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ORIGINAL CONTRIBUTION

Responsibility Climate and Graduate Creativity in Higher Education: The Mediating Role of Learning Climate and the Moderating Effects of Teaching Strategies

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Abstract— This research explores the impact of teacher-created responsibility climate on the creativity and innovativeness of graduates. The research also delves into the mediating function of the learning climate and the moderating influences of interactive teaching materials and transformational teaching. This study sheds light on how educational climate and teaching approaches contribute to creativity in higher education, especially in the Chinese context. A quantitative study design was employed based on data from 264 graduates studying at Chinese universities. Self-report questionnaires were used to measure perceptions of responsibility climate, learning climate, interactive teaching materials, transformational teaching, and creativity and innovation. Established scales from previous research were utilized, and the theorized relationships were examined using Structural Equation Modeling (SEM) based on AMOS. The findings validate all of the hypotheses suggested. Responsibility climate positively affected graduates' creativity and innovation, with learning climate acting as a key mediator. Furthermore, interactive instructional materials and transformational instruction enhanced the relationship between responsibility climate and creativity. These findings stress that both pedagogical and environmental variables are of fundamental significance in influencing students' creative achievements. By combining responsibility climate, learning climate, and teaching strategies within an integrated framework, this research is contributing to the educational environment and creativity development literature. The results present practical implications for teachers and institutions of higher education to foster innovation through supportive climates and revolutionary teaching practices.

Index Terms— Responsibility climate, Creativity, Innovation, Learning climate, Transformational teaching

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Introduction

The role that teachers and instructors should play in helping students create and innovate has gained considerable attention in educational literature. In response to the demands placed on economies and industries by people who solve their problems and think creatively, educational establishments are increasingly challenged with implementing environments conducive to such competencies (Alt et al., 2023).

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Teachers form a vital part of influencing the learning climate (Cao, 2025). The sense of responsibility created by teachers affects students' perceptions of their creative potential (Liu & Hallinger, 2024). Responsibility climate is described as that educational environment wherein the faculty focuses on accountability, independent thinking, and problem-solving skills, thus helping students develop novel ideas and innovative solutions (Derakhshan et al., 2024; Jam et al., 2025). Previous studies have highlighted the role of learning environments, teaching strategies, and pedagogical approaches in promoting creativity (Lin, 2024). However, few studies have examined the direct effect of responsibility climate on students' creative and innovative capacities, especially in higher education (Byron et al., 2023). This would further help to better understand the role of responsibility climate in other educational factors like the learning climate, interactive teaching materials, and transformational teaching as a pathway for improving educational practice and providing graduates who can compete in a changing professional world (Suebvises, 2024).

There have been several studies on the role played by learning environments in fostering students' creativity and innovation (Ryan, 2023). Most research findings indicate that there is a positive correlation between open, flexible, intellectually stimulating learning environments and students' creative thinking and problem-solving skills (Gelaidan et al., 2024). Various research studies carried out on learning climate have confirmed that a supportive and engaging atmosphere improves students' motivation and cognitive flexibility and increases their level of creativity (Liu & Hallinger, 2024). Furthermore, the use of interactive teaching materials with digital tools and experiential learning resources has been deemed instrumental in developing greater depth in engaging interactions and innovation (Houtgraaf et al., 2023). In addition, transformational teaching practices, involving inspiration, intellectual stimulation, and individual support, have been correlated with enhanced creativity and innovative behaviors among students (Zhang et al., 2024). These studies emphasize that pedagogical factors are vital to creativity development. However, relatively few empirical studies have looked at the relationship between responsibility climate and these educational factors in forming graduates' creative and innovative abilities (Mayes, 2024).

