ICT FOR *CHANGE*: A TRANS-PROCESSUAL TRAINING MODEL FOR PRISON TEACHER

LE ICT PER IL *CAMBIAMENTO*: UN MODELLO FORMATIVO TRANS-PROCESSUALE PER L'INSEGNANTE DELLA SCUOLA IN CARCERE

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Abstract

The restrictions imposed by Covid-19 provided an opportunity, also in prison, to be confronted with technology. The use of digital technology, however, should not be a transitional solution, but rather it should be maintained and strengthened in the prison system as an integrated and permanent resource within the re-educational treatment and school activities. In the perspective of this consolidation, this research, through an analysis of the relationship between teachers' beliefs and attitudes towards Information Communication Technology (*ITIS - Intrapersonal Technology Integration Scale*) and the perception of knowledge domains (content, pedagogy and technology) involved in teaching and learning processes in which technology plays a substantial role (*TPACK - Technological Pedagogical Content Knowledge*), proposes an in-service training model that is an expression of that possible trans-processuality of schooling, education and creativity and that enhances the figure of the teacher in their role as an agent of change.

Le restrizioni imposte dal Covid-19 sono state l'occasione, anche in carcere, per confrontarsi con la tecnologia. L'utilizzo del digitale non deve però costituire una soluzione transitoria, al contrario, la sua implementazione nel sistema penitenziario dovrà essere mantenuta e potenziata come risorsa integrata e permanente all'interno del trattamento rieducativo e delle attività scolastiche. Nella prospettiva di tale consolidamento, la presente ricerca, attraverso un'analisi della relazione tra teachers' beliefs and attitudes towards Information Communication Technology (ITIS - Intrapersonal Technology Integration Scale) e la percezione dei domini di conoscenza (contenuto, pedagogia e tecnologia) coinvolti nei processi di insegnamento e apprendimento in cui la tecnologia gioca un ruolo sostanziale *(TPACK - Technological Pedagogical Content Knowledge)*, propone un modello formativo in-service che sia espressione di quella possibile trans-processualità di istruzione, educazione e creatività e che valorizzi la figura dell'insegnante nel suo ruolo di *agente di cambiamento.*

Key-words

Prison teacher; Attitudes; Information Communication Technology (ICT); In-service training.
Carcere; Insegnanti; Atteggiamenti; Tecnologie dell'informazione e della comunicazione (TIC); Formazione in servizio.

Introduction

Recent studies on the use of ICT in the context of prisons (Jewkes & Reisdorf, 2016; Taugerbeck et al., 2019) have identified models and outlined feasible ways of working for education and training in prisons, with the aim of improving opportunities for treatment, minimising exclusion factors and optimising possibilities for rehabilitation and social

reintegration. The acceleration of ICT integration in prisons following the pandemic could mark the beginning of a new school in prison (Pillera, 2021). Although they are aware of the educational potential of the technological tools integrated within the re-educational treatment and school activities, are teachers ready to manage this digital challenge? In Italy, in the pre-pandemic phase, the use of ICT in the penitentiary context, in the absence of precise indications at central level, has been experimented at local level, but the training courses that have been launched, with the aim of promoting the transition from a generic technological expertise to a specific know-how on its educational applications, have seen the participation of a small number of teachers. In addition to the difficulties linked to the lack of IT infrastructures and aids, teachers' lack of skills in the application of ICT in teaching, their lack of confidence in their own abilities, inadequate specific training, and the anchoring of traditional, overly rigid educational schemes may also represent obstacles to the full implementation of digital change (Decembrotto, 2020). How, then, can we ensure that the use of digital technology does not constitute a transitional solution, but rather that its implementation in the prison system will be maintained and enhanced as an integrated and permanent resource within the treatment and school activities? What barriers, both intrinsic and extrinsic, need to be broken down so that, by countering the factors of dispersion, the educational value of technology is brought into play within the real re-educational and scholastic contexts of the prison? These are the questions underlying this study. In the *post-pandemic* perspectives of ICT use in prison, the change, therefore, should not only concern instrumental equipment or isolated dimensions of knowledge, but the cognitive-planning structures involved in the processes of higher education, looking towards advanced models to operationalise the integration of technologies in teaching, where, in addition to combining basic knowledge (disciplinary, pedagogical-didactic, technological), the aim is to share knowledge and professional experience, in order to support the acquisition of new skills in the field of teaching technologies and, at the same time, spaces for dialogue and self-reflection among teachers.

