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Innovative educators in the digital age: Analyzing the impact of school support, self-efficacy, and technology anxiety on teaching creativity

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Abstract: Rapid technological advancements require educators to integrate technology into the learning process, but obstacles such as anxiety about technology often hinder their creativity. This study aims to examine the influence of school innovation climate, technology self-efficacy (TSE), and technology anxiety (TAS) on the creativity of educators in Indonesia, as well as the mediating role of TAS in this relationship. The research method used is a quantitative approach with a cross-sectional survey design involving 248 educator respondents from nine National Police education centers. Data were collected through questionnaires and analyzed by structural equation modeling (SEM). The findings show that the school innovation climate has a positive effect on educators' creativity, which TSE mediates. In contrast, technology anxiety (TAS) acts as an inhibitor of creativity, with a negative influence on the use of technology in learning. Organizational incentives also have a positive effect on TSE but increase TAS, which ultimately reduces educator creativity. The study recommends giving educators greater work autonomy as well as ongoing technology training to improve TSE and reduce anxiety about technology. The implication of this study is the importance of creating a school environment that supports innovation, as well as designing incentive policies that do not burden educators psychologically. The weakness of this study is the limitation of the convenience sample selection, which affects the generalization of the findings. Future research is suggested to expand the sample with more representative sampling methods and deepen the study of other psychological factors that affect the use of technology in education.

Keywords: *Creative learning, School innovation, Teachers' creativity, Technology anxiety, Technology self-efficacy.*

1. Introduction

Rapid technological advances have brought significant changes in the world of education. Schools are required to create an innovation climate that can encourage educators to adopt and integrate technology into the learning process [1], [2]. A supportive climate of school innovation not only allows educators to experiment with new teaching methods [3], [4], but also provides space to develop creativity [5], [6] in presenting a more dynamic and relevant learning experience for students [7]. In addition to the climate of innovation, technology self-efficacy (TSE) and technology anxiety self-efficacy (TAS) are important factors that influence educators' use of technology in their teaching [8], [9]. Technology self-efficacy (TSE) is educators' confidence in their ability to use technology in teaching effectively [10]. in contrast, technology anxiety reflects the worry or discomfort experienced by educators when faced with new technology [11], [12]. These two factors are interrelated and can affect the creativity of educators in designing innovative learning processes.

Teacher's creativity (TC) is a key element in determining the quality of teaching. Creative educators are able to utilize technology [13] And create an engaging and interactive learning experience for students [14]. Teachers can design learning methods that are more relevant to the challenges of the modern world by combining technology and creativity [15].

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The climate of innovation in the school environment has a significant influence on educators' ability to innovate in teaching. According to to Pietsch, Schools that support innovation create an environment conducive for educators to develop creative ideas [16]. In addition, technological self-efficacy also greatly affects educators' confidence in using technology [10]. The higher the self-efficacy of the educator, the more likely it is that the technology will be used innovatively [17]. Conversely, technology anxiety can be a barrier for educators in adopting technology [18], which ultimately reduces the creativity of educators in designing technology-based learning methods [19].

Although previous research has highlighted the importance of the innovation climate and technology-related factors [20]–[23], There are still some aspects that have not been fully understood. Research on the influence of technological self-efficacy and technological anxiety on educators' creativity, especially in the context of innovation in schools, is still rare. Studies that combine these two factors with the innovation climate to look at the impact on educators' creativity holistically are still limited. In addition, the mediating role of technological self-efficacy and technological anxiety in the relationship between innovation and creativity climate has not been widely explored. Further studies are needed to understand how technology and school innovation factors together affect educators' creativity, especially in developing countries such as Indonesia, where the impact of technology anxiety on creativity is still poorly studied.

This study analyzes the influence of the school innovation climate on educators' creativity by exploring the mediating role of technology self-efficacy and technology anxiety. This study also assesses the direct impact of these two technological factors on educators' creativity in using technology as an innovative learning tool. The results are expected to provide important insights for schools in designing programs that encourage creativity and innovation among educators through the use of technology.

2. Literature Review

2.1. The Climate of School Innovation and Teachers' Creativity

The school innovation climate is an important factor that affects the creativity of educators, especially in the context of dynamic and ever-evolving education. Previous studies have shown that a climate that supports innovation encourages individuals to actively participate in the process of change [24], [25], Experiment with new teaching methods [26], and finding creative solutions to learning challenges [27]. In addition, the climate of innovation can strengthen the self-efficacy of educators [28] and increase their confidence in using creative learning approaches and new technologies [29]. Thus, a climate that supports innovation acts as a catalyst in the process of increasing the creativity of educators, which has a positive impact on the effectiveness of teaching and the quality of learning in schools.

Hypothesis$_1$: The school innovation climate has a positive and significant effect on teachers' creativity.

2.2. School Innovation Climate and the Psychological Impact of Technology

A school climate that supports innovation has an important role in improving teachers' ability to use technology and reducing teachers' anxiety about technology. A study that analyzed the influence of the innovation climate on teachers' technology competency found that the support schools provide, such as ongoing technology training and flexible innovation policies, can directly improve teachers' self-efficacy in using technology [30]. When teachers feel that the school supports the use of technology, teachers are more confident and motivated to apply technology in teaching [29], which in turn lowers teachers' anxiety levels about the use of technology [31]. A study mentions that high-tech anxiety can lead to emotional exhaustion and burnout [32], Especially when teachers do not feel competent to use the available technological tools [33]. Therefore, building a strong climate of innovation in schools is key to improving teachers' psychological well-being and the effectiveness of the use of technology in learning

Hypothesis$_2$: School Innovation Climate Has a Positive and Significant Effect on the Psychological Impact of Technology.

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2.3. The Psychological Impact of Technology and Teachers' Creativity