Despite the wide range of studies on creativity and innovation in educational settings, several gaps remain unaddressed (Derakhshan et al., 2024; Koivula et al., 2023; Peng & Chen, 2023). First, although there have been many studies that explored the role of teacher support and autonomy in fostering student creativity (Genuba & Abellanosa, 2018; Olivier et al., 2024), few studies have investigated how responsibility climate influences creative and innovative outcomes (Suebvises, 2024; Zhang et al., 2024). Most of the research studies focused on general classroom environments without considering the systematic responsibility structures that teachers develop to foster a sense of accountability and independent problem-solving (Suebvises, 2024). Moreover, although several studies underscored the role played by interactive learning materials and transformational teaching in school settings (Hernández-Martos et al., 2024; Liu & Hallinger, 2024), limited attention has been provided towards their moderation effects in aggravating the relationship between responsibility climate and creativity (Nguyen et al., 2023). Furthermore, research on the mediating role of learning climate in this relationship is limited (Adomako & Nguyen, 2023), leaving a gap in understanding how students' perceived learning environment shapes the impact of responsibility climate on their creative and innovative abilities (Liu & Hallinger, 2024).

This study seeks to explore the role of responsibility climate generated by teachers in shaping graduates' creativity and innovation. Specifically, the research aims to examine how responsibility climate influences creativity through its interaction with the learning climate, interactive teaching materials, and transformational teaching. The primary research questions guiding this study are as follows:

- How does the responsibility climate generated by teachers affect graduates' creativity and innovation?
- Does the learning climate mediate the relationship between responsibility climate and graduates' creativity and innovation?
- Do interactive teaching materials moderate the relationship between responsibility climate and graduates' creativity and innovation?
- Does transformational teaching moderate the relationship between responsibility climate and graduates' creativity and innovation?

By addressing these questions, this study aims to uncover the mechanisms through which responsibility climate influences creative outcomes and to identify the conditions under which these effects are strengthened or weakened.

The outcomes of this study add to theoretical knowledge and practice related to responsibility climate and the development of creativity and innovation in students. As a contribution, it fulfills the requirement of considering the interaction between the predictors through which responsibility climate can influence students' creativity. It hence fills the literature gap on the development of creativity among students of universities in Pakistan. The findings of this study will be of utility to educators, policymakers, and curriculum developers in evidence-based approaches to developing classroom environments that are conducive to creativity and innovation. This research leans on several crucial theoretical paradigms to make sense of responsibility climate relationships, practice teaching, and creativity.

The conceptual framework for the role of responsibility climate in shaping students' intrinsic motivation and, indirectly, their creativity and innovation is the Self-Determination theory by (Ryan & Deci, 2024). SDT holds that a facilitative learning environment that fosters autonomy, competence, and relatedness increases students' intrinsic motivation, which is crucial in stimulating creativity (Ryan, 2023). Responsibility climate will be taken here to serve intrinsic motivation; the students are encouraged towards ownership of learning and accomplishment, with creativity involved in problem-solving.

Literature Review

The capability of educators in education psychology and pedagogy has been widely considered to affect the students' creative and innovative abilities (Tuan, 2023). Obligation climate provoked by teachers produces an accountability climate in the learning environment and encourages the students to possess a heightened level of intrinsic motivation and participation in learning activities (Swain et al., 2023). A responsible climate produced by the learning environment a teacher creates can promote the development of innovative thinking and problem-solving skills in students (Koivula et al., 2023). This kind of climate is reinforced by the encouraging nature of a learning environment, which prompts students to take ownership of their educational experiences. Creativity has been linked to higher levels of engagement in a favorable learning climate that allows experimentation with new ideas without fear of failure (Sparkes & Werners, 2023). Further, interactive teaching materials are highly instrumental in boosting creativity through experience and hands-on learning that trigger critical thinking and problem-solving. The integration of digital tools and experiential learning resources has been found to improve student engagement and contribute to innovative ideas (West & Sacramento, 2023). Students actively learn course content, enabling them to approach the topic with a creative mindset and develop novel solutions and innovative applications within their fields.