1. Framework

1.1 ICT and prison

The use of ICT in the prison context has long been the subject of studies and research (Champion & Edgar, 2013; Hughes, 2012; Pike & Adams, 2012; Pillera, 2017; 2020; 2021; Suriano, 2011) that have stressed the importance of their integration into prison treatment and education activities (Torlone & Vryonides, 2016). According to the Report Review of European Prison Education Policy and the Council of Europe Recommendation (89)12 on Education in Prison (KING, 2019), politics must invest in technology and secure Internet services in prisons in order to ensure equity in the access to learning activities, and to promote digital skills - understood as one of the transversal competencies/transferable skills - essential skills in jobs and occupations such as communication or critical thinking, that can be transferred to other contexts (McDougall et al., 2017; Toreld et al., 2018).
With this approach, in numerous initiatives (Taugerbeck et al., 2019), training in the so-called *soft skills* related to new forms of education and training through the use of ICT is provided in addition to digital literacy. This objective proves to be crucial in facilitating successful (re)integration into society, pervaded by digital development.
Despite the fact that there is no doubt that technological backwardness equals exclusion from schooling, outside and inside the walls, and that technological development should be rediscovered as an element of skill-building as a function of reintegration into the world of work, prisoners in Europe tend to have denied or limited access to ICTs and to the Internet

(Bagaric et al., 2018; Jewkes & Reisdorf, 2016), directly linked to concerns about the security risks associated with it (Costelloe et al., 2012).

The "rise of the network society," as coined by Castells (1996), enhances social inequalities for those who are unable to access technology (such as imprisoned people) resulting in digital illiteracy. Jewkes and Reisdorf (2016) discuss the digital inequalities and the digital divide, respectively, that imprisoned people experience due to their inability to communicate using the same methods, devices, and applications as those outside of prison. From a broader perspective, the digitization of prisons is linked to the issues of inclusion and exclusion. An inaccessibility to use ICT increases the risk of digital exclusion, which in turn can lead to a digital divide at the social level (Selwyn, 2004). So, while theories concerning imprisoned people's access to digital technology in prison are encouraging, in practice, it is difficult to achieve.

1.2 Teachers' attitudes towards technology

Many studies on technology integration or teacher use of technology did not differentiate the purposes of using technology and used the frequency of teacher use of technology tools in the classroom as the outcome measure of technology integration (Huang et al., 2021). A considerable amount of empirical research studies has been published over the past two decades to explore factors that infuence teacher use of technology tools in teaching (Suefert et al., 2021). While teacher-related factors have been widely viewed from diferent perspectives, a significant amount of research has been conducted to investigate the infuence of teachers' beliefs towards technology on their use of technology (Farjon et al., 2019). Empirical evidence lends support to the important role of beliefs in the process of technology integration (Cheng & Xie, 2018; Tondeur et al., 2017). Teachers' perceived competency beliefs of technology, or self-efficacy in using technology, has been found to relate to a more frequent use of technology in the classroom (Yildiz Durak, 2021). On the contrary, teachers lacking confidence in their computer skills are less likely to use technology into their teaching practices (Pongsakdi et al. 2021). In addition to perceived competence in technology skills, teachers' positive attitude toward technology, may also affect their technology integration practices (Guggemos & Seufert, 2021). For Semerci and Aydin (2018), attitude can be defined as an element that guides the behaviour of an individual in coherence with their feelings and thoughts. Teachers with a positive attitude are more likely to use technology efficiently in their teaching (Prior et al. 2016). Scherer and Teo (2019) identified in their meta-analysis attitudes as a significant predictor for teachers' intention to use technology. In many studies the impact of Context dependency on teachers' intended or actual use of technology was descrive (Dogan et al., 2021). The prerequisite conditions that were perceived as barriers, according to these studies, were: lack of access to good quality technological materials (Awang et al., 2018), time (Frazier et al., 2019), unavailability of ready-made assignments that describe how teachers should use technology in their teaching (Norris et al., 2015), insufficient training on how to implement technology (Frazier et al., 2019), and lack of technical support (O'Neal et al., 2017). Another factor that have been also suggested important is organizational supports, which means to provide teachers with time and environment to practice the ways to integrate technology in teaching and getting feedback. Yurtseven et al. (2020) suggested that opportunities to practice, reflect, and interact with other teachers are crucial in the process of facilitating classroom technology adoption. Also, Keane & Keane (2017) found that the collaborating infuenced effective technology integration. What might be specific to in-service teachers could be learning communities or communities of practice that play an important role in the professional development of teachers (Tseng & Kuo, 2014).

Further training preservice teachers with explicit instructions, fostered positive changes in their beliefs and behaviours towards technology integration (Rehmat & Bailey 2014).

