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TomKat in Schools: Co-created Narratives to Resignify Schools in the OnLIFE Education Paradigm

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Abstract. This short paper presents a project developed by four teachers, linked to the action "TomKat in schools" of the ConectaKat International Network (CIN). This action arose during the students' return to the physical schools after the pandemic, aiming not only presenting the schools, but also resignifying this space from the perspective of the children and teachers who are part of the CIN. During this action, CIN members introduce their schools to TomKat, the network's main character, while inviting their colleagues to get to know CIN. As a result, four teachers took TomKat to their schools and, through an inventive immersive narrative, they shared the realities and educational projects developed in their institutions. The initiative is documented in an ebook, whose narrative construction was developed between humans and the ChatGPT, and the illustrations were co-created with text-to-image artificial intelligence technologies. The article seeks to understand what is significant in schools from the co-creation of a narrative that enhances the development of pedagogical practices from the perspective of OnLIFE Education. The Cartographic Method was employed to identify clues aiding in achieving the proposed objective. The results show that during the co-creation process, teachers are encouraged to reflect on their school reality, inviting TomKat to explore their most notable practices, revealing what is significant in each context. Finally, they share their experiences in a 3D virtual digital world in the Spatial metaverse, enabling more individuals to learn about their educational practices, the CIN, and take TomKat to other schools, expanding the network.

Keywords: OnLIFE Education, Metaverse, Artificial Intelligence.

1 Introduction

The Covid-19 pandemic has had a profound impact on various social sectors, especially education. The social distancing measures and travel restrictions imposed to contain the spread of the virus have resulted in the abrupt interruption of physical face-to-face classes around the world, making it impossible for teachers and students to meet physically in classrooms within the geographical space of educational institutions. Schools had to reinvent themselves. Pedagogical practices have had to take place with (and through) different digital technologies, requiring a rethink of educational methodologies and practices in a digital context.

Against this backdrop of transformation, the ConectaKat International Network (CIN) was created to encourage the co-creation of educational experiences and practices in a digital context and to connect children, adolescents, teachers, researchers, parents, and family members from different parts of the world. CIN, a hub of the International OnLIFE Education Network (RIEOnLIFE), aims, above all, to boost ecological-connective, inventive and responsible protagonism in the co-creation of experiences in the OnLIFE Education Paradigm [1, 2, 3,4], transcending physical barriers and geographical borders.

During the pandemic period, several innovative actions and practices emerged such as MoveOnCibricity, Tô Ligado and ConectaKatching[1], all invented and developed in networks, by a connective ecology [2] made up of

[1] To find out more: https://conectakat.com/acoes/

children, teenagers, adults, devices, technologies, and digital platforms, including Google Earth, Discord, Microsoft Teams, Canvas, Generative Artificial Intelligence such as ChatGPT, Bing, MidJourney, Dall-E.

Today, with the reopening of schools and the resumption of face-to-face educational activities, it's essential to reflect on the legacy of these digital practices and integrate them into the conventional educational environment. CIN is currently seeking a closer relationship with school institutions, challenging them to rethink the educational process through a new cognitive approach. The aim now is to integrate the OnLIFE Education Paradigm into formal teaching spaces, expanding the experiences developed on the network and promoting, in addition to the training of subjects, the formation of true connective ecologies.

To do this, it is necessary to get to know and become familiar with current schools, understanding how they are structured and organised and what is significant in post-pandemic schools from the perspective of students as well as teachers from different countries and cultures. In this context, the TomKaT in Schools[2] action has emerged.

Among several CIN actions, the "TomKat in schools" action seeks to take its main character, the cat TomKaT[3], to different schools on Planet Earth. During this action, CIN members can present their schools, while inviting their colleagues (teachers, students) to get to know and become part of CIN, thus expanding the network.

Firstly, an inventive and immersive narrative is created in which the children and teenagers, who are already part of the CIN, present their schools to TomKat, inviting everyone to get to know KaTolandia[4], and integrate into the network. By exploring the schools of the children, adolescents and teachers who are part of the network, the aim is to understand, from the perspective of children, teenagers, and teachers, how they perceive school, seeking to identify what is relevant to them, as well as to share the pedagogical actions and practices carried out by the ConectaKaT Network. The aim is also to connect schools to the ConectaKaT Network, encouraging them to adopt a new cognitive approach to education, geared towards OnLIFE, sustainable and citizen education.