Transformational teaching has been identified as a strong predictor of student creativity and innovation. Transformational teachers inspire and motivate students through the creation of vision, stimulation of the intellect, and individualized attention (Hernández-Martos et al., 2024). According to research, transformational teaching enables the teacher to motivate students to think beyond the conventional boundaries, question existing knowledge, and exercise the creative thinking skill in solving problems (Rambaree, 2024). This pedagogy increases students' self-efficacy and helps create a growth mindset, which is necessary for innovativeness. In addition, transformational teaching is consistent with the notion of interactive learning, where the instructor assumes the role of a facilitator rather than a lecturer and enables students to lead the discovery and exploration process (Gelaidan et al., 2024). Teachers can have an important impact on the ability of their students to think in novel ways and contribute to the creation of knowledge in their respective domains through the creation of a responsible, interactive, and inspirational learning environment (Cao, 2025). The effect of responsibility climate, interactive teaching materials, and transformational teaching integrates into a rich framework that supports creativity and innovation, making them critical components of contemporary education (Royal, 2025).

Responsibility climate generated by teachers and graduates' creativity and innovation

A responsibility climate refers to the quality of environment students experience in classrooms that is conducive to their assumed responsibility for and accountability in academic and creative pursuits (Zhang et al., 2024). This could be established as a result of structured guidance towards clear expectations by teachers, furthering self-regulated learning habits that foster innovation and creativity amongst students (Adomako & Nguyen, 2023). Creativity is the newness and originality that gives rise to helpful ideas; on the other hand, innovation is the application of creative ideas in meaningful ways (Alt et al., 2023). Experimental research has shown that if students perceive their learning environment as being accountable, they are likely to engage more in self-directed learning and creative problem-solving (Fatima et al., 2025; Nguyen et al., 2023).

Empirical studies have established a positive relationship between a responsibility-oriented learning environment and the development of creativity and innovation. For example, a study carried out by Shekhar Bellamkonda, Rongala, et al. (2023) concluded that when students are afforded autonomy and made responsible for their learning outcomes, they present themselves with higher levels of creative thinking and problem-solving skills. Likewise, Suebvises (2024) findings from their study indicate that class responsibility contributes to students' self-efficacy, which in turn increases creative confidence and the degree of risk-taking. It has been revealed through these studies that the responsibility climate that the teacher fosters is one of the primary antecedents of graduates' creative and innovative potential (Nguyen et al., 2023). Students internalize such principles when constantly exposed to a responsible environment, which further enhances their proactive approach to problem-solving and idea generation. Given the growing importance of creativity and innovation as key competencies in the modern workplace, a responsibility climate within educational institutions can go a long way toward making graduates more responsive to and contributory in dynamic professional environments (Zhang et al., 2024).

H1: Responsibility climate generated by teachers has a significant impact on graduates' creativity and innovation

Learning climate as mediator

Past empirical studies have consistently concluded that the climate of learning plays a crucial role in shaping students' creativity and innovativeness. The learning climate, which concerns the psychological as well as the environmental factors involved in the ways through which a student interacts with the learning environment, has always been shown to play a vital role in influencing creativity (Derakhshan et al., 2024). This indicates that a learning climate characterized by mutual respect, intellectual stimulation, and supportive relationships between teachers and students is the most important predictor of creative output (Cao, 2025). According to research studies, students are more likely to exhibit enhanced problem-solving skills and creative thinking if they feel intellectually challenged and supported within

their learning environment (Lin, 2024). Moreover, a supportive learning environment encourages learners to try out new ideas and make real-life applications of their learning (Liu & Hallinger, 2024). This is because creativity is about experimenting with untested ideas and challenging conventional mindsets. There have also been other studies that focused on the mediating role of the learning climate between teaching methods and the learning outcomes.