1.3 ICT, prison, teachers: a possible relationship?

Many distance learning initiatives, by not taking into account the strict bans on Internet access, do not respond to the issue of security in prison (Wade et al., 2013), thwarting any application efforts. Several national and European projects have attempted to overcome these barriers by identifying new and practical ways to exploit the use of ICT in prison education (such as the *Learning Platform in Prison* project in Germany, the *Virtual Campus* initiative in the UK and the *Pebble Project*), but in practice, the prison context is still characterised by a strong technological backwardness.

The picture presented shows that the Covid-19 pandemic has led to further complexities within the prison, a place chronically characterised by relegation and vulnerability, which have exacerbated pre-existing problems and fragilities and shed light on the already difficult integration of ICT within it. Thus, the school in prison, which has always suffered from low visibility and lack of recognition of its specificity and distinctiveness compared to other educational contexts, had to face many difficulties in the use of distance learning, due to the lack of and/or difficult access to the Internet and its possibilities (*digital divide*), to the insufficiency of *devices* and IT equipment in general, to the scarcity of technical staff needed to access the equipment and able to manage e-learning platforms (Antigone, 2021). The weaknesses and vulnerabilities that emerged in this pandemic phase are thus added to those that normally affect the school in prison, where the work of the teacher, daily tested by the complexity of the context, is likely to fluctuate between a performative, interventionist attitude, aimed at bringing about change and a fatalistic, renunciatory attitude that surrenders to disappointment and powerlessness. It is only over time that the teacher catapulted into the total institution acquires the intrinsic value of his work, which is not exclusively a transmission of knowledge, but the difficult, daily search for how to develop the hidden potential, suppressed, often never cultivated, in his imprisoned students (Lizzola, 2017). This is a necessary time for a profile to mature in which technical and methodological skills, control of knowledge and content are integrated with emotional and existential skills (Iori, 2009, Riva, 2004). In such a complex framework, integrating digital competences, universally included within the key competences to promote a citizenship that is truly active and participative (Jenkins, 2010; Rivoltella, 2008), becomes even more burdensome. In view of the potential contribution that Information and Communications Technology can offer, the design of training courses for school teachers in prisons requires a systemic perspective that allows to address the complexity and the challenges posed by the prison context.

2. Research

2.1 Research hypotheses

The present study aims to investigate the relationship between: personal factors - beliefs and attitudes of teachers regarding the use of ICT, factors related to the context and domains of knowledge (content, pedagogy and technology), involved in the teaching and learning processes in order to propose a training model that, through access to innovative learning methods compared to established habits, is an expression of that possible trans-processuality of education, education and creativity and that enhances the figure of the school teacher in prison in his role as an agent of change.

The research hypotheses are: (1) Between the two orders of "barriers", extrinsic and intrinsic (Ertmer, 2005, Rivoltella, 2006), which contribute to the poor integration of ICT in the school

in prison, teachers' attitudes are significant predictors of the willingness and motivation to adopt alternative teaching models to transmissive learning modes (Benigno et al., 2013). (2) A supportive and motivating context, which is difficult to achieve in prison, are of fundamental importance for an adequate and effective application of ICT to classroom teaching. (3) Technological skills alone are not sufficient to ensure effective use of technology in the classroom and therefore, among the knowledge domains (content, pedagogy and technology) involved in teaching and learning processes in which technology plays a substantial role, a low level of specialised knowledge is assumed, which is the product of the "dynamic and transactional relationship between content, pedagogy and technology", according to the T-pack model (Mishra & Koheler, 2006). (4) The adoption of innovative paradigms does not yet appear to be consolidated within the Italian penitentiary system, both because of the delay in the integration of technologies and because of the lack of informal training and professional development devices among peers.

2.2 Sample

The research was carried out on a sample of 27 teachers of CPIA - penitentiary establishments, of the province of Rome (11.1% males, age 46.64±11.62). Of these, 7.4% are in possession of a high school diploma, 70.4% of a degree and 22.2% of a masters' degree; regarding the years of service, in consideration of the small number of subjects and in order to preserve the anonymity, classes equal to 5 were indicated, the results show 70.4% of the sample with a seniority of service between 1 and 5 years and 29.6% between 6 and 10 years; 29.6% are still "precarious", while the remaining (70.4%) are tenured. The teaching field consists of 3 categories, literacy (22.2%), first level (59.3%) and extension (18.5%) (Tab. 2).

