, paradigm shifts are the product of repeated trial and error, leading to reiterated solutions over time (redesigning the stages of the DT cycle). Only when a new direction shows better results can we come to the conclusion that Kuhn (2000) calls "disciplinary limits", and then we explore what could be a new direction based on evidence. Learning through trial and error is fundamental to Design Thinking and differentiates it from traditional methodologies. Dealing with incomplete information, unpredictable and ambiguous situations requires uncertainty management skills (Pombo & Tschimmel, 2005). Another characteristic is Empathic Design: creating solutions through empathy. The spirit of collaboration builds a true team of learners in the classroom context who develop professional and personal expertise through empathy. In the phases of the method that are described below, it is possible to identify situations in which cognitive and metacognitive processes are involved (Anderson & Krathwohl, 2001) such as: re-enactment (having to take up procedural knowledge or previously learned content), creating innovative solutions, self-esteem, sense of agency, self-consciousness, self-awareness.

Reimann and Schilke (2012), in their research on aesthetics and creative design, focus on human factors by considering aesthetics and creativity as fundamental dimensions of creative DT. They propose that creative DT should include increased feeling and cognition. In particular, DT should require increasing attention, greater involvement of mnestic and learning processes, followed by aesthetically pleasing design as a result of an emotional response (motivational drive). In the literature, Brown (2009), highlights the reward system, inspiration and ideation as components of the emotional response to DT aesthetics. Gerber (2006) emphasises the centrality of the collaborative context and social interaction in exploring different points of view, identifying it as the core of the Design Thinking approach. Brainstorming techniques (Osborn, 1957) assist students in social interaction and in developing non-judging practices (Litchfield, 2008; Sutton and Hargadon, 1996). It has been shown how such behaviour in the work team helps to improve creativity in idea generation processes (Paulus and Brown, 2003). Essentially, the DT, in the logic of team working, favours the development of both personal and social skills. Figure 1 shows the structure of the psychological and neurological model of Design Thinking proposed by Reimann and Schilke (2012). Based on this model, the authors offer a precise definition: "Design Thinking is an individual creative process, influenced by factors at the social level (inspiration, prototyping and low criticism) that includes attention, memory, and learning and leads to a pleasing aesthetic" (Reimann and Schilke 2012).
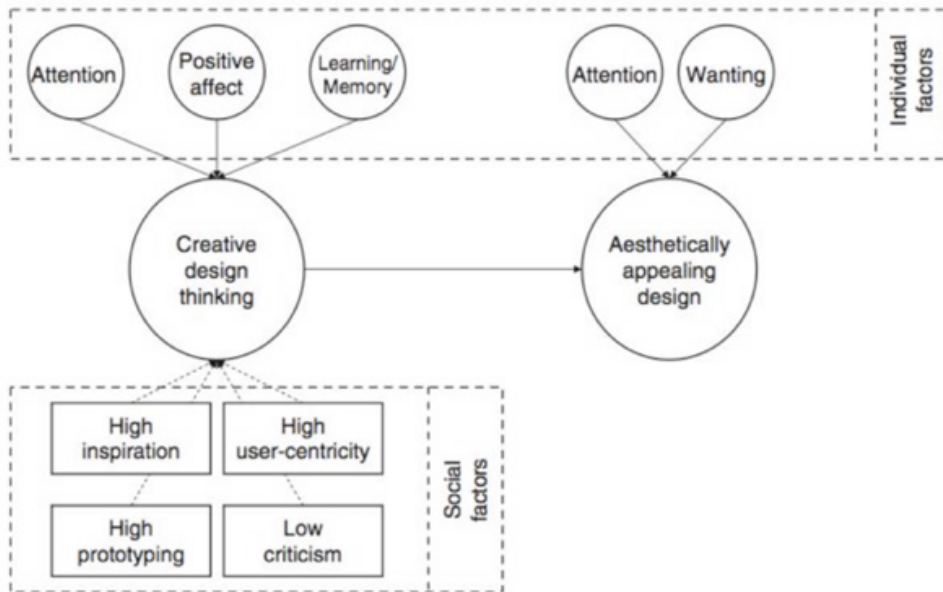
Figure 1. The psychological and neurological model of Design Thinking (Reimann e Schilke, 2012).