Given the empirical evidence regarding the role of the learning climate in promoting creativity, it is plausible to argue that the learning climate also mediates the relationship between the responsibility climate generated by the teacher and graduates' creativity and innovation (Suebvises, 2024). Responsibility climate, as defined by the level of accountability, autonomy, and engagement encouraged by the teacher, shapes how students approach their learning tasks (Mayes, 2024). However, this effect is likely to be enhanced or moderated by the learning climate that exists within the educational environment (Peng & Chen, 2023). A teacher who fosters responsibility is likely to set the stage for a learning climate that encourages risk-taking, critical thinking, and collaboration, all of which are conducive to creative output (Olivier et al., 2024). A nurturing and cognitively demanding climate, hence a positive responsibility climate, forms a mechanism of transmitting responsibility climate toward creativity and innovation. (Swain et al., 2023), In this regard, the support for their hypothesis model demonstrates a strengthening in the overall relationship between such an environment or nurturing climate and the positive effect on creativity in a responsible climate. These findings suggest that the learning climate not only mediates but also enhances the relationship between responsibility climate and creativity (Sparkes & Werners, 2023). This is because these students can internalize their teachers' encouragement of responsibility fully, thereby maximizing their ability to think and solve problems creatively. Therefore, understanding the mediating role of learning climate is critical for developing pedagogical strategies that not only encourage responsibility but also provide the supportive environment necessary for creativity to flourish (Alt et al., 2023).

H2. Learning climate mediates the relationship between responsibility climate generated by teachers and graduates' creativity and innovation

Interactive teaching material as moderator

Empirical research has extensively explored the role of interactive teaching materials in enhancing student engagement, cognitive development, and creative problem-solving. Interactive teaching materials, therefore, are those educational resources that use digital tools, hands-on activities, and experiential learning methods to encourage active participation as a means of achieving more profound learning experiences, according to Adomako and Nguyen (2023). Students who experience interactive learning environments tend to be more creative and innovative due to the cognitive stimulation they receive, which fosters a deeper connection with the subject matter (Alt et al., 2023). A study by Byron et al. (2023) and Anwar et al. (2025) demonstrated that students need to experiment and explore interactive material to gain creative skills. Further empirical research shows that the use of interactive learning materials allows students to apply theoretical concepts into practical aspects of real life. This makes a problem-solving approach very critical for innovation (Houtgraaf et al., 2023). Such learning environments as those responsibility-driven in nature ensure that students are made to own the learning process. An environment that includes the integration of interactive materials ensures students have the tools and resources to channel their sense of responsibility into meaningful creative and innovative outcomes (Anwar, 2024; Koivula et al., 2023).

Building on empirical insights, interactive teaching materials can be considered a moderating factor that enhances the effect of responsibility climate on graduates' creativity and innovation. A responsibility climate may inspire students to own their learning process, but with interactive teaching materials, they have the means to transform their accountability into creative and innovative products (Esfandiyari et al., 2024; Nguyen et al., 2023). In an ecology in which students are held responsible for their learning, interactive materials provide a scaffolding in support of creative problem-solving and application of knowledge (Tuan, 2023). Findings report that when students have direct access to interactive resources, they are likely to experiment with new ideas, work interdependently with peers, and undergo iterative learning processes-all of which build creativity and innovations (Byron et al., 2023). This aligns with findings from (Gelaidan et al., 2024), who argues that structured learning environments with interactive components encourage a growth mindset, which is essential for fostering creativity. As education shifts toward more technology-integrated pedagogies, the role of interactive teaching materials in amplifying the effects of responsibility climate becomes increasingly relevant. Therefore, it is reasonable to hypothesize that interactive teaching materials act as a moderator, strengthening the positive influence of responsibility climate on graduates' creativity and innovation.