2.3 Method and tools

The research envisaged the administration of a questionnaire filled in anonymously in the "paper and pencil" mode at the prison sites. In the questionnaire, composed of 49 items and divided into 3 sections, the following tools were used:
- Socio-demographic sheet, with: personal and professional information (age, gender, educational qualification, years of service, type of contract, teaching field); information related to technologies in the prison context (digital literacy, training in teaching technologies, frequency of use of teaching technologies, contextual factors, collaboration with colleagues, use of ICT following the pandemic).
- ITIS - Intrapersonal Technology Integration Scale - Italian version by Benigno et al. (2013). The scale, whose original version was developed by Niederhauser and Perkmen (2010), measures teachers' beliefs and attitudes about the use of Information and Communication Technologies (ICT). The scale, consisting of 21 items with responses measured on a five-point Likert scale (1-strongly disagree; 5-strongly agree), operationalises the following constructs: - Self-Efficacy (SE), confidence in one's own ability to use ICT in the classroom; - Interest (INT), personal interest in the use of ICT in the various teaching activities in which it can be used; - Outcome Expectation (OE), perception of the possible advantages of using ICT in the classroom; this macro-indicator is further subdivided into three subscales: - Performance Outcome Expectation (POE) that measures the perception of the degree to which the use of a certain technological tool improves professional performance; - Self-evaluative Outcome Expectation (SEOE) that assesses the belief related to the personal satisfaction that a teacher might experience by using technologies in the classroom; - Social Outcome Expectations(SOE)

that detects the belief that colleagues evaluate favourably the use of technologies in teaching processes.

The scale shows a very good reliability, overall, the Cronbach's alpha is equal to $\alpha = 0.975$. As can be seen in Table 1, the scales for the individual components also show very good internal consistency.

Scala	Coefficiente α
SE	0,952
INT	0,925
OE	0,912
Complessivo	0,975

Tab. 1 – Alpha reliability index

- Self-assessment of competences according to the TPCK model - Technological Pedagogical Content Knowledge introduced to identify the knowledge base for teachers to teach effectively with technology (Mishra & Koehler, 2006). TPCK as an extension of PCK was the first interpretation offered in the literature (Voogt et al., 2016), by which TPCK comprises the integration of the three knowledge domains (pedagogical approaches, subject-matter knowledge and technology knowledge) revealing technology's potential in facilitating learning. TPCK's base components are:

1. Technological Knowledge (TK), that is knowledge of technologies and the skills required to operate with them;

2. Pedagogical Knowledge (PK), which is related to teaching/learning processes and practices, methods and approaches;

3. Content Knowledge (CK), that is teachers' understanding of a discipline's semantics and syntactic organization and its forms of content representation.

These bases then overlap in three areas of knowledge:

a. Technological Pedagogical Knowledge (TPK), which involves knowledge of technology's affordances and constraints for pedagogical purposes;

b. Pedagogical Content Knowledge (PCK), which, developing on Shulman's PCK (1986), focuses on the meaning of teaching a particular content as viewed from the learners' perspective;

c. Technological Content Knowledge (TCK), as the understanding of which technologies are most suitable for a specific learning topic and how this, in turn, could shape and determine technology uses.

Finally, the Technological Pedagogical Content Knowledge (TPCK) is the specific form of knowledge emergent from the conjunction of the base components, the core of the teaching profession, which requires an understanding of the best pedagogical approaches and representations of concepts using technologies in relation to students' prior knowledge and to possible content-related learning difficulties (Mishra & Koehler, 2006).

More specifically, in the present study, the items included in the questionnaire investigate: Technological Content Knowledge (TCK), Technological Pedagogical Knowledge (TPK), Technological Pedagogical Content Knowledge (TPCK).

The scale shows a good reliability, overall, the Cronbach's alpha is equal to $\alpha = 0.915$. As can be seen in Table 2, the scales for the individual components also show good internal consistency.

Scala	Coefficiente α
TCK	0,814
TPK	0,809
TPCK	0,873
Complessivo	0,915

Tab. 2 – Alpha reliability index

2.4 Data analysis

All analyses were conducted using the JAMOVI software (ver. 1.6.23). The descriptive statistics show that, within the prisons, there is the presence of computer tools such as computers (100%), interactive whiteboard (88.9%) and limited connection to the internet (100%), but with the latter resulting of poor quality in 74.1% of cases; the technical support is adequate only for 25.9% of the subjects.

With regard to the teachers, it is evident that, in spite of a good percentage of participation to computer courses (77.8%), only 29.6% attended courses on the use of technologies in the educational field and only 37% of the sample declares to use "always" these technologies in the educational field, in spite of the remaining 63% who use them "often". Analysing in a more in-depth way the variable "Educational use of ICT" related to the characteristics of the subjects, among the various results, we can notice that the subjects with a higher average age use ICT more frequently than their younger colleagues; the same evidence is reported concerning the years of service, for which the teachers with a higher seniority tend to use ICT more (Tab. 3).