2. Technology, Human Centered Design & Media Education

Promoting the development of an efficient digital education ecosystem is one of the priorities of the EU Digital Education Action Plan 2021-2027. One of the strategic actions focuses on the planning and development of high quality e-skills and learning content for teachers and students. In this context, the initiative "Digital Opportunity Traineeships" launched by the EU for 2018-2020, which includes, among the fundamentals of e-learning, the intervention to train young students and/or recent graduates in active and conscious digital participation, fits in. The training objective consists in developing transversal skills of big data analysis, problem solving, critical thinking, web design and design thinking. In this research context, problem solving will take on the characteristics of "digital problem solving". By "digital problem solving", we refer to the digital tools through which it is possible to implement solutions, through phases of decomposition of the "problem solving" and on the application of some "digital soft skills", that is, using digital tools to find information from accurate keywords facilitating the work of the "problem solver" (referring to the 5 phases of DT). The term "critical thinking", developed by Richard W. Paul (1994), is defined as thinking that aims to reach a judgement through brainstorming actions of discernment, analysis, evaluation and inference. These e-skills are related to the first 3 phases of DT implementation in Media Education contexts, but the educational reverberation is likely to be appreciated on the overall pedagogical framework.

The research team contextualised both in-class and online training, starting from the theoretical frameworks of Laurillard (2013) in his "Conversational Framework" which, through the example of Learning Designers (London Institute of Education), used lesson plans and "web-based" digital tools to support the creation and sharing of educational projects that allow the integrated and efficient management of in-class and distance monitoring of the variables of the training process. These are platforms made available by Cusano University, i.e. digital learning systems defined as "Learning Content Management System" (LCMS) suitable for the creation and management of multimedia-didactic contents, for the composition of learning units and for tracking student interactions.

2.1 The principles of Human-Centered Design

Human-Centred Design (UCD), declined in the learning/teaching contexts, takes the form of an interactive systems development approach and aims to make pedagogical systems resilient and user-friendly. It is centred on users (learners), with the focus on real personal needs and expectations, and adheres to the humanising educational prerequisites "Human factors", cognitive and metacognitive skills and usability methods of each individual. This reference has been used to fulfil the characteristics of accessibility (AgId 2020), inclusiveness and personalisation of learning, which is a necessary didactic framework for the special education of both students with learning sdisability and of those with special needs. In this regard, the ergonomics of human-digital system interaction refers to Affordance, to ready-to-use tools (shrink-wrap) and to the world of Internet of Things. The implementation of digital resources used in classroom training in this research context adheres to the ISO quality standard (ISO 9241 and ISO 6385), which sets out the general principles of digital ergonomics. The Human-Centred Design development procedure considered the literature analysis of several central themes, which are identified in the following points:

1. Design is based on a holistic and explicit understanding of UX- User Experience and context;
2. Students are involved throughout the design and development phase;
3. Design is guided and improved based on user-centred feedback;
4. The process is iterative, mediated and dialogic;
5. The design takes into account usability, accessibility and special categories;
6. The instructional design team has multidisciplinary skills and perspectives