H3. Interactive teaching material moderates the relationship between responsibility climate generated by teachers and graduates creativity and innovation

Transformational teaching as moderator

Empirical studies have also been focused on transformational teaching for the cognitive and creative development of students. Transformational teaching refers to a teaching method that involves inspiration, intellectual stimulation, and individualized support. It guides the

students toward thinking beyond boundaries and challenging prevailing knowledge (Vergara et al., 2023). Results of studies indicate that transformational teaching fosters the feeling of motivation and encourages students to explore new ideas and become creative risk-takers (Rambaree, 2024). A study from the work of Lin (2024) also shows that when instructors use transformational teaching methodologies, "students have higher levels of creative self-efficacy, which in turn relates to better ability finding and enacting creative solutions.". More importantly, the role of transformational teaching in trying to change attitudes toward learning has been cited as a critical activity contributing to students' sense of autonomy and self-direction similar to the climate of responsibility presented by Bellamkonda, Rongala, et al. (2023).

Taking into account these empirical findings, transformational teaching is likely to moderate the relationship between responsibility climate and graduates' creativity and innovation. While responsibility climate basically lays down the base for students' engagement and responsibility, transformational teaching provides the inspirational and enabling conditions in channeling that sense of responsibility into creative and innovative efforts (Royal, 2025). Research indicates that transformational educators help students internalize responsibility-driven learning behaviors and use them in creative ways (Hernández-Martos et al., 2024). This is because transformational teaching helps students develop an active learning attitude, leading to intellectual curiosity and the ability to take creative risks (Vergara et al., 2023). Given the growing emphasis on creativity and innovation in higher education, the integration of transformational teaching within responsibility-driven learning environments can significantly enhance students' ability to develop and implement novel ideas (Cao, 2025). Therefore, it is reasonable to hypothesize that transformational teaching acts as a moderator, amplifying the positive impact of responsibility climate on graduates' creativity and innovation.

H4. Transformational teaching moderates the relationship between responsibility climate generated by teachers and graduates creativity and innovation

Theoretical foundation for the research relationships

The theoretical framework in this study will be explained in terms of various psychological and educational theories that indicate how responsibility climate, learning environment, teaching strategy, and students' creativity interact with each other. The work of (Ryan & Deci, 2024) forms a foundational lens with the suggestion that when students have a feeling of autonomy and responsibility in their learning environment, they are intrinsically motivated. This increases the chances of creating creativity and innovation. According to SDT, intrinsic motivation based on autonomy, competence, and relatedness plays a critical role in creative engagement and problem-solving. Responsibility climate is essential as it provides the autonomy and accountability for students to internalize the motivational factors (Ryan & Deci, 2024). Vygotsky's Sociocultural Theory (1978) further supports this perspective, emphasizing the significance of social interaction and supportive learning environments in cognitive development, thereby explaining how a positive learning climate enhances students' creative potential. A strong learning climate, as cultivated by teachers, nurtures creativity by providing an environment conducive to collaborative and exploratory learning, where students are encouraged to challenge assumptions and develop novel ideas. Bass, in his transformational leadership theory Bass (1985), further expands the framework and discusses how the transformational teaching strategies, through intellectual stimulation and individualized support, inspire the students to break their boundaries; thus, the creative thinking and innovation are fostered (Vergara et al., 2023). Transformational teaching in this way turns out to be a creative catalyst for the students because it establishes a vision for the students' potential and steers them towards innovative behaviors. Additionally, Conti et al. (1996) asserts that creativity arises from the interplay of individual, environmental, and task-related factors, which supports the notion that responsibility climate, learning climate, and teaching strategies all comprise an ecosystem that breeds creativity and innovation. This theoretical model would thus explain how the responsibility climate informs creativity through mediating and moderating roles by learning climates, interactive teaching materials, and transformational teaching, therefore comprising an overall framework for understanding the pathways through which factors work together to shape graduates' creative and innovative potential.