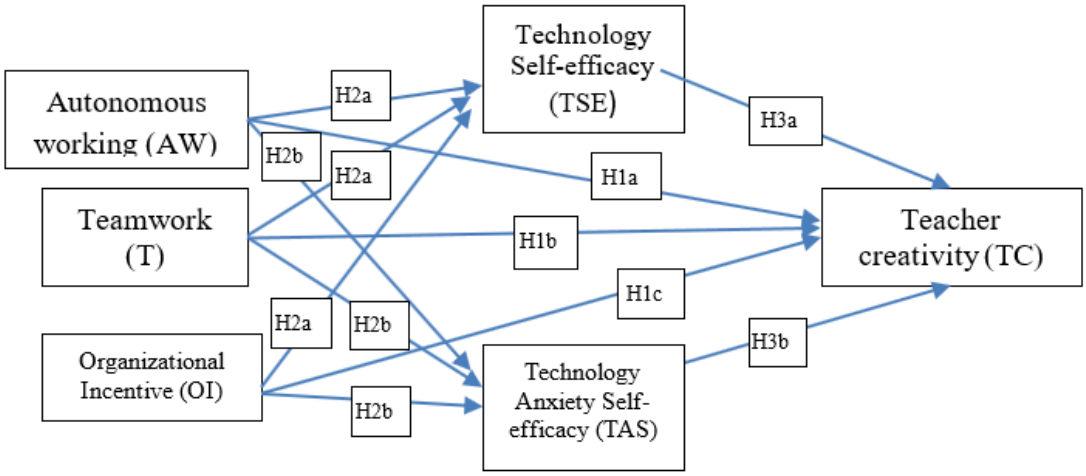
Empirical research on the psychological impact of teachers on technology, measured through technology self-efficacy and technology anxiety, shows a significant correlation with the level of teachers' creativity. Teachers who have high technology self-efficacy tend to be more open to the use of new technology [10], explore a range of innovative teaching methods [34] and create more creative learning strategies [35]. Research by Brailovskaia shows that when teachers feel anxious or unconfident about using technology, they tend to continue to use safer conventional teaching methods [36]. These educators avoid using digital tools that can increase creativity and learning effectiveness.

Hypothesis$_3$: The psychological impact of technology has a positive and significant effect on teachers' creativity.

2.4. Mediation of the Psychological Impact of Technology

Empirical research shows that teachers' psychological impacts on technology, such as technology self-efficacy and technology anxiety, play a significant role as a mediator in the relationship between the school innovation climate and educator creativity. A conducive school innovation climate characterized by support for flexibility in the use of technology can increase teachers' self-efficacy in technology [37]. As the self-efficacy of technology increases, teachers become more confident in exploring new technologies [38], which ultimately increases creativity in learning [39]. Conversely, high-tech anxiety tends to weaken the positive influence of the innovation climate on creativity [40], Because teachers with high anxiety are more likely to avoid using technology. Thus, technology self-efficacy and technology anxiety are mediating variables that bridge the influence of the school innovation climate on educators' creativity.

Hypothesis$_4$: The psychological impact of technology mediates the influence of the school innovation climate on teachers' creativity.



H4a: AW→TSE→TC
H4b: T→TSE→TC
H4c: OI→TSE→TC
H4d: AW→TAS→TC
H4e: T→TAS→TC
H4f: OI→TAS→TC

Figure 1.
Conceptual model.

3. Method

Based on the background of the problem and the objectives of the research, and after confirming the topic of the climate relationship of school innovation, the literature explores the psychological impact of teachers in the application of educational technology and teacher creativity, and a hypothesis model is constructed with the perspective of social cognition theory.

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This study uses a quantitative approach with a cross-sectional survey design. According to Creswell, cross-sectional surveys are a method used to examine the relationship between variables in a population at a certain time [41]. Data is collected from participants at a predetermined time. This study targets the population of educators from nine educational centres in the "Lemdiklat Polri," with a total of 722 certified educators. To determine an adequate sample size, researchers used the Krejcie & Morgan, which recommended a sample size of 248 respondents for a population of about 700 people [42]. Respondents were selected using convenience sampling techniques. Data collection was carried out through a questionnaire distributed using the Google Form.

Table 1.
Sample characteristics (n = 248).

Variables		Participants
Schools	Diklat Reserse	7.25%
	Pusdik Binmas	9.68%
	Pusdik Sabhara	15.32%
	Pusdik Intelkam	10.48%
	Pusdik Lantas	4.03%
	Pusdik Polair	8.06%
	Pusdik Brimob	31.05%
	Pusdik Administrasi	6.45%
	Sebasa	7.66%
Gender	Male	89.11%
	Female	10.89%
Age	<29	20.97%
	30-39	15.32%
	40-49	43.15%
	50-58	20.56%
Experience	<5 years	22.58%
	5-10 years	41.53%
	11-20 years	18.95%
	>20 years	16.94%
Education level	High school	21.77%
	Bachelor	49.19%
	Master	27.42%
	Doctoral	2.42%

Based on Table 1, the characteristics of the sample, when viewed from the age of the respondents who are 40-49 years old, are dominated by 43.15%; when viewed in terms of experience or the length of time being an educator, the highest is respondents who have 5-10 years of experience, namely 41.53% of the respondents. In contrast, when viewed from the level of education, the bachelor's degree is strata-1 by 49.19%.

The data from the questionnaire results were analyzed using the PLS-SEM method using SmartPLS 4, which has been used in many fields[43]. PLS-SEM (Partial Least Squares Structural Equation Modeling) is a very suitable method for this study because of its excellence in handling complex models with many latent variables as well as relationships between variables that are not directly observed [44]. This method is also capable of handling data with smaller sample sizes, which is often a constraint in educational research. In addition, PLS-SEM can be used to test moderation and mediation variables, which is crucial in understanding the complex mechanisms that affect a variable. Another advantage is its ability to overcome multicollinearity problems and produce stable estimates even though the data is not normally distributed.

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All variables were measured using scales adapted based on previous research. Each measurement item has been translated into Indonesian. All items are presented on a five-point scale, ranging from 1 = Strongly disagree to 5 = Strongly agree. To measure the relationship between the school innovation climate and educators' creativity through the psychological impact of technology, the exogenous variables of the school innovation climate were measured by 3 dimensions adapted fromDu & Chang[20] [20], namely work autonomy (AW) consisting of 3 items, teamwork (T) with 3 items and organizational incentives (OI) consisting of 4 items. The exogenous variables Technology Self-efficacy (TSE) and Technology Anxiety Self-efficacy (TAS) were adapted fromdarwis et al [9], each consisting of 4 items. Meanwhile, the endogenous variable of educator creativity (TC) is adapted fromDogbe et al [45], which consists of 5 items; the complete measurement items are presented in Table 2.

Table 2.
Measurement items.