74.1% of the subjects report that they do not discuss ICT in teaching with their colleagues and 85.2% report that they have noticed an increase in the use of technology in teaching following the Covid-19 pandemic.

| | | | Use of ICT in education | | |
			Frequently	Always	Tot
Age range	Mean		41,97	55,8	46,64
	DS		9,83	5,14	11,62
Years' service	Mean		3	7	4,48
	DS		0	2	2,28
Gender	Male	n	0	3	3
		%	0	100	100
	Female	n	17	7	24
		%	70,84	29,16	100
Teaching subject	Literacy	n	3	3	6
		%	50	50	100
	First level	n	11	5	16
		%	68,75	31,25	100
	Expansion	n	5	0	5
		%	100	0	100
Educational	Degree	n	0	2	2
		%	0	100	100
	Bachelor	n	11	8	19
		%	57,89	42,11	100
	Master	n	6	0	6
		%	100	0	100
Type of lecturing	Precarious	n	8	0	8
		%	100	0	100
	Permanent	n	9	10	19
		%	47,37	52,63	100

Tab.3 Educational use of ICT by individual characteristics

Concerning the teachers' attitude towards the use of technologies in different educational contexts (Tab. 4) (Fig. 1), we can notice a discrete predisposition (3.53 ± 0.205), characterized by the factor self-efficacy (SE = 4.06 ± 0.160) clearly superior to the factor interest (INT = 3.25 ± 0.219) and expectations (OE = 3.37 ± 0.289) (Fig. 2); among the factors forming the expectations regarding the outcome (OE), we find the self-evaluation factor (seoe = 4.40) slightly higher than the performance factor (poe = 4.07) and clearly higher than the social factor (soe = 1.63).

Descriptives

	SE	INT	OE	soe	poe	seoe	Score
N	27	27	27	27	27	27	27
Mean	4.06	3.25	3.37	1.63	4.07	4.40	3.53
Median	4.00	3.17	3.33	1.67	4	4.33	3.57
Standard deviation	0.160	0.219	0.289	0.250	0.675	0.321	0.205
Variance	0.0256	0.0478	0.0834	0.0627	0.456	0.103	0.0419
Range	0.500	0.667	1.22	0.667	2	1.00	0.762
Minimum	3.83	2.83	2.78	1.33	3	4.00	3.14
Maximum	4.33	3.50	4.00	2.00	5	5.00	3.90

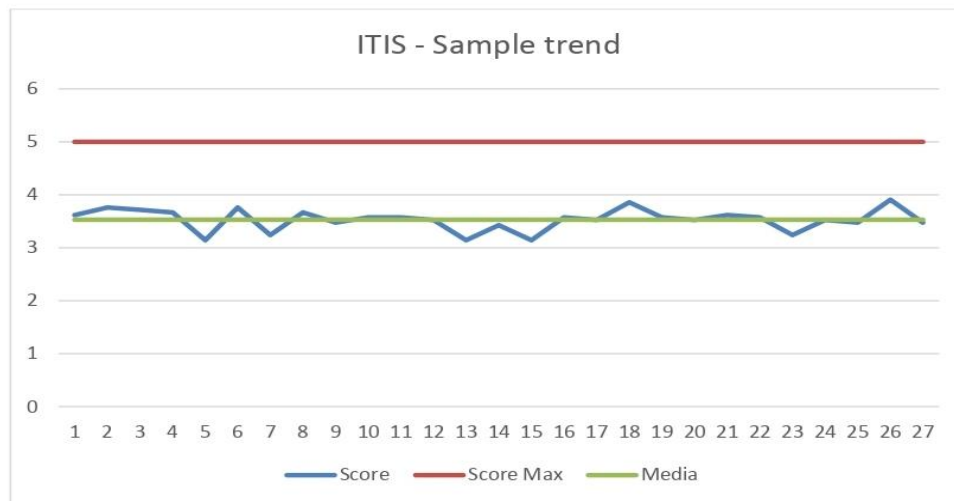Tab. 4. ITIS descriptive statistics
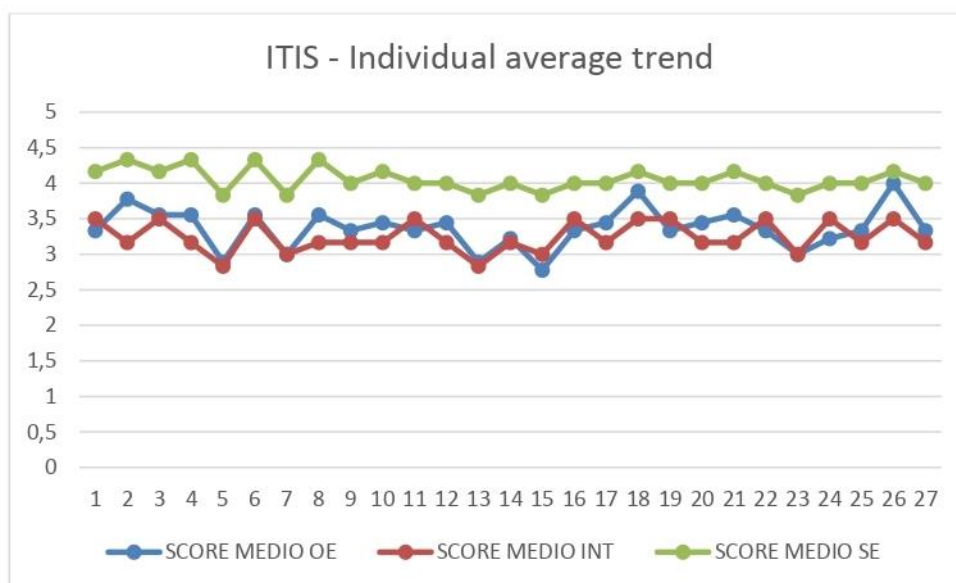