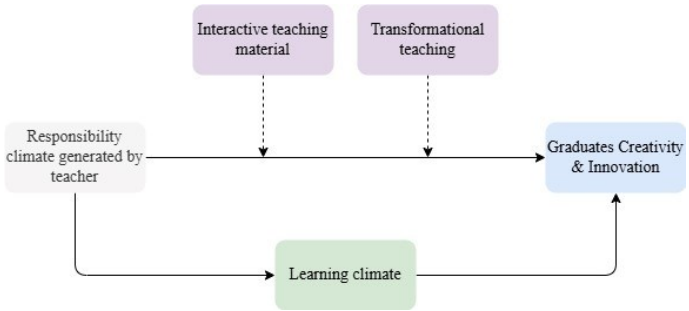


Fig. 1 *Conceptual framework*

Methodology

This research employs a quantitative method to assess responsibility climate, learning climate, interactive teaching materials, transformational teaching, and the creativity and innovation of graduates. The population included in this research was targeted as graduates in higher education and came from all types of disciplines in China. All the participants involved in postgraduate work or employment who graduated from their undergraduate degree recently are the population to be targeted in this research. The graduates chosen represented a variety of academic backgrounds, so there would be broad representation in regard to the impacts of various teaching practices and environments on their creative and innovative capacities.

The sample for the study consisted of 264 participants, who were chosen using a stratified random sampling technique to ensure representation from various fields of study and academic institutions. This sampling method was employed to capture a wide range of experiences and to improve the generalizability of the results within the context of Chinese higher education. The participants responded to self-administered questionnaires designed for the measurement of the key study variables, among which were the responsibility climate, learning climate, interactive teaching materials, transformational teaching, and creativity and innovation. The measurement scales used on the questionnaire came from carefully chosen past research works to ensure reliable and validated measuring instruments for all the variables. The scales used were based on their applicability to the study context and effectiveness in past educational research.

Table I
Questionnaire profile

Construct	Items	Source
Creativity and Innovation	5	(Mikhailova, 2018)
Interactive Teaching Materials	4	(Mingorance-Estrada et al., 2021)
Learning Climate	4	(Yu et al., 2018)
Responsibility Climate	6	(Fernández Río et al., 2019)
Transformational Teaching	4	(Beauchamp et al., 2010)

Analysis of the collected data was performed using AMOS, the software that applies Structural Equation Modeling to test hypotheses on relationships among the variables of the study. SEM is adopted as it permits the testing of multiple relations within the theoretical framework simultaneously, showing the direct, indirect, and moderating effects between the studied variables. AMOS helped examine the proposed relationship in depth with path coefficients and model fit indices, establishing that the conceptualized theoretical model is indeed sound. Data analysis processes include specifying, estimating, and assessing fit models. Steps included model specification, estimation, and assessment of fit, and ensured that results are statistically and conceptually valid. In doing so, this study is supposed to try and bring an integrated view into understanding the influences that responsibility climate with diverse teaching practices exerts on the creative innovation of the graduates within Chinese higher education contexts.

Results

The reliability and validity of the constructs in this study, creativity and innovation, interactive teaching materials, learning climate, responsibility climate, and transformational teaching, are presented in Table II. Reliability was assessed with Cronbach's Alpha as well as Composite Reliability (CR), while validity was assessed using Average Variance Extracted (AVE). All the variables have good internal consistency, with Cronbach's Alpha values ranging from 0.81 to 0.87, which is above the threshold of 0.70. The CR values range from 0.84 to 0.89, which further establishes the internal consistency of the constructs. The AVE values for all the variables are above 0.50, which ensures that the convergent validity is sufficient. The highest reliability was observed in responsibility climate with α = 0.87, CR = 0.89, and AVE = 0.64, indicating that the scale is robust. In general, these results confirm that the measurement model has strong reliability and validity to allow confident interpretation of further statistical analyses.