Variabel	Code	Item	Loadings
Autonomous working (AW)	AW1	I can freely arrange the order of my subject matter	0.839
	AW2	I can decide how to carry out learning in the classroom	0.907
	AW3	I have room to work independently in my work	0.901
Organization incentive (OI)	OI1	Schools will reward teachers who have innovative ideas	0.849
	OI2	The school incentive system makes teachers innovative and enthusiastic	0.833
	OI3	Schools encourage teachers to develop creative ideas	0.783
	OI4	School incentive system effectively boosts work innovation	0.803
Teamwork (T)	T1	Colleagues often communicate and discuss problems at work	0.837
	T2	My peers will actively help me complete my assignments	0.915
	T3	I feel the support and attention of my colleagues	0.925
Technology anxiety Self-efficacy (TAS)	TAS1	I was worried that with technology, my thinking skills would be weak	0.784
	TAS2	I think that technology can change a person's behaviour to be negative	0.812
	TAS3	I was hesitant to use technology for fear of making mistakes that I could not fix	0.524
	TAS4	Using technology while teaching makes me feel uncomfortable	0.814
Technology self-efficacy (TSE)	TSE1	I can effectively use technology as an instructional tool	0.459
	TSE2	I can expand my instructional options by using a computer	0.864
	TSE3	I can expand my instructional options by using the internet	0.876
	TSE4	I can use technology if someone can show me how to do it	0.827
Teacher creativity (TC)	TC1	I was able to complete the task with minimal supervision	0.855
	TC2	I thought deeply before I worked	0.866
	TC3	I was able to complete the task without following	0.833

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		the normal procedure	
	TC4	I have innovative ideas	0.796
	TC5	I have problem-solving abilities	0.789

4. Results and Discussion

4.1. Measurement Model

The modeling analysis of structural equations is carried out in two stages. The first stage focuses on validating the measurement model aimed at ensuring that measurements of latent constructs are adequate and reliable before proceeding to the second stage, which is structural modeling [46].

Based on Table 3, in this study there are six latent variables; Autonomous working (AW) with three questions from AW1 to AW3 with an average of 4.58 to 4.62 and a standard deviation between 0.56 to 0.64; organization Incentive (OI) with four OI1-OI4 question items, with an average of 4.33-4.61 and a standard deviation between 0.56 to 0.79; Teamwork (T) consists of three questions with an average of 4.52-4.59 and a standard deviation of 0.59-0.62. Technology Anxiety Self-efficacy (TAS) consists of 4 questions, but only 3 questions are eligible, namely TAS1, TAS2 and TAS4 with an average of 4.43-4.53 and a standard deviation between 0.63-0.71; Teacher creativity (TC) with five questions with an average of 4.32-4.65 and a standard deviation between 0.51-0.78; and Technology Self-efficacy (TSE) with four questions but only three questions are qualified, namely TSE2, TSE3 and TSE4 with an average of 4.54-4.59 and a standard deviation between 0.58-0.64.

Based on Table 3, the kurtosis value of each question item of all constructs is between -4.67 and 1.136; skewness is between -1.214 and 1.021. This result corresponds to an absolute value of kurtosis of less than 7 and an absolute value of skewness of less than 2 [47]. In addition, the results also meet the statistical normative assessment criteria for one variable. Further, the highest loading value of each question corresponds to its potential configuration; according to the recommendations of experts, the highest loading value of each question should appear in the expected configuration [48].

Table 3.
Analysis item.

Item	Mean (SD)	Kurtosis	Skewness	Cross loading					
				AW	IO	T	TAS	TC	TSE
1. AW = Autonomous working									
AW1	4,61 (0,64)	0.638	0..325	0.839	-0.090	-0.064	0.048	0.331	0.124
AW2	4,62 (0,56)	0.351	0.153	0.907	-0.053	-0.035	-0.001	0.290	0.097
AW3	4,58 (0,59)	0.142	-1.068	0.901	-0.003	0.022	0.086	0.328	0.092
2. OI = Organization insentive									
OI1	4,50 (0,65)	-0.217	-0.941	-0.043	0.849	0.756	0.626	-0.021	0.602
OI2	4,33 (0,79)	-0.001	0.910	-0.084	0.833	0.528	0.581	-0.071	0.507
OI3	4,42 (0,69)	-0.170	-0.842	-0.147	0.783	0.478	0.491	-0.123	0.493
OI4	4,61 (0,56)	0.201	-1.091	0.059	0.803	0.575	0.678	0.067	0.655
3. T = Teamwork									
T1	4,52 (0,62)	-0.154	-0.937	0.038	0.589	0.837	0.496	-0.008	0.501
T2	4,59 (0,59)	0.045	-1.017	-0.079	0.664	0.915	0.484	0.032	0.520
T3	4,53 (0,62)	-0.100	0.969	-0.035	0.680	0.925	0.554	0.020	0.513
4. TAS = Technology anxiety self-efficacy									
TAS1	4,53 (0,63)	-0.059	-1.012	0.048	0.595	0.443	0.784	-0.034	0.606
TAS2	4,46 (0,71)	-0.437	-0.951	0.020	0.617	0.472	0.812	-	0.526

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Item	Mean (SD)	Kurtosis	Skewness	Cross loading					
				AW	IO	T	TAS	TC	TSE
								0.026	
TAS4	4,43 (0,71)	-0.591	-0.834	0.061	0.560	0.468	0.814	0.017	0.537
5. TC = Teacher creativity									
TC1	4,65 (0,51)	-0.229	-0.992	0.317	-0.066	-0.046	-0.061	0.855	0.060
TC2	4,61 (0,53)	-0.467	-0.840	0.363	0.014	0.030	0.046	0.866	0.144
TC3	4,39 (0,73)	0.520	1.021	0.291	0.004	0.065	0.003	0.833	0.076
TC4	4,32 (0,78)	0.201	-0.942	0.241	-0.044	0.045	-0.053	0.796	0.068
TC5	4,60 (0,55)	0.038	-1.025	0.261	-0.068	-0.023	-0.030	0.789	0.059
6. Technology self-efficacy									
TSE2	4,54 (0,61)	-0.009	-1.011	0.114	0.601	0.475	0.596	0.102	0.864
TSE3	4,59 (0,58)	1.136	-1.214	0.109	0.618	0.570	0.573	0.154	0.876
TSE4	4,54 (0,64)	0.659	-1.173	0.081	0.574	0.415	0.614	-0.008	0.827

Note: AW= Autonomous working, TC= Teacher creativity, T=Teamwork, OI=Organizational incentive, TSE= Technology self-efficacy, TAS= Technology anxiety self-efficacy.

Based on Table 4, in order to meet the criteria of the measurement model according to [44], [49], the loading factor >0.7, Composite Reliability >0.7 and Average Variance Extractions (AVE) >0.5. When checking the loading factor value on each construct, two items, namely TAS3 and TSE1, do not meet the requirements. After the ineligible items are removed from the construction, the loading factor value is in the range of 0.783 to 0.925, the composite reliability value is in the range of 0.726 to 0.897, and the average AVE is between 0.646 and 0.798. Moreover, to test whether there is multicollinearity, the Inflation Factor Variant (VIF) test is carried out, where the VIF value should not be more than 3.3 [50] and based on the results of the VIF test no one exceeds 3.3.

Table 4.
Measurement model.