Fig. 1 ITIS Sample trend

Fig. 2 ITIS Individual average trend

The dimension related to the knowledge domains (Tab. 5) shows, on the whole, a mean = 3.06 and SD = 0.410 and a trend with several peaks below the mean (Fig. 3); in Figure 4 we can notice how especially the factor TPCK (2.94 ± 0.446) appears to have a lower mean trend than the other two (TCK = 3.07 ± 0.233 and TPK = 3.13 ± 0.543).

Descriptives

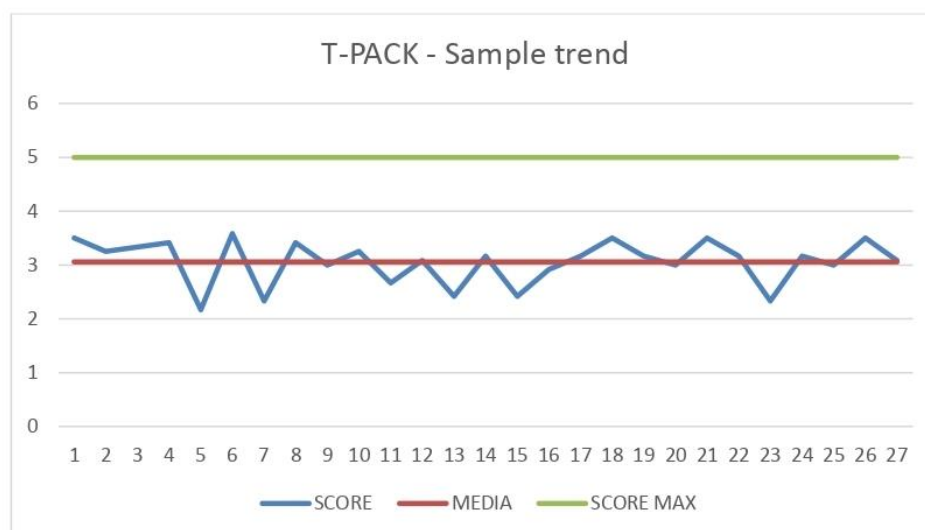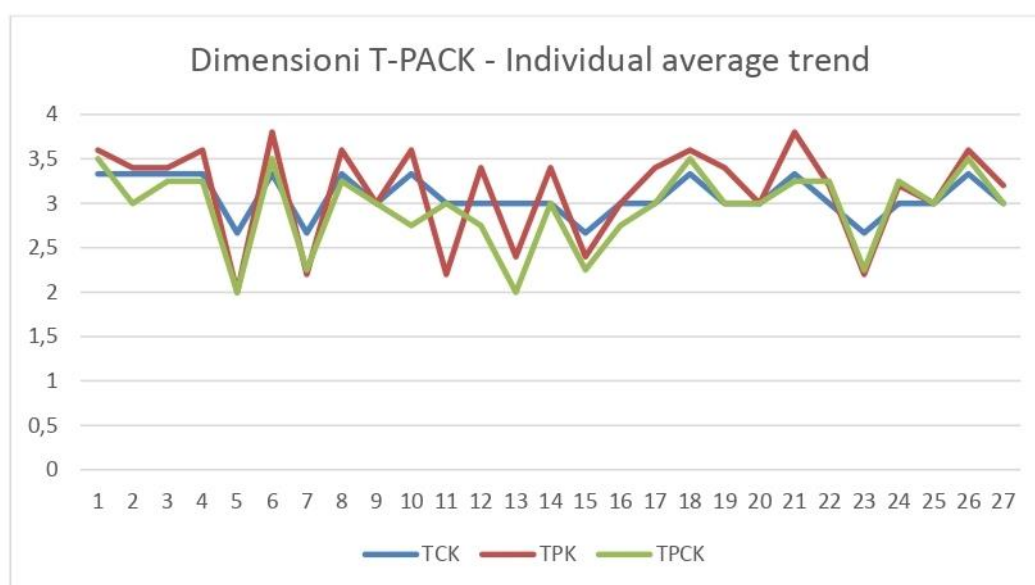|	TCK	TPK	TPCK	Score
N	27	27	27	27
Mean	3.07	3.13	2.94	3.06
Median	3.00	3.40	3.00	3.17
Standard deviation	0.233	0.543	0.446	0.410
Variance	0.0541	0.295	0.199	0.168
Range	0.667	1.80	1.50	1.42
Minimum	2.67	2.00	2.00	2.17
Maximum	3.33	3.80	3.50	3.58