Table II
Variables reliability and validity

Variable	Cronbach's Alpha	Composite Reliability	Average Variance Extracted
Creativity and Innovation	0.854	0.881	0.621
Interactive Teaching Materials	0.835	0.865	0.604
Learning Climate	0.812	0.842	0.587
Responsibility Climate	0.875	0.895	0.643
Transformational Teaching	0.866	0.884	0.610

Table III depicts the model fit indices from the pooled CFA. RMSEA, the absolute fit index, is 0.019, which falls well below the threshold

of 0.080 set by (Browne & Cudeck, 1992); therefore, a good-fitting model. The incremental fit index, CFI (Comparative Fit Index), is 0.914, which exceeds the acceptable value of 0.90, indicating that the model fits much better than the null model (Bentler, 1990). The parsimonious fit index, represented by the Chi-Square to Degrees of Freedom ratio, χ^2/df, is 2.716, and this is less than <3, as per (Hu & Bentler, 1999), so it confirms the efficiency of the model. Collectively, these indices indicate a good-fitting CFA model, supporting the appropriateness of the measurement structure for further structural equation modeling.

Table III
Pooled CFA model fitness tests

Name of Category	Name of Index	Index Full Name	Value in Analysis	Acceptable Value	Literature
Absolute Fit	RMSEA	Root Mean Square of Error Approximation	0.019	<0.080	(Browne & Cudeck, 1993)
Incremental Fit	CFI	Comparative fit index	0.914	>0.90	(Bentler, 1990)
Parsimonious Fit	Chisq/df	Chi-Square / Degrees of freedom	2.716	<3	(Hu & Bentler, 1999)

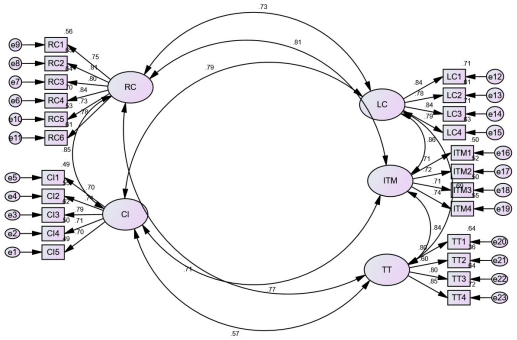


Fig. 2 *Measurement model*

Table IV provides factor loadings for each measurement item under its respective construct. The estimates indicate that all factor loadings exceed 0.597, demonstrating acceptable construct validity. Creativity and innovation items range between 0.699 and 0.789, signifying a strong representation of the latent variable. Interactive teaching materials have factor loadings between 0.707 and 0.739, ensuring stable measurement. Items of the learning climate demonstrate very high loadings, from 0.782 to 0.840, indicative of strong construct representativeness. Responsibility climate is also strong, ranging between 0.731 and 0.835, again as supportive of validity. Lastly, the items of transformational teaching demonstrate loadings ranging between 0.597 and 0.848, with most ranging above the cutoff value of 0.70. These findings establish that the measurement model is indicative of strong construct validity and could, therefore, be used in hypothesis testing.

Table IV
Measurement item fitness

Variable	Item	Estimate
Creativity and Innovation	CI1	0.699
	CI2	0.741
	CI3	0.789
	CI4	0.709
	CI5	0.700
Interactive Teaching Materials	ITM1	0.711
	ITM2	0.723
	ITM3	0.707
	ITM4	0.739
Learning Climate	LC1	0.840
	LC2	0.782
	LC3	0.840
	LC4	0.792
Responsibility Climate	RC1	0.747
	RC2	0.805
	RC3	0.803

Measurement item fitness

Variable	Item	Estimate
Transformational Teaching	RC4	0.835
	RC5	0.731
	RC6	0.780
	TT1	0.799
	TT2	0.597
	TT3	0.800
	TT4	0.848