Item	Loadings	T value	P-value	Cronbach's alpha	CR	AVE	VIF
1. AW = Autonomous working				0.858	0.861	0.780	1,67-3,22
AW1	0.839	8.035	0.000				
AW2	0.907	10.395	0.000				
AW3	0.901	10.567	0.000				
2. OI = Organization insentive				0.835	0.843	0.668	1,71-2,20
OI1	0.849	19.673	0.000				
OI2	0.833	19.923	0.000				
OI3	0.783	15.852	0.000				
OI4	0.803	18.667	0.000				
3. T = Teamwork				0.872	0.874	0.798	1,75-3,23
T1	0.837	14.775	0.000				
T2	0.915	19.689	0.000				
T3	0.925	21.734	0.000				
4. TAS = Technology anxiety self-efficacy				0.726	0.726	0.646	1,36-1,52
TAS1	0.784	14.321	0.000				
TAS2	0.812	15.635	0.000				
TAS4	0.814	15.851	0.000				
5. TC = Teacher creativity				0.886	0.897	0.686	1,90-3,11
TC1	0.855	9.291	0.000				
TC2	0.866	9.452	0.000				

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Item	Loadings	T value	P-value	Cronbach's alpha	CR	AVE	VIF
TC3	0.833	7.937	0.000				
TC4	0.796	6.533	0.000				
TC5	0.789	7.353	0.000				
6. Technology self-efficacy				0.818	0.823	0.733	1,70-1,92
TSE2	0.864	16.418	0.000				
TSE3	0.876	17.171	0.000				
TSE4	0.827	14.708	0.000				

Note: AW= Autonomous working, TC= Teacher creativity, T=Teamwork, OI=Organizational incentive, TSE= Technology self-efficacy, TAS= Technology anxiety self-efficacy.

Based on Table 5, the construct has met the criteria for discriminant validity. According to Henseler that, a construct has discriminatory validity if the HTMT coefficient is <0.85 [51]. As shown in Table 5, no HTMT coefficient value exceeds 0.85, so it can be concluded that the construct has sufficient discriminatory validity.

Table 5.
Discriminant validity.

	AW	OI	T	TAS	TC	TSE
AW						
OI	0.124					
T	0.074	0.836				
TAS	0.072	0.827	0.720			
TC	0.405	0.106	0.058	0.074		
TSE	0.140	0.834	0.674	0.801	0.124	

4.2. Structural model

After the convergent validity and discrimination of each construct are met, then an analysis of the structural model is carried out. The SRMR value on this model is 0.068, less than 0.08. According to Hu & Bentler, a model is said to have a good model fit if the SRMR value is less than 0.08[52]. In addition, the goodness of the structural equation model can also be seen from the NFI; the model is said to meet the standard if the NFI value is at least 0.8 [53]. In this model research, the NFI value is 0.82, so it can be concluded that the model meets the standard.

4.3. Hypothesis Testing

4.3.1. Direct Effect

In Table 6, the results of hypothesis testing can be seen. The results showed that autonomous work had a positive and significant influence on educators' creativity (H1a: β=0.352, p<0.05), educators' self-confidence in using technology (H2a1: β=0.156, p<0.05), educators' self-anxiety in using technology (H2b1: β=0.093, p<0.05). Teamwork did not have a significant effect on educators' creativity (H1b: β=0.032, p=0.669>0.05), educators' confidence in using technology (H2a2: β=0.137, p=0.104>0.05), Educators' anxiety in using technology (H2b2: β=0.086, p=0.278>0.05). The results of the data analysis also showed that organizational incentives did not have a significant effect on educators' creativity (H1c: β=-0.096, p=0.334>0.05), but organizational incentives affected educators' self-confidence in using technology (H2a3: β=0.608, p<0.05), educators' anxiety in using technology (H2b3: β=0.679, p=0.000<0.05). The results of the analysis also showed that educators' confidence in using technology had a positive and significant effect on educators' creativity (H3a: β=0.154, p=0.049<0.05). However, it turned out that anxiety about using technology had a negative and significant effect on educators' creativity (H3b: β=-0.163, p=0.035<0.05). The value of f^2 indicates the value of the relationship between factors. According to Cohen, if f^2 ≤0.02= small effect, f^2>0.15 = medium, f^2>0.35=big effect [54]. In Table 5, the value of f^2 is also presented, which is between 0.013 and 0.492; there are two pathways that

have a large effect, namely the H2a3 and H2b3 hypotheses; the other pathway has a small influence effect.

4.3.2. Indirect Effect

In this study, data analysis uses a bootstrapping approach [55], bootstrapping 5000 times to verify the mediating effect of the psychological impact of technology use. Based on the analysis of the research results presented in Table 5, the self-efficacy of educators does not mediate the influence of the school innovation climate (Autonomous Working, Teamwork and Organizational Incentive) on the creativity of educators. Likewise, the anxiety of educators in using technology did not mediate the influence of autonomous work (H4d: β=-0.015, p=0.099>0.05), teamwork (H4de β=-0.014, p=0.374>0.05) on the creativity of educators, but mediated organizational incentives (H4f β=-0.110, p=0.038<0.05) on the creativity of educators, but the mediation effect was negative.

Table 6.
Hypothesis testing.

Hypothesis	Estimate	Sample mean (M)			Bias corrected 95%			Support
			t-value	p-value	2.5%	97.5%	f^2	
Direct effect								
H1a: AW -> TC	0.352	0.359	5.892	0.000	0.240	0.474	0.141	Yes
H1b: T -> TC	0.032	0.033	0.427	0.669	-0.113	0.184	0.001	No
H1c: OI->TC	-0.096	-0.099	0.966	0.334	-0.292	0.093	0.003	No
H2a1:AW -> TSE	0.156	0.157	3.885	0.000	0.078	0.237	0.051	Yes
H2a2: T -> TSE	0.137	0.140	1.624	0.104	-0.022	0.311	0.019	No
H2a3: OI -> TSE	0.608	0.610	8.853	0.000	0.472	0.741	0.369	Yes
H2b1: AW -> TAS	0.093	0.090	2.455	0.014	0.015	0.165	0.019	Yes
H2b2: T -> TAS	0.086	0.088	1.084	0.278	-0.061	0.246	0.008	No
H2b3: OI -> TAS	0.679	0.680	9.944	0.000	0.538	0.807	0.492	Yes
H3a: TSE -> TC	0.154	0.155	1.973	0.049	-0.005	0.302	0.013	Yes
H3b: TAS -> TC	-0.163	-0.163	2.114	0.035	-0.307	-0.010	0.015	Yes
Mediation								
H4a: AW -> TSE -> TC	0.024	0.025	1.619	0.105	-0.001	0.057		No
H4b: T -> TSE -> TC	0.021	0.021	1.201	0.230	-0.006	0.061		No
H4c: OI -> TSE -> TC	0.094	0.095	1.875	0.061	-0.003	0.194		No
H4d: AW -> TAS -> TC	-0.015	-0.014	1.648	0.099	-0.035	0.000		No
H4e: T -> TAS -> TC	-0.014	-0.014	0.889	0.374	-0.052	0.011		No
H4f: OI -> TAS -> TC	-0.110	-0.111	2.071	0.038	-0.215	-0.007		Yes

Note: AW= Autonomous working, TC= Teacher creativity, T=Teamwork, OI=Organizational incentive, TSE= Technology self-efficacy, TAS= Technology anxiety self-efficacy.