Tab. 5 T-PACK descriptive statistics

Fig. 3

Fig. 4

From the analysis of the correlation coefficient it emerged that the teachers' attitude towards the use of ICT in educational contexts is positively correlated with the dimension relating to the knowledge domains (r = .896, p < . 001), especially with regard to the more personal aspects (OE and SE) than socio-contextual (INT); to strengthen this evidence, it is possible to note that, within the correlation matrix, between the different dimensions of the ITIS and T-PACK, the factors OE, SE, TCK, TPK and TPCK report correlations with excellent statistical significance (p < .001), while the same, with the factor INT, indicate a less strong relationship (p < .05 (Tab. 6).

Correlation Matrix

		OE	INT	SE	TCK	TPK	TPCK
OE	Pearson's r	—					
	p-value	—					
INT	Pearson's r	0.577 **	—				
	p-value	0.002	—				
SE	Pearson's r	0.806 ***	0.448 *	—			
	p-value	< .001	0.019	—			
TCK	Pearson's r	0.832 ***	0.509 **	0.918 ***	—		
	p-value	< .001	0.007	< .001	—		
TPK	Pearson's r	0.777 ***	0.521 **	0.810 ***	0.852 ***	—	
	p-value	< .001	0.005	< .001	< .001	—	
TPCK	Pearson's r	0.811 ***	0.787 ***	0.763 ***	0.783 ***	0.826 ***	—
	p-value	< .001	< .001	< .001	< .001	< .001	—

Note. * p < .05, ** p < .01, *** p < .001

Tab. 6. Correlations between the dimensions of ITIS and T-PACK

Investigating the other factors of the context, again in relation to the domains of knowledge, by means of ANOVA Test, no particular elements of influence emerged except for the participation in computer courses [$F_{(26,1)} = 7.46$; $p < .05$] included in the Overall Model Test through which we explained about 56% of the variance [$F_{(13,13)} = 3.56$; $p < .05$; Adjusted R^2 = .561] (Tab. 7).

Linear Regression

Model Fit Measures

Model	R	R^2	Adjusted R^2	Overall Model Test			
				F	df1	df2	p
1	0.883	0.781	0.561	3.56	13	13	0.015

Omnibus ANOVA Test

	Sum of Squares	df	Mean Square	F	p
Gender	22.0	1	22.0	2.07	0.174
Age range	46.3	3	15.4	1.45	0.274
Education	28.7	2	14.3	1.35	0.294
Years' service	37.0	1	37.0	3.48	0.085
Type of lecturing	25.0	1	25.0	2.35	0.149
Teaching subject	26.9	2	13.5	1.27	0.314
Involvement in informatic training	16.2	1	16.2	1.52	0.239
Debate with colleagues on tic	19.3	1	19.3	1.81	0.201
Training in educational technology	79.4	1	79.4	7.46	0.017
Residuals	138.3	13	10.6		

Note. Type 3 sum of squares

Tab. 7 Omnibus ANOVA Test

Discussion

In line with the research hypotheses and consistent with the findings of numerous researches (Benigno et al. 2013; Yildiz Durak, 2021; Guggemos & Seufert, 2021), this study confirms that any intervention project that aims at the familiarisation and integration of ICT in teaching practice cannot be limited to mere training in the practical use of the device (Keengwe & Onchwari, 2008), but must also take into account beliefs and attitudes, which act as mediators of other extrinsic and social factors (Ertmer et al., 2012).