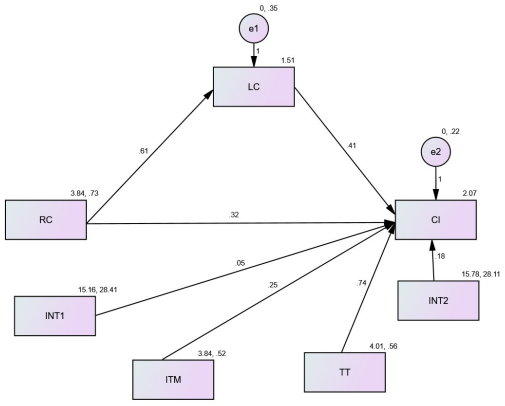


Fig. 3 *Structural model*

Table V presents the results of path analysis that illustrate relationships among the variables of the study. The direct effect of responsibility climate on creativity and innovation was found to be significant, with $\beta = 0.32$, $p < 0.001$, establishing a strong positive relationship. Supporting the mediating role of learning climate in the relationship between responsibility climate and creativity is $\beta = 0.25$, $p < 0.001$, indicating that the graduates' creative abilities are substantially enhanced by it. Interactive teaching materials significantly mitigate the influence of responsibility climate on creativity, $\beta = 0.051$, $p < 0.001$; thus, showing that interactive materials may instead strengthen this link. This argues that transformational teaching has a significant moderating effect $\beta = 0.18$, $p < 0.001$, showing how this may cause the responsibility climate to have a greater impact on creativity as well as innovation when transformational teaching is applied. These findings provide strong empirical support for the hypothesized relationships, with a focus on teaching practices in fostering creativity among graduates.

Table V
Path analysis

	Estimate	S.E.	CR	*p*
RC → CI	0.321	0.045	5.239	0.000
RC → LC -> CI	0.254	0.039	19.043	0.000
ITM × RC → CI	0.051	0.005	9.388	0.000
TT× RC → CI	0.185	0.005	32.921	0.000

Discussion

From this discussion of results, it is clear that this research has a strong advancement in understanding how together teaching factors, including responsibility climate, learning climate, interactive teaching material, and transformational teaching, combine to improve creativity and innovation at the graduate levels. This paper investigates the subtle relationship between all these variables by bringing forth critical information on educational settings that help bring about better creative and innovative results. As hypothesized, responsibility climate, coupled with various moderators and mediators, plays a role in encouraging student creativity and the application of innovative solution approaches to solving problems. Besides strengthening the frameworks that exist presently, the current study provides some insight into just how specific teaching practices can promote an ecosystem leading to creativity at the graduate level. Through this

comprehensive analysis, this research highlights the multifaceted nature of creativity and innovation in education and the vital role that teachers and teaching materials play in influencing these outcomes.

The first hypothesis was proven to its fullest extent, claiming that responsibility climate affects the creativity and innovation of graduates. Findings are consistent with Self-Determination theory by Ryan and Deci (2024), who assert that high expectations with accountability within a sense of responsibility climate give students a feeling of autonomy and a drive to own their learning process. When the teacher's responsibility climate is built, the involvement of students in their learning is enhanced, which increases their ability to be creative and innovative. Students are allowed to generate ideas but are held responsible for their outputs to tap into the real source of intrinsic motivation, which was found to have an inverse relationship with lower levels of creativity as the level of intrinsic motivation goes higher, referencing (Byron et al., 2023). These findings provide supports other research works indicating that responsibility climate allows students to make even better uses of creative approaches and provide innovative solutions because they feel that they can actually do it (Tuan, 2023). This study's positive relationship between responsibility climate and creativity further supports the existing growing literature that emphasizes the cultivation of autonomy and accountability in educational settings.

The mediating role of learning climate between responsibility climate and graduates' creativity and innovation was also confirmed. The learning climate, which can be described as supportive, inclusive, and intellectually stimulating, serves as an intermediary in the responsibility climate-creativity relationship. Results indicate that a positive learning climate strengthens the responsibility climate's impact on creativity by providing the context for taking risks, exploring ideas, and collaboration. These findings are in line with Vygotsky's Sociocultural Theory (1978), which postulates that cognitive and creative development is based on social interaction and collaborative learning (Liu & Hallinger, 2024). In the supportive environment where young scholars are trusted by teachers who introduce innovative problem solutions