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In Table 7 and Figure 2, the R^2 value is presented, which explains that educators' anxiety about the use of technology is positively influenced by autonomous work (H2b1) and organizational incentives (H2b3) with an R^2 value = 0.554, which is believed to be moderate explanatory, because according to Chin, the R^2 value between 0.33 to 0.67 is classified as moderate explanatory [48]. In addition, educators' self-confidence in using technology is also influenced by autonomous work (H2a1) and organizational incentives (H2a3), which are classified as moderately explanatory because the R^2 value = 0.522 (between 0.33-0.67). In addition, educators' creativity is also influenced by autonomous work (H1a), technological confidence (H3a) and technology anxiety (H3b) with a weak criterion of R2<0.33.

Table 7.
Coefficient of determinant.

Variable	R-square	R-square adjusted
TAS	0.554	0.548
TC	0.146	0.132
TSE	0.522	0.517

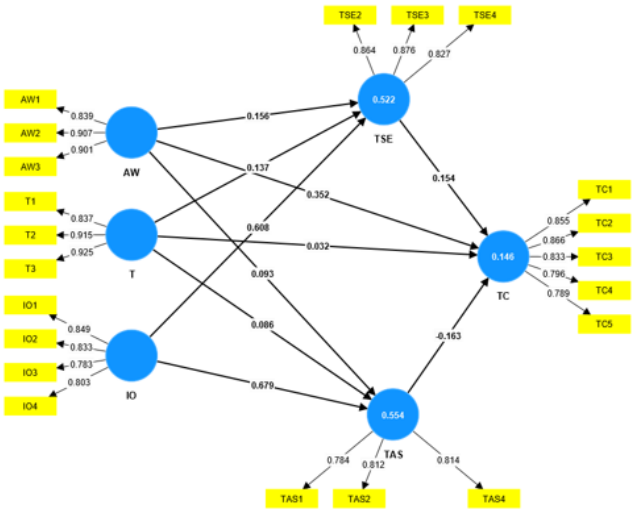

Figure 2.
Structural model assessment.

The results of the study show that autonomous work has a positive and significant influence on the creativity of educators. These findings are consistent with previous research that states that autonomy in work increases individual creativity [56]. Autonomous work provides many advantages for educators, especially in terms of freedom and flexibility in designing teaching [57]. Empirical findings from various studies show that when educators are given the freedom to choose teaching methods and approaches, they will be more innovative and create more engaging and effective learning strategies [58]. According to Ahakwa, teachers' work autonomy also increases a sense of responsibility and involvement in their work, which contributes to increased creativity in the teaching environment [59]. In the context of education in Indonesia, granting greater autonomy to teachers can be an important strategy to promote innovation in schools and improve the overall quality of teaching.

On the other hand, teamwork did not show a significant influence on educators' creativity. This is due to the existence of team dynamics that are less supportive or interpersonal conflicts that hinder creativity [60]; teams that are not harmonious tend to suppress innovative ideas [61]. Meanwhile, the research of Owolabi et al found that conflicts within teams often undermine collaborative processes, reducing the open communication necessary for creative ideas to flourish [62]. In addition, Farid revealed that a lack of trust among team members can decrease motivation to share new ideas [63]. Educators who work in a less supportive team environment feel less free to express their creative views.

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In the context of education, this can happen if educators are not empowered or if rigid hierarchies curb the contribution of ideas [64]. Collaboration that is forced without trust and support actually hinders innovation [65]. This is relevant in the context of education in Indonesia, where hierarchical structures and less flexible work cultures are barriers to effective creative collaboration among educators. Thus, although teamwork can encourage creativity, it must be done in a supportive manner. If in a less-than-ideal situation, it is the opposite; ineffective collaboration can hinder creativity.

Organizational incentives also do not have a significant effect on educators' creativity. This happens because the incentives provided are not in accordance with the needs or expectations of educators, so they do not motivate educators to innovate [66]. However, organizational incentives have a positive effect on technological self-efficacy and technological anxiety. Incentives can increase educators' confidence in using technology [67]. However, incentives can also increase educators' anxiety regarding the application of technology in learning [68]. This happens because there is pressure on educators to adapt to new technology. The self-efficacy of technology has a positive and significant effect on the creativity of educators, which is in line with the social cognitive theory, which states that an individual's belief in his or her ability affects creative behavior [69].

On the other hand, technology anxiety has a negative effect on creativity, suggesting that feelings of anxiety or fear of technology can hinder educators from innovating [70]. Mediation analysis shows that technological self-efficacy does not mediate the relationship between the innovation climate and the creativity of educators. However, technology anxiety mediates the influence of organizational incentives on educator creativity negatively. This suggests that despite incentives provided if educators feel anxious about technology, their creativity remains stimulated.

5. Conclusion

This study shows that the school innovation climate significantly affects teachers' creativity, especially by increasing self-efficacy and reducing technology anxiety. Work autonomy has been shown to positively influence teachers' creativity, while collaboration in teams and organizational incentives have not had a significant impact. Organizational incentives can increase anxiety about technology, which negatively impacts creativity. Self-confidence in using technology increases teachers' creativity, while anxiety about technology inhibits it. Mediation analysis shows that anxiety about technology mediates the influence of organizational incentives on teachers' creativity negatively. These findings underscore the importance of creating a supportive innovation climate, giving teachers greater autonomy, and reducing anxiety about technology to encourage creativity in learning.

Theoretically, this study enriches the literature on the role of the innovation climate and the psychological factors of technology in influencing the creativity of educators. These findings support social cognitive theory and highlight the complexity of the relationship between these variables in the context of education in developing countries. Practically, schools and educational institutions need to give more autonomy to educators in the teaching process. A comprehensive technology training program is also needed to improve self-efficacy and reduce technology anxiety. Organizational incentives should be designed in such a way that they are effective in driving innovation without increasing stress or anxiety.

References

[1] I. Masiello *et al.*, "Digital transformation in schools of two southern regions of Sweden through implementation-informed approach: A mixed-methods study protocol," *PLoS One*, vol. 18, no. 12, p. e0296000, Dec. 2023, [Online]. Available: https://doi.org/10.1371/journal.pone.0296000.