To achieve the goals of the TomKat action in schools, a group of four research professors at master's and doctoral level (two Brazilian and two Portuguese), enrolled in the Education and Digital Transformation Thematic Seminar at the Universidade do Vale do Rio dos Sinos in Brazil and the Universidade Aberta of Portugal, created a clan, called "Clã Projeto Felino", to start expanding the network beyond the members already linked.

The clan then needs to introduce TomKat to its respective schools and create situations that allow the cat to feel included. This involves not only introducing TomKat to your school, but also providing him with meaningful experiences that he can share with the other cats when he returns to KaTolandia.

The case study presented in this article is the result of an approach that is intended to be centered on reflection on what is significant in the school environment. This approach seeks to understand what is significant in schools through the co-creation of a narrative that enhances the development of pedagogical practices from the perspective of OnLIFE Education.

2 Background

With the advance of technology and connectivity, we have witnessed a revolution in the ways we relate, interact, communicate and, above all, how we learn in the digital age. It is now important to understand how to teach and learn in a hyperconnected reality, which is emerging from digitalisation, connectivity networks (IoT and 5G) and Artificial Intelligence, which is empowering an increasingly hybrid, multimodal and immersive education, based on reticular and connective epistemologies and inventive cognition, which has enabled the creation of inventive pedagogical methodologies and practices.

This path has contributed to the emergence of the OnLIFE Education Paradigm [1], which refers to an education that is linked, connected to life, whose teaching and learning processes emerge from the problematisation of the present time, therefore with the invention of problems that are connected to the reality in which we find ourselves today. In this way, this Paradigm transcends instructional theories, as well as those focused on action, which is exclusively human, and proposes the transorganic connective act (which is established between humans and non-humans) [6], in a process of invention [5] and transubstantiation of Education, which allows for the construction of inventive connective educational networks and ecosystems.

As a result, simply transferring content to new digital formats is not enough. It is now crucial to wake up to the arrival of unprecedented forms of content access and production that are generated in connection and dialogue with different languages, devices and human and non-human entities, which form connective ecologies in which the human is a co-producer who is connected to diverse intelligences, which contributes to overcoming the anthropocentric worldview. In this construction, invention and co-generation of different intelligences, different

[2] https://conectakat.com/tomkat-nas-escolas/, accessed on 27/02/2024.

[3] Cat, the main character of the ConectaKat network invented and developed by the KaTs.

[4] A 3D virtual digital world invented and developed by the KaTs to house TomKat on a planet of cats.

technologies and digital platforms and/or different types of knowledge, learning develops in connection with life, with the ecological network to which we belong.

This shows us that in this hyperconnected reality we live in today, the duality and opposition between "online" and "offline" no longer fits, because we are "onlife", our existence is hybrid and connected. On this basis, Schlemmer [2] argues that knowledge starts to develop in a connective ecology, based on processes and paths of inventive learning in transorganic connective acts. According to the author, in today's educational context it is necessary to overcome the idea of training subjects and work with the formation of connective ecologies, from which hyperintelligences emerge in hybridity, in which teaching and learning are constituted in a network, based on collaboration between different intelligences, such as human intelligence and artificial intelligence.

It is from this perspective that the OnLIFE Education Paradigm is established, based on the principle of connection, which implies an invention, disruption, innovation that, according to Kastrup [5], requires a new cognitive policy in education [5]. It is not adherence to theory that will enable new ways of thinking and interacting with and in the world, but rather the practice of inhabiting a connective ecology, of thinking and co-creating with different artificial intelligence technologies, of building and co-creating worlds in metaverses, of making new knowledge, new ideas, new problems and new solutions emerge from the emergence of hyperintelligences.

It is therefore urgent that schools recognise and embrace this new digital reality, which has taken shape even more intensely in the pandemic context, and not only adapt their teaching practices to incorporate emerging technologies, but also promote and encourage the introduction of new learning theories for the development of pedagogies that favour the construction of reticular and connective curricula and pedagogical architectures, fostering the development of inventive methodologies and practices in education, enabling students to be not just users, but producers, creators, co-creators in a connective ecology.