3. A Mindful body in creativity and problem solving (Annamaria)

The learning experience based on people and on the development of their own potential, in which the centre of the process is the individual in his or her entirety, throws into the spotlight the theme of the mind-body relationship in the knowledge and construction of reality. There is a great deal of theoretical and empirical evidence that underlines the importance of the complex interrelationships between cognitive, bodily and emotional processes (Niedenthal 2007; Niedenthal et al. 2005). The term ''embodiment'' refers precisely to the mutual interconnection between body, cognitive and emotional processes. Body and mind play a fundamental role in the construction of the person and in the learning processes, as a matter of fact the body enters into the cognitive processes and vice versa. The body allows the relationship with the context and the related construction of meanings but, at the same time, it is its acted expression (Lo Presti, 2005). The idea of embodied process places the body at the centre of the process giving the opportunity for physical interaction with the knowledge material (Chandler & Tricot, 2015). Placing the body at the centre of learning and development processes is therefore a crucial aspect. In this regard, the practice of Mindfulness seems to play an important role in embodied processes, especially with regard to body awareness and body agenticity (Karnath and Baier 2010). According to the definition of John Kabat-Zinn, scientist and theorist of the MBSR protocol, Mindfulness means "paying attention in a particular way: intentionally, in the present moment, and non-judgmentally" (1994, p. 63). The focus of the most common mindfulness exercise for mindfulness is the body, in particular breath and sensations. The task is to observe the process of breathing and the flow of sensations in an open, non-categorising and non-judgemental way. This simple awareness brings physical, emotional and mental benefits. Three of the fundamental pillars of Mindfulness practice are non-judgement (not applying positive or negative judgements to events and thoughts), acceptance (seeing events as they are and accepting them) and letting go (practising non-attachment to recurring thoughts, letting thoughts flow with changes as they arise, relaxing). The literature has largely focused on the benefits that practising mindful attention brings in terms of physical, cognitive and emotional well-being (Kabat-Zinn, 1994; Cahn & Polich, 2006). In particular, the practice of mindfulness has been shown to bring improvements in terms of concentration (Sedlmeier et al., 2012), atten-

tional regulation and executive functions (Heeren et al., 2009; Moore and Malinowski, 2009; Zeidan et al., 2010), emotional and interpersonal regulation (Carson & Langer, 2006; Sedlmeier et al., 2012) and stress. Furthermore, Ostafin & Kassman (2012) demonstrated that mindfulness exercise improves insight problem solving, i.e. problem solving in which the use of past experiences leads to an impasse, and where there is a need for a restructuring of the situation (Ohlsson, 1992) and a creative response. The authors introduce the theme of creativity and believe that mindfulness practice, by increasing the ability to recognise and stop the automatic verbal-conceptual content generated by past experiences, can support the development of creative responses (Carson & Langer, 2006; Nijstad, De Dreu, Rietzschel, & Baas, 2010). As a matter of fact, Bennet & Dorjee (2016) also state that being aware of one's thoughts can lead to improved management of one's mental processes and thus greater well-being. This concept is closely related to creative thinking and action (Kudesia, 2015; Langer, 2014). One of the biggest obstacles for creativity is the fear of judgement, especially when we talk about learning places such as schools and universities and according to Henriksen et al. (2020), non-judgmental awareness provided by mindfulness can help to further develop creativity. Some studies present mixed results with respect to the relationship between mindfulness and creativity, stating that a high level of mindfulness may be negatively correlated with creativity (Baas et al., 2014; Zedelius & Schooler, 2015) and similarly there is a negative correlation between creativity and the ability to effectively filter out irrelevant information (Zabelina et al., 2015). Lebuda et al. (2015) believe that these findings could be explained by the fact that full awareness and the ability to be open to external perception could play different roles and intervene at different stages of the creative process, although there is still little research on this topic. From the analysis of the literature mentioned above, it is evident how the practice of mindfulness can facilitate and enhance the effectiveness of Design Thinking in solving complex problems. The introduction of some mindfulness exercises in the protocol proposed to students is intended to create an internal and external learning environment conducive to the development of creativity.

4. Description of the intervention project

The methodology of the experimental protocol starts from different application contributions, to facilitate student empowerment, on the acquisition of key competences and the dynamic combination of knowledge, skills and attitudes, which can be particularly developed by interdisciplinarity (European Council Recommendation 2018/C 189/01). As already highlighted above, the approach given to this project is based on a multidisciplinary approach with an eco-systemic framework, in which different approaches are intertwined (Embodied Education, Design Thinking in Media Education contexts; Empathic Design for e-learning; Personalised Learning Environment; Human-Computer Interaction; Mindfulness).

The centrality of the research work focuses on the implementation of innovative training methodologies (e-learning), on the integration of critical relational frameworks in an adaptive and complex pedagogical approach, developed by our research team to prepare an opening towards "situational expertise", thus enabling the formulation of a humanizing and transformative design with a "Human-Centered" approach, through the application of the Design Thinking (DT) methodology. Specifically, the experimental lines of Design-Based Research (DBR) will be used to develop an educational and training intervention strategy based on the "Design Thinking Embodied Approach" construct. This research will directly involve the user in co-designing, testing and experimenting Design Experiment Embodied in both in-presence and distance learning settings.