[2] G. E. Hall, "Technology's Achilles Heel," *J. Res. Technol. Educ.*, vol. 42, no. 3, pp. 231–253, Mar. 2010, doi: 10.1080/15391523.2010.10782550.

[3] M. Pietsch, C. Cramer, C. Brown, B. Aydin, and J. Witthöft, "Open Innovation in Schools: A New Imperative for Organising Innovation in Education?," *Technol. Knowl. Learn.*, vol. 29, no. 2, pp. 1051–1077, 2024, doi:

10.1007/s10758-023-09705-2.
[4] J. Pincus, "Incentives for Innovation in the Public Schools," *Rev. Educ. Res.*, vol. 44, no. 1, pp. 113–144, Mar. 1974, doi: 10.3102/00346543044001113.
[5] G. B. Esquivel, "Teacher behaviors that foster creativity," *Educational Psychology Review*, vol. 7, no. 2. Springer Science and Business Media LLC, pp. 185–202, 1995, doi: 10.1007/bf02212493.
[6] M. Klooker and K. Hölzle, "A generative design of collaborative innovation space," *R&D Manag.*, vol. 54, no. 2, pp. 323–346, Mar. 2024, doi: https://doi.org/10.1111/radm.12582.
[7] M. L. Carbajal and M. C. C. Baranauskas, "Enactive Interaction in Support of Creative Learning: A Systematic Literature Review," *Int. J. Hum. Comput. Interact.*, vol. 0, no. 0, pp. 1–26, 2024, doi: 10.1080/10447318.2024.2353425.
[8] E. Yeşilyurt, A. H. Ulaş, and D. Akan, "Teacher self-efficacy, academic self-efficacy, and computer self-efficacy as predictors of attitude toward applying computer-supported education," *Comput. Human Behav.*, 2016, [Online]. Available: https://www.sciencedirect.com/science/article/pii/S0747563216305283.
[9] H. Y. Darwish, M. Farouk, and M. Abdelsalam, "The Mediation Role of Technology Systems in the Relationship Between Education Technology Antecedents on Student Satisfaction," *Int. J. Sociotechnology Knowl. Dev.*, vol. 16, no. 1, pp. 1–18, 2024, doi: 10.4018/IJSKD.339566.
[10] S. Xu, K. I. Khan, and M. F. Shahzad, "Examining the influence of technological self-efficacy, perceived trust, security, and electronic word of mouth on ICT usage in the education sector," *Sci. Rep.*, vol. 14, no. 1, pp. 1–16, 2024, doi: 10.1038/s41598-024-66689-4.
[11] V. McInerney, D. M. McInerney, and K. E. Sinclair, "Student Teachers, Computer Anxiety and Computer Experience," *J. Educ. Comput. Res.*, vol. 11, no. 1, pp. 27–50, Jul. 1994, doi: 10.2190/94D0-B0AF-NLAX-7RYR.
[12] F. D. Guillén-Gámez, J. Ruiz-Palmero, and M. G. García, "Digital competence of teachers in the use of ICT for research work: development of an instrument from a PLS-SEM approach," *Educ. Inf. Technol.*, vol. 28, no. 12, pp. 16509–16529, 2023, doi: 10.1007/s10639-023-11895-2.
[13] Z. Zaremohzzabieh, S. Ahrari, H. Abdullah, R. Abdullah, and M. Moosivand, "Effects of educational technology intervention on creative thinking in educational settings: a meta-analysis," *Interact. Technol. Smart Educ.*, 2024, doi: 10.1108/ITSE-11-2023-0224.
[14] K. Chappell and L. Hetherington, *Creative pedagogies in digital STEAM practices: natural, technological and cultural entanglements for powerful learning and activism*, vol. 19, no. 1. Springer Netherlands, 2024.
[15] N. F. Alias and R. A. Razak, "Revolutionizing learning in the digital age: a systematic literature review of microlearning strategies," *Interact. Learn. Environ.*, pp. 1–21, Apr. 2024, doi: 10.1080/10494820.2024.2331638.
[16] M. Pietsch, C. Cramer, C. Brown, B. Aydin, and J. Witthöft, "Open Innovation in Schools: A New Imperative for Organising Innovation in Education?," *Technol. Knowl. Learn.*, vol. 29, no. 2, pp. 1051–1077, 2024, doi: 10.1007/s10758-023-09705-2.
[17] R. Peng, R. Abdul Razak, and S. Hajar Halili, "Factors influencing in-service teachers' technology integration model: Innovative strategies for educational technology," *PLoS One*, vol. 18, no. 8, p. e0286112, Aug. 2023, doi: 10.1371/journal.pone.0286112.
[18] O. Wohlfart and I. Wagner, "Teachers' role in digitalizing education: an umbrella review," *Educ. Technol. Res. Dev.*, vol. 71, no. 2, pp. 339–365, 2023, doi: 10.1007/s11423-022-10166-0.
[19] C.-L. Huang and P. Haried, "An Evaluation of Uncertainty and Anticipatory Anxiety Impacts on Technology Use," *Int. J. Human–Computer Interact.*, vol. 36, no. 7, pp. 641–649, Apr. 2020, doi: 10.1080/10447318.2019.1672410.
[20] T. Du and Y.-C. Chang, "Influence of Organizational Innovation Climate on Creativity and the Mediating Role of Feedback-Seeking Behavior—A Case Study of University Teachers in Hebei, China," *Int. J. Learn. Teach. Educ. Res.*, vol. 22, no. 4, pp. 87–103, Apr. 2023, doi: 10.26803/ijlter.22.4.6.
[21] R. Kaewsaeng-on, S. K. AL-Takhayneh, F. A. Jam, B. L. Chang, M. Pradana, and S. Mahmood, "A three wave longitudinal study of school innovation climate and entrepreneurship teachers' acceptance to technology: Moderating role of knowledge sharing and knowledge hiding," *Front. Psychol.*, vol. 13, no. October, pp. 1–15, 2022, doi: 10.3389/fpsyg.2022.1028219.
[22] X. Yuan, R. Kaewsaeng-on, S. Jin, M. M. Anuar, J. M. Shaikh, and S. Mehmood, "Time lagged investigation of entrepreneurship school innovation climate and students motivational outcomes: Moderating role of students' attitude toward technology," *Front. Psychol.*, vol. 13, no. August, pp. 1–14, 2022, doi: 10.3389/fpsyg.2022.979562.
[23] B. Deng, J. Cao, J. Huang, and J. Wu, "The Influence of Innovation Climate on Creative Role Identity: The Mediating Role of Flow," *Front. Psychol.*, vol. 13, no. May, 2022, doi: 10.3389/fpsyg.2022.866464.
[24] S. G. Isaksen and K. J. Lauer, "The Climate for Creativity and Change in Teams," *Creat. Innov. Manag.*, vol. 11, no. 1, pp. 74–86, Mar. 2002, doi: https://doi.org/10.1111/1467-8691.00238.
[25] T. Y. Kim, X. Wang, S. C. Schuh, and Z. Liu, "Effects of organizational innovative climate within organizations: The roles of Managers' proactive goal regulation and external environments," *Res. Policy*, vol. 53, no. 5, p. 104993, 2024, doi: 10.1016/j.respol.2024.104993.
[26] L. Vezhbovska, A. Boltenkov, V. Vaskialite, N. Lopukhova, and T. Dementovych, "Global trends in educational environment design: From cultural dimensions to innovations," *Res. J. Adv. Humanit.*, vol. 5, no. 1, pp. 1–16, Jan. 2024, doi: 10.58256/rjah.v4i4.1124.
[27] S. Romero Caballero, L. Canquiz Rincón, A. Rodríguez Toscano, A. Valencia Pérez, and G. Moreno Gómez, "Challenge-based learning and design thinking in higher education: institutional strategies for linking experiential learning, innovation, and academic performance," *Innov. Educ. Teach. Int.*, pp. 1–18, Mar. 2024, doi: 10.1080/14703297.2024.2326191.