Based on this, we present an example of a case study in which four teachers are invited to reflect on their practices developed in their schools through a process of building inventive narratives that result in co-creation in a transorganic connective act between humans (the four teachers) who engender and agency themselves with non-humans (ChatGPT, Bing Image Creator, Canva, StoryJumper, invented character TomKaT), in a networked transformation and reflection.

3 Methodology

To achieve this goal, we used the Cartographic Method of Intervention Research, proposed by Passos, Kastrup e Escóssia [7] and Passos, Kastrup e Tedesco [8]. The Cartographic Research-Intervention Method [7,8] incorporates both a research methodology and an interventionist methodology approach. In contrast to other research methods - in which the researcher stands back and tries to isolate the object of study - in cartography, the researcher inhabits the territory under investigation. Instead of collecting data to analyse it, as is customary in other methods, the work in cartography is focused on producing data, because the research process brings out realities that were not there waiting to be observed. As such, this method has a "hódos-meta" approach, which means walking around setting goals along the way, as opposed to a "meta-hódus" approach that follows paths predetermined by fixed goals.

In this context, research is seen as intervention and, to intervene, it is necessary to be immersed in the plane of experience, in the territory to be investigated, where knowing and doing cannot be distinguished or analysed separately. Intervention takes place when the researcher-cartographer, on entering the field of research, begins a procedure of generating data, interpreting it on the basis of their own experiences acquired in that territory and, at the same time, intervening in that territory on the basis of the experiences that have arisen. From this perspective, it is important to emphasise that knowledge is built through practices, experiences, and actions throughout the methodological process. This emphasises the need to follow and explore the trajectory of the object of study to better understand it.

In this way, monitoring the research process requires an active approach, in which the researcher-cartographer follows the object closely, taking part in its formation. This engagement not only provides an understanding of the object itself, but also influences the researcher and their practices, leading to a mutual transformation. Therefore, research-intervention involves creating territories to inhabit with the research, following its journey in a qualified manner and becoming a researcher-cartographer, moving from an observer to an interventionist.

The research territory of this article involves the work carried out by the "Clã Projeto Felino" at the Education and Digital Transformation Seminar. In this context, the Cartographic Method of Intervention Research was used to follow the formative path of the pedagogical practice stemming from the "Clã Projeto Felino". By inhabiting this research territory, which took place throughout the Seminar, and thinking about inventive pedagogical practices, groups were formed, called clans, made up of teacher-researchers of different nationalities and from different areas of basic education.

To guide the research process, trailblazing is a central cartographic guideline. The unpredictability of research requires an attentive eye to the virtualities and interventions that cause new knowledge to emerge. According to Deleuze e Guattari [9], the clues in the Cartographic Method of Intervention Research are essential because they consider the effects of the research process on the object of study [9].

In the work of the "Clã Projeto Felino", the clues emerged according to the need to publicise and expand the ConectaKat International Network [1], to include more teachers and institutions in this network, so that it would be possible to expand the connective ecosystem that already existed in the CIN.

The first clue and starting point was to get to know and better understand what CIN is. Then clues emerged that led to exploring and getting to know the schools of the researchers/students in the clan, thus involving all the members and enabling them and their students to collaborate to bring the CIN to these schools too.

To structure the emerging clues, a narrative was constructed to house the information and discoveries that the researcher-cartographers were realising. This narrative was developed collaboratively, involving, as well as human entities, artificial intelligence and various digital technologies, something that represented a territory that had been explored little or not at all by many of the seminar participants.

Another clue came in the form of the co-creation of a gallery of works of art to provide interaction for people who might be familiar with the narrative, which led to the development of a digital space (in Spatial) to house this and the other clues that emerged. Finally, the clues converged to give rise to the "Clã Projeto Felino" Pedagogical Practice, which developed from the experiences, collaborations and reflections of a group of teachers from different countries, where borders dissolved and gave way to harmonious collaboration between human and non-human entities.

The meetings of the "Clã Projeto Felino" took place synchronously, on the Spatial metaverse communication channel, and asynchronously, through the channel assigned to the clan on the Discord platform. In all, there were four synchronous meetings, among many asynchronous ones, starting in April 2023 until June of the same year, in which the teacher researchers met to discuss the clues that emerged, decide on the direction of the co-creation of the Pedagogical Practice and build it.