The objective will be to verify the impact of such a protocol on self-esteem and on the perceived sense of self-efficacy for the management of complex problems, on strategic problem solving and decision making strategies, on creativity and wild ideas in correlation with educational learning and digital awareness.

The role of emerging digital technologies in generating embodied learning experiences will then be examined, in particular addressing the relationship between certain individual persono-

logical factors (embodied attitude towards technologies, self-efficacy, usability of affordances) and contextual factors (peer support, technical-organisational support) and tendencies to rationally use digital technologies as a function of improving teaching and learning strategies. In this way, the project aims to further develop notions of what "embodied learning" means in the context of digital technologies and to better understand the role of multiple modes of representation in communication and meaning-making.

4.1 Research design: the 5 stages
L'analisi della letteratura IDEO (D.School, Stanford University) suggerisce 5 Fasi di Progettazione Didattica per l'e-learning. Le fasi sono così denominate: Analysis, Design, Development, Implementation, Evaluation (Analisi, Progettazione, Sviluppo, Implementazione, Valutazione) e si compone di cinque sviluppi continuativi e ricorsivi, che testimoniano l'efficacia a supporto dello sviluppo di competenze metacognitive (Scheer, Noweski & Meinel, 2012). Lo scopo della fase di "Design" della progettazione è analizzare soluzioni esistenti e sviluppare innovazioni.

The 5 phases of DT involve a methodological approach that aims to solve complex problems using mixed analytical and creative forms of thinking, typical of the Design Thinking Approach and these are:
1. *Analysis*: (Empathize). This phase aims at analysing the training gap to be filled, starting from the participatory observation of the target-audience, from the definition of the training objectives in terms of knowledge and skills. Qualitative and quantitative research, analysis and observational studies are carried out.
2. *Planning*: (Define). This phase includes planning the learning content (lessons, exercises, tests) for both the digital training and the graphic interface. A training plan is drawn up and a storyboard serves as a model.
3. *Development*: (Ideate) The plans resulting from the design phase take shape: content, multimedia elements, technologies are developed to create a " beta " version of the final product. This is then tested and, based on feedback and quality checks, revised to resolve any problems. Required skills: team building and shared collaboration between participants..
4. *Implementation* (Prototipe): This is the concrete prototyping phase. Role-play activities, shared brainstorming, sharing and comparison techniques on iterative prototypes are presented. The correct functioning of each element, software and hardware, online and offline, is ascertained.
5. *Evaluation*: (Testing). In this final phase, tests are carried out, feedback is received on the designed solutions in order to redefine, refine and improve them. This phase is recursive. The prospectus is not linear so one may continue to collect information on the target and proceed with the main phases until the result is optimal. The result may lead, if deemed necessary, to a revision of the course to improve its effectiveness.

4.2 Timing (T0-T1-T2)
The research work has been organised according to an organisational schedule with the following phases:
Time T0:
Preliminary phase: needs analysis for participatory design and focusing on the analysis-exploration cycle (Brainstorming)
• Initial group interview to explain the project;
• Assessment by administering the battery of questionnaires indicated below.
Time T1: Training Protocol
Prototypal phase of development, testing and review based on the design-build cycle and animated by iterative micro-cycles of design and re-design (implementation, analysis, implica-

tions, implementation, etc.);
- Training Scenario 1: Digital Storytelling (as self-representation, action, relationship with corporeity in socio-psycho-educational contexts and in relation to Media Learning Education contexts)
- Training Scenario 2: "Digital Thinking Approach" declined to teaching-learning contexts according to an Embodied perspective.
- Training Scenario 3: Self-awareness activities for students, (e.g. Narrative Mindfulness/Soft Skills and metacognitive strategies).

Time T2:
- Monitoring, , with recalibration (in *itinere*).

Time T3:
- Administration and final psychometric evaluation (by administering the same battery administered in T0). Comparison of results.
- Delivery of the final Project Work using a Digital Storytelling tool through interaction with website..

4.3 Tools used for the assessment

In order to proceed with the assessment in the preliminary analysis phase and then at the end of the intervention, a set of questionnaires was submitted.

The questionnaires in English were translated into Italian with the verification system with the double translation (from English to Italian and then submitted to another translator from Italian to English to verify the relevance).

These tools are:
1. Scale of perceived self-efficacy in the management of complex problems by M. L. Farnese, F. Avallone, S. Pepe, R. Porcelli (Farnese et al, 2007) to observe the approach to stress and also to the capacity of analysis in the management of complex problems.
2. White Bear Suppression Inventory (WBSI), (Daniel, Wegner & Sophia Zanakos 1994) to measure thought suppression. Chronic thought suppression is a variable related to obsessive thinking and negative affect associated with depression and anxiety..
3. Decision-making style (French, West, Elander, Wilding, 1993). In order to be able to analyse decision-making capacities.
4. PSI Problem Solving Inventory, form B, in the Italian adaptation edited by S. Soresi and M. Mirandola (Heppner, 1988; Soresi & Mirandola, 1998) to analyse the problem solving attitude.
5. Creative personality test (Williams, 1993) to detect the emotional constructs of risk-taking, curiosity, complexity and imagination. The complete test is based on Guilford's theory of divergent thinking (1950) and consists of two different instruments: the "Divergent Thinking Test" and the "Creative Personality Test". Only the latter was used for this research work.
6. Questionnaire on digital competences in teachers (Piceci, Mariani, Melchiori, 2021) to assess what digital competences are in relation to European directives and DigComp 2.1 (Carrettero, Viorukari & Punie 2017)

Conclusions

"Designed Instructional System in a Time of Vulnerability and Crisis: An Embodied Approach to Designing Meaningful Experiences with Media Learning Education" stems from the need to reorganise and innovate the way in which teaching is delivered. The aforementioned Prime Ministerial Decree of 4 April 2019 (No. 47, Art. 5) urges to ensure digitisation and innovation in the education and training system to solicit, among others, collaborative and creative skills, with a specific focus on active learning. Didactic innovation is thus considered

a central necessity of educational and training processes. The interaction with the digital ecosystem makes us reflect on the need to draw on strategies of decision making, creative problem solving and tinkering. In this context, it is proposed to bring new knowledge on Media Education innovation. In particular, the "Design Thinking Embodied Approach" is offered as an effective tool for project development, in a historical moment of global crisis where educational agencies need to find new solutions. Solutions, but also resilient strategies that take into account educational emergencies and the demand for Life Long Learning situational expertise. The proposed teaching method is anti-fragile, eutagogic, hybrid and operates within the framework of "on-life" learning. Engagement, i.e. emotional attachment, in which the student and the teacher are bi-directionally involved in this project, and the dialogical relationship mediated by a hyper-connected ecosystem, remain at the heart of the project. In this way, this proposal aims to respond to the University's questions concerning the interdisciplinary knowledge to be transmitted, by including in the project programmes both "soft skills" (World Economic Forum Report 2020) and complex problem-solving skills, critical thinking, creativity, the ability to work in a team and attention to the development of emotional intelligence. Among the transversal objectives to be achieved, within the framework of these goals, there is conscious and embodied learning. Emphasis is placed, as a matter of fact, on the application of Mindfulness protocols and on the benefits that the practice of mindful attention brings in terms of physical, cognitive and emotional well-being (Kabat-Zinn, 1994; Cahn & Polich, 2006). The present challenge and future prospects are not Blacklight15lacking in critical points, such as: the liquid and mass society that is constantly changing, the increasingly diversified needs of users and the lack of economic and infrastructural resources and the demand for continuous updating of competent professionals (capabilities). Another point of criticality and reflection that has emerged relates to the integration of an educational project that guarantees qualitative and quantitative standards in order to cope with an increasingly competitive and solipsistic "Learning Society", which places higher education within a global ecosystem that must also necessarily integrate traditional teaching.

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