[28] Y. Teng, R. Pu, and Y. Hao, "How can an innovative teaching force be developed? The empowering role of distributed leadership," *Think. Ski. Creat.*, vol. 51, p. 101464, 2024, doi: https://doi.org/10.1016/j.tsc.2024.101464.

[29] Y. Chen and Y. Zou, "Enhancing education quality: Exploring teachers' attitudes and intentions towards intelligent MR devices," *Eur. J. Educ.*, vol. n/a, no. n/a, p. e12692, Jun. 2024, doi: 10.1111/ejed.12692.

[30] J. Gil-Flores, J. Rodríguez-Santero, and C. Ortiz-de-Villate, "Teaching practices and organisational aspects associated with the use of ICT," *Large-Scale Assessments Educ.*, vol. 12, no. 1, 2024, doi: 10.1186/s40536-024-00215-w.

[31] J. Xu and Y. Zhu, "Factors influencing the use of ICT to support students' self-regulated learning in digital environment: The role of teachers in lower secondary education of Shanghai, China," *Psychol. Sch.*, vol. 60, no. 11, pp. 4312–4331, Oct. 2023, doi: https://doi.org/10.1002/pits.22938.

[32] C. Yang, X. Wang, X. Zhang, W. Liu, and C. Wang, "Burnout and associative emotional status and coping style of healthcare workers in COVID-19 epidemic control: A cross-sectional study," *Front. Public Heal.*, vol. 11, 2023, doi: 10.3389/fpubh.2023.1079383.

[33] B. C. Chen, Y. T. Wu, and Y. T. Chuang, "The impact of teachers' perceived competence in information and communication technology usage, and workplace anxiety on well-being, as mediated by emotional exhaustion," *Front. Psychol.*, vol. 15, no. August, pp. 1–16, 2024, doi: 10.3389/fpsyg.2024.1404575.

[34] E. N. Rabbianty, D. N. Utami, M. F. N. Humairoh, and N. Suryati, "Exploring English Lecturers' Self-Efficacy in the Use of Educational Technology in Post COVID-19 Pandemic," *Stud. English Lang. Educ.*, vol. 11, no. 1, pp. 362–383, 2024, doi: 10.24815/siele.v11i1.30978.

[35] L. R. Stringer, K. M. Lee, S. Sturm, and N. Giacaman, "The impact of professional learning and development on primary and intermediate teachers' digital technologies knowledge and efficacy beliefs," *Aust. Educ. Res.*, no. 0123456789, 2024, doi: 10.1007/s13384-024-00716-1.

[36] J. Brailovskaia, A.-L. Duscha, G. M. Kreyelkamp, and J. Margraf, "Teachers' competence: How to protect teachers' mental health from the burden caused by students' private in-class use of technical devices?," *PLoS One*, vol. 19, no. 6, p. e0305114, Jun. 2024, [Online]. Available: https://doi.org/10.1371/journal.pone.0305114.

[37] K. S. Kaya, M. Zayim-Kurtay, and Y. Kondakci, "The role of leadership in developing a climate of technology integration in public schools," *Teach. Teach. Educ.*, vol. 132, p. 104234, 2023, doi: https://doi.org/10.1016/j.tate.2023.104234.

[38] J. Paetsch, S. Franz, and I. Wolter, "Changes in early career teachers' technology use for teaching: The roles of teacher self-efficacy, ICT literacy, and experience during COVID-19 school closure," *Teach. Teach. Educ.*, vol. 135, p. 104318, 2023, doi: https://doi.org/10.1016/j.tate.2023.104318.

[39] N. Brocca, "Adoption of new technologies in pre-service teachers. The case of interaction-enhancing videos," *Teach. Teach. Educ.*, vol. 138, no. November 2023, p. 104427, 2024, doi: 10.1016/j.tate.2023.104427.

[40] X. Guo, Y. Wang, Y. Kan, J. Zhang, L. J. Ball, and H. Duan, "How does stress shape creativity? The mediating effect of stress hormones and cognitive flexibility," *Think. Ski. Creat.*, vol. 52, p. 101521, 2024, doi: https://doi.org/10.1016/j.tsc.2024.101521.

[41] J. W. Creswell, *Research Design: Qualitative, Quantitative, and Mixed Methods Approaches*. SAGE Publications, 2014.

[42] R. V Krejcie and D. W. Morgan, "Determining Sample Size for Research Activities," *Educ. Psychol. Meas.*, vol. 30, no. 3, pp. 607–610, Sep. 1970, doi: 10.1177/001316447003000308.

[43] M. Sarstedt, C. M. Ringle, and J. F. Hair, "Partial Least Squares Structural Equation Modeling," in *Handbook of Market Research*, C. Homburg, M. Klarmann, and A. Vomberg, Eds. Cham: Springer International Publishing, 2022, pp. 587–632.

[44] J. F. Hair, J. J. Risher, M. Sarstedt, and C. M. Ringle, "When to use and how to report the results of PLS-SEM," *Eur. Bus. Rev.*, vol. 31, no. 1, pp. 2–24, Jan. 2019, doi: 10.1108/EBR-11-2018-0203.

[45] C. S. K. Dogbe, I. Tweneboah, P. Basoah, A. A. Arkrofi, and N. Appiah, "Mediating role of teacher creativity in the relationships between internal strategic communication, feedback seeking behavior and teacher performance," *Cogent Educ.*, vol. 11, no. 1, p., 2024, doi: 10.1080/2331186X.2024.2351260.