4 TomKat in Schools - Case Study Derived From the Project Developed by “Clã Projeto Felino”

“Clã Projeto Felino” is formed in the context of the Education and Digital Transformation Seminar, which is organised as part of a partnership between two universities, one Brazilian and the other Portuguese, and is aimed at master's and doctoral students from the postgraduate programmes of both universities, as well as institutions that are part of the Association for Distance Education in Portuguese-Speaking Countries. The seminar will be held online, with the main purpose of investigating and discussing issues related to digital transformation in education. In essence, it seeks to examine the emergence of new methodologies and pedagogical practices, with a special emphasis on OnLIFE Education, developed in schools around the world, with a focus on Portuguese-speaking countries.

The 30-hour seminar began on 17 April and ends on 28 June 2023. From the perspective of promoting a diversity of connective ecologies, the seminar takes place through gamified experiences (with a narrative inspired by the British series Doctor Who) that embrace a hybrid and multimodal approach. This is made possible by exploring and experimenting with various digital platform technologies, supported by asynchronous readings and exchanges from different researchers in the field, as well as synchronous COnversations with invited experts.

In the gamified teaching and learning methodology, the characters in a narrative (which is built up along the way) are challenged to carry out a mission and the students need, together with these characters, to acquire clues that are provided throughout the weeks of the Seminar so that the tasks of the mission can be carried out successfully.

Thus, the seminar develops within the framework of Connective PedagoIAs [2] and the formation of a connective ecology, which unfolds through a narrative called Mission "TARDIS: OnLIFE Education in Diverse Worlds" (

Fig**. 1**), co-created by human (teachers, students, guest researchers) and non-human entities (Moodle Platform, Youtube, Discord, Metaverses, Generative Stochastic Languages, humanoids, vocaloids), among others. In this context, different DTs are explored and experimented with, in line with one of the Seminar's objectives, to co-create pedagogical practices within the scope of OnLIFE Education (in different modalities, levels and institutional contexts, according to the participants' interests), from an inventive perspective, based on a problem/challenge of the present time faced by the students. At different times, the knowledge and productions that have been systematised along the way are socialised.

Following the gamified narrative, the students are encouraged to organise themselves into clans and these clans need to be made up of students from different nationalities and different areas of knowledge to meet the internationalisation and interdisciplinary criteria proposed by the Seminar.

Through an exploratory and experiential journey through metaverses, addressing generative artificial intelligence technologies and various networked digital technologies and platforms, the clans are given the opportunity to co-create new pedagogical practices that stimulate inventiveness, thinking and collaborative construction.

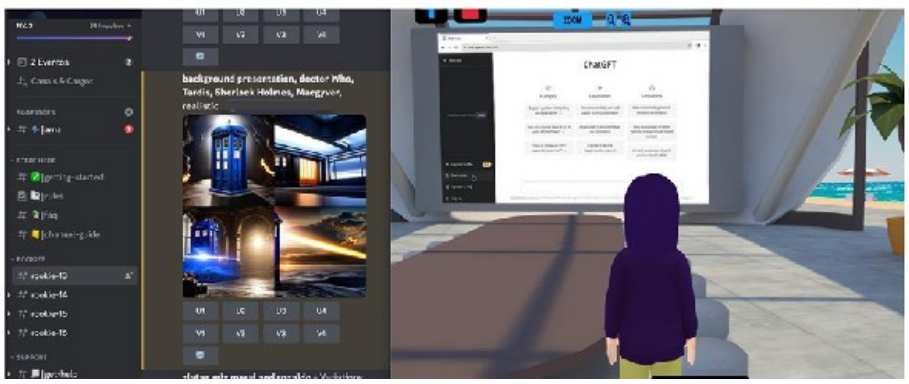

Fig. 1. Building the TARDIS Mission.

However, it's worth emphasising that more important than the product is the process. Each clan's process of co-creation, based on the clues provided each week in the Mission and the exploration of different technologies and digital platforms, also offers a significant range of advantages for rethinking education in the digital age.

The educational context mobilised to carry out the Mission, and which brought together the four members of the "Clã Projeto Felino", was the interest in re-signifying the school, work that was already being carried out by two of the teachers in the TomKat action in schools. This also made it possible for the other two members to familiarise themselves with the OnLIFE Education Network (ConectaKat), and subsequently introduce the Network to the institutions in which they work and involve it in some way in their teaching practice.

To deepen the educational experiences in the digital context, experiencing and exploring various digital technologies and platforms, artificial intelligence, metaverse worlds, provided by the "Education and Digital Transformation" Seminar, the co-creation of a narrative was first devised.

In this narrative, co-created through continuous interactions between the members of the Felino clan and the artificial intelligence chatbot developed by OpenAI, known as chatGPT-3, TomKat is challenged to visit different schools. A journey that takes him through the different types of school in Brazil and Portugal and the different disciplines such as "mechanics" and "computing". The unique contributions of each member are moulded and refined with the help of chatGPT-3's artificial intelligence, resulting in a dynamic and captivating narrative that transcends geographical and cultural boundaries, boosting the reach and depth of the educational experiences promoted by the ConectaKat Network within the framework of the OnLIFE Education Paradigm.

The four teachers formed a true connective ecology, as they had to teach and show the artificial intelligence what their realities were like, how their schools were organised, so that together they could co-create a text that would take the TomKat character to get to know these different spaces where education takes place (Fig. 2).

For example, TomKat attends English classes, taking advantage of the linguistic skills of one of the teachers, getting to know the parts that make up a Brazilian school in English, or attending swimming lessons and the types of swims that exist on Planet Earth and those that the children like and master the most. Even welding practice to learn about vocational training and its importance in the job market. In another school, and despite the teacher being a computer science teacher, it was decided to introduce TomKat to the Speedy hamster, as the students were working on a project related to mental health at the time.

The text gave rise to an ebook created in the Story Jumper application, which includes the narrative co-created with chatGPT and illustrated with images generated using text-to-image AI tools and images of the environments created in Spatial.

In this way, TomKat relates his experiences: *In Sever do Vouga I learnt several things, such as how to weld and cut metal using different equipment and techniques, how to interpret technical drawings and how to follow safety regulations. In Portugal, welders are required to be certified, and these certifications must meet international standards. The welding profession is important because it is essential for the manufacture and maintenance of various metal products and structures that we use in our daily lives.*

At the swimming academy in Dois Irmãos - Brazil, I took courage and learnt to swim. It's a fear I've had since I was a little boy, as I've always been terrified of water.

I took the opportunity to visit Gramado, a town close to the city of Dois Irmãos, where I learnt new words in English classes at the Mosés Bezzi school.

And I met the hamster Speedy. The adoption of Speedy was part of an interdisciplinary project carried out in the 2021/2022 school year called 'Geração TOP - cuidar de ti, cuidar dos outros' (TOP Generation - take care of yourself, take care of others). The class was divided into groups to look after the hamster on a weekly basis, promoting caring for others. This school year, 2022/2023, the project has continued with a focus on mental health, as we recognise the role of animals in helping to overcome and prevent mental problems.

Fig. 2. TomKat's experiences at the four schools.

A gallery has also been created in the Spatial metaverse, where visitors can read the narrative created in the ebook (Fig. 3) designed and where they can see some images co-created by the authors and AI (text-to-image tools were used for this) with the activities carried out by TomKat in the 4 teachers' schools. Finally, a challenge is launched inviting all visitors to share images demonstrating what TomKat can explore in their schools: *We'll have a space dedicated to intergalactic missions, where everyone can become a real hero by taking on a big challenge! Our challenge is for you to think up and realise, in drawing, image (with or without AI), model, plasticine, story (with or without scratch) as you see fit, a situation in which you place TomKat doing an activity in your school or locality. As you'll see in the space created by the 4 teachers (TomKat welding, swimming, learning English and with the hamster Speedy.*

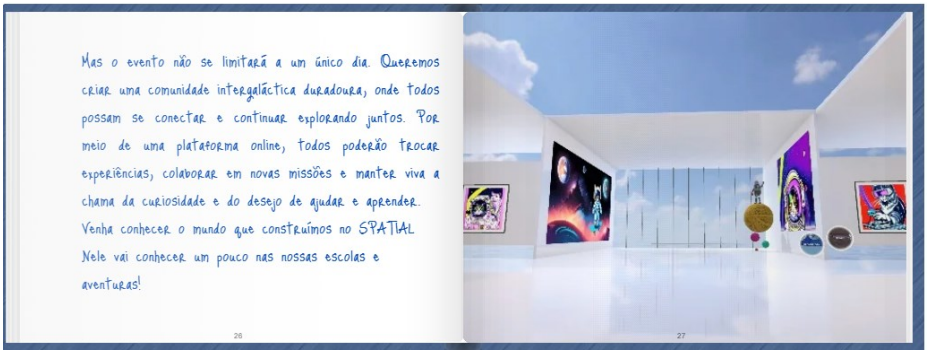

Fig. 3. Gallery.

Allowing this sharing in the 3D virtual digital world, in the gallery created in Spatial, enables them to get to know CIN, to take TomKat to their schools and allows researchers to understand how the people who inhabit this space perceive the school.

The process of building an inventive and immersive narrative in the context of the Education and Digital Transformation Seminar reveals the diversity of pedagogical approaches depending on the context, needs and interests of the students in each location. From this narrative, linked to the TomKat action in schools, it is possible to identify several aspects that can be considered significant in schools:

Personalisation of teaching: The fact that teachers adapt their approaches according to students' individual abilities and interests to present TomKat demonstrates the importance of personalising teaching to maximise student engagement and learning.

Integration of subjects and skills: The narrative highlights the integration of different subjects and skills, such as English language, swimming and welding, providing a holistic approach to education that recognises the connection between different areas of knowledge.

Contextual relevance: The choice to introduce TomKat to different aspects of the school, such as English language parts of the school, types of swimming and welding practices, demonstrates the contextual relevance of learning, relating it to everyday, real-world situations.

Inclusion of current and relevant themes: The decision to introduce TomKat to the Speedy hamster in a school that was working on a project related to mental health highlights the importance of addressing current and relevant themes in education, which go beyond the traditional curriculum and address students' social and emotional issues.

By analysing this narrative in the academic context, it is possible to highlight how the co-creation of meaningful experiences can positively influence pedagogical practices, promoting more effective teaching that is aligned with students' needs and interests. In addition, this approach leads TomKat Cat to collect more experiences and expand pedagogical practices from the perspective of OnLIFE Education to other school environments.

5 Final Remarks

In this construction, invention and co-generation of different intelligences, different technologies and digital platforms and/or different types of knowledge, learning develops in connection with life, with the ecological network to which we belong.

By describing, in a co-created and inventive narrative, the different schools visited by TomKat and his meetings with the teachers of “Clã Projeto Feline”, the members reflect on the nature of education and its practices. This reflection offers a unique opportunity to rethink the ‘school’ space and identify areas for improvement in different educational contexts, so that it is possible to build real OnLIFE Education practices.

In addition, the process of co-creation with artificial intelligence proves that knowledge and learning can be built in a network, where humans are no longer users but co-producers in an ecology that connects human and non-human entities.

Finally, in addition to all the above, the work resulted in the network being publicised and the number of people and schools connected to the ConectaKat International Network expanding.

As future work, we are thinking about internationalisation, extending the CIN to the countries of the Portuguese-speaking African countries, since these environments allow us to develop skills that involve engaging researchers, teachers and students in a globalised environment, while at the same time making it possible to break down physical geographical boundaries and broaden internationalisation experiences in diverse contexts, such as hybrid and online. In addition, there are opportunities to explore and reflect on the very digital technologies that made the internationalisation process possible, as well as sharing previous concepts and knowledge about the diversity of digital technologies that surround each nation and culture. It is important to emphasise that each country has its own unique knowledge and approaches to exploring Digital Technologies (DT), creating an environment that is conducive to an enriching exchange of lessons and learning between them.

It is also important to carry out a literature review on the subject, to understand what similar studies or projects exist, what results they have obtained and also the limitations of these studies, in order to understand how this proposal presented in the article adds value. A data collection methodology (quantitative and qualitative) will also be planned to measure the impact of our approach.

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