While among these constructs, Self Efficacy (SE) plays a central role in the integration of technologies into teachers' educational practices, confirmed by the high score obtained (SE = 4.06±0.160), the results show lower scores for Outcome Expectation (OE = 3.37±0.289), that is, the expectation that one's actions will produce the desired consequences. According to Bandura (1986), the outcome expectation involves the degree to which individuals believe that an action will lead to a particular outcome and the value placed on the outcome itself. OE plays a very important role in human motivation, since if people do not believe that their actions will have the desired consequences, they are unlikely to find the motivation to commit to those actions for as long as it takes to achieve the outcome. This construct is put to the test in the prison context, which is hardly supportive and motivating, and in which there is little

dissemination of good practices and professional collaboration among peers (74.1% of our sample reported that they do not discuss ICT in teaching with their colleagues). In line with our hypotheses, from the analysis of the data also emerges a profile of digital competences perceived by the teachers of the school in prison, characterised by a low level of perception in the knowledge domains (mean = 3.06 and SD = 0.410) referred to the TPCK model, especially in the more complex form of intersection between knowledge of technologies, methodological-didactic and disciplinary aspects (2.94±0.446). The integration of technologies in education does not only require the teachers' knowledge of them, otherwise his role would be reduced to pure technicality; it is necessary instead "to reconsider their way of thinking about technology and their relationship with it [...] as a complex, dynamic, constantly evolving relationship" (Mishra & Koehler, 2006, p. 102). Although it has been widely demonstrated that the mere acquisition of skills in the use of technological devices does not necessarily imply the ability to integrate these skills into teaching practice (Mishra & Koehler, 2006), today most teacher training courses focus on the acquisition of skills related to the use of ICT. The training courses that follow this logic conceive the disciplinary contents and pedagogical practices as separate domains from technological knowledge and skills, not envisaging the adoption of the TPACK model as a conceptual reference framework in the definition of initial and continuous teacher training courses. Following the regulatory interventions that have involved the prison system following the pandemic and that define a theoretical and methodological horizon that is actually compatible with the model itself, this study highlights the need to implement in-service training (Frazier et al., 2019), and professional development devices through a model oriented to the sharing of knowledge and professional experiences, which supports the acquisition of new skills in the field of teaching technologies and, at the same time, spaces for dialogue and self-reflection among teachers.

Conclusions

The process of integrating ICT into the school system is a rather complex operation, all the more so in contexts such as prisons, where technology represents a new element. We cannot expect prospective teachers to possess technology-related knowledge and skills simply because they grew up with digital technology (Kirschner & Bruyckere, 2017). According to Sweller (2020, p. 1) "Technology-based instruction used without reference to the instructional design principles that flow from human cognition is likely to be random in its effectiveness". To deliberately use technology, teachers need specific knowledge, skills, and attitudes (Kirschner, 2015). The results obtained in this study, show the significant relation between technology integration and teachers' attitude to technology, therefore, in order to support teachers for successful technology integration, necessary effort must be exerted to develop their technology literacy as well as to change their attitude to technology positively (Ertmer et al.,2012). Relevant efforts accompanying this dimension should provide knowledge of how to integrate technology into the learning-teaching process by establishing a balance between teaching and elements of technology, pedagogy and expertise in the area (Mishra & Koehler, 2006).
This integration, all the more so in contexts such as prisons, can be achieved through an in-service training model that invests in the figure of a competent and reflective teacher-researcher, able to move in the new digital learning environments, integrating them in a fruitful way with the more traditional ones, exploiting their specific educational potential (Di Blas et al., 2018; Rivoltella & Rossi, 2012).
This model includes and enhances the technological development becoming an expression of that possible trans-processuality of education, education and creativity by virtue of what is the

general pedagogical objective of the school within, that is to encourage inmates the "*rediscovery of themselves*" and their potential through access to new knowledge and innovative learning methods compared to the consolidated habits and previous unsuccessful school experiences (Federighi, 2016).

The main limitation of this study is the small sample size limited to 27 teachers. Thus, we are cautious in generalizing the studys findings. It should also be noted that from the perspective of the digitization of prisons, the situation is constantly changing. These findings are important, but as shown, there is much more research to be completed on the topic of access to and the use of technology in prison.

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