[46] J. C. Anderson and D. W. Gerbing, "Structural equation modeling in practice: A review and recommended two-step approach.," *Psychological Bulletin*, vol. 103, no. 3. American Psychological Association, US, pp. 411–423, 1988, doi: 10.1037/0033-2909.103.3.411.

[47] R. B. Kline, "Principles and practice of structural equation modeling, 2nd ed.," *Principles and practice of structural equation modeling, 2nd ed.* Guilford Press, New York, NY, US, pp. xviii, 366–xviii, 366, 2005.

[48] Chin, *The Partial Least Squares Aproach to Structural Equation Modeling*. Modern Methods for Business Research, 1998.

[49] C. Fornell and D. F. Larcker, "Structural Equation Models with Unobservable Variables and Measurement Error: Algebra and Statistics," *J. Mark. Res.*, vol. 18, no. 3, pp. 382–388, Jun. 1981, doi: 10.2307/3150980.

[50] N. Kock and G. S. Lynn, "Lateral collinearity and misleading results in variance-based SEM: An illustration and recommendations," *J. Assoc. Inf. Syst.*, pp. 1–40, 2012, doi: https://ssrn.com/abstract=2152644 3.

[51] J. Henseler, C. M. Ringle, and M. Sarstedt, "A new criterion for assessing discriminant validity in variance-based structural equation modeling," *J. Acad. Mark. Sci.*, vol. 43, no. 1, pp. 115–135, 2015, doi: 10.1007/s11747-014-0403-8.

[52] L. Hu and P. M. Bentler, "Cutoff criteria for fit indexes in covariance structure analysis: Conventional criteria versus new alternatives.," *Structural Equation Modeling*, vol. 6, no. 1. Lawrence Erlbaum, US, pp. 1–55, 1999, doi: 10.1080/10705519909540118.

[53] J. B. Ullman and P. M. Bentler, "Structural equation modeling.," *Handbook of psychology: Research methods in psychology, Vol. 2*. John Wiley & Sons, Inc., Hoboken, NJ, US, pp. 607–634, 2003, doi: 10.1002/0471264385.wei0224.

[54] J. Cohen, *Statistical Power Analysis for the Behavioral Sciences*. Routledge, 1988.

[55] J. G. MacKinnon, "Bootstrap Hypothesis Testing," in *Handbook of Computational Econometrics*, Wiley, 2009, pp. 183–213.

[56] S. D. Samimi, I. Radević, M. Černe, K. Božič, and A. Lamovšek, "The Three-Way Interaction of Autonomy, Openness to Experience, and Techno-Invasion in Predicting Employee Creativity," *J. Creat. Behav.*, vol. 0, no. 0, pp. 1–16, Jul. 2024, doi: https://doi.org/10.1002/jocb.679.

[57] N. Idoiaga, M. Nekane, and B. Ion, "Active methodologies in Higher Education : reasons to use them (or not) from the voices of faculty teaching staff," *High. Educ.*, vol. 88, no. 3, pp. 919–937, 2024, doi: 10.1007/s10734-023-01149-y.

[58] A. Yahia, A. Gharsi, F. Ali, and R. Nirmala, "Heliyon Academic autonomy as driving change : Investigating its effect on strategy development and university performance," *Heliyon*, vol. 10, no. 8, p. e29536, 2024, doi: 10.1016/j.heliyon.2024.e29536.

[59] I. Ahakwa, "Enhancing teachers' commitment: Autonomy and learning in Ghana's basic schools," *Teach. Teach. Educ.*, vol. 143, p. 104556, 2024, doi: https://doi.org/10.1016/j.tate.2024.104556.

[60] M. Akaki and T. Maeno, "The role of conflict and idea acceptance on the relationship between feedback and team creative behaviour," *Creat. Innov. Manag.*, vol. n/a, no. n/a, Mar. 2024, doi: https://doi.org/10.1111/caim.12604.

[61] H. Zhao, Z. Wang, M. Han, and Y. Huang, "Collective thriving and team creativity in college students' innovation teams: A serial mediation model," *Think. Ski. Creat.*, vol. 51, p. 101468, 2024, doi: https://doi.org/10.1016/j.tsc.2024.101468.

[62] H. A. Owolabi *et al.*, "Big data innovation and implementation in projects teams: towards a SEM approach to conflict prevention," *Inf. Technol. People*, vol. ahead-of-p, no. ahead-of-print, Jan. 2024, doi: 10.1108/ITP-06-2019-0286.

[63] P. Farid, "Sifting Interactional Trust Through Institutions to Manage Trust in Project Teams: An Organizational Change Project," *Proj. Manag. J.*, vol. 52, no. 5, pp. 504–520, Aug. 2021, doi: 10.1177/87569728211033720.

[64] G. Wang, R. Xu, H. Liu, and K. G. Murtaza, "The impact of abusive supervision on the postgraduate students' team creativity in higher education institutions," *Stud. High. Educ.*, vol. 0, no. 0, pp. 1–20, 2024, doi: 10.1080/03075079.2024.2361322.

[65] E. Vuorenmaa, "From distrust to trust : Balancing between forcing and fostering management control systems in a hostile cross-border post-acquisition integration," *Manag. Account. Res.*, vol. 64, no. March, p. 100889, 2024, doi: 10.1016/j.mar.2024.100889.

[66] K. Proudfoot, "Teachers ' perspectives on pay incentives in England : performance evaluation in a context of high - stakes accountability," *Educ. Assessment, Eval. Account.*, no. 0123456789, 2024, doi: 10.1007/s11092-024-09437-6.

[67] I. Temitayo, S. Musa, and A. Ayanwale, "Investigating the moderating effects of social good and confidence on teachers' intention to prepare school students for artificial intelligence education," *Educ. Inf. Technol.*, vol. 29, no. 1, pp. 273–295, 2024, doi: 10.1007/s10639-023-12250-1.

[68] T. Jita and A. Dhliwayo, "Design-based approach to technology innovation: Teacher educators' experiences with tablets as instructional tools in South Africa," *Contemp. Educ. Technol.*, vol. 16, no. 3, p. ep520, Jul. 2024, doi: 10.30935/cedtech/14850.

[69] A. Bandura, "Self-efficacy: Toward a unifying theory of behavioral change.," *Psychol. Rev.*, vol. 84, no. 2, pp. 191–215, 1977, doi: 10.1037/0033-295X.84.2.191.

[70] P. Chimbunde and G. Jakachira, "Threading through the needle of digital education in Sub-Saharan Africa: understanding the concerns of university lecturers," *Interact. Learn. Environ.*, pp. 1–13, Apr. 2024, doi: 10.1080/10494820.2024.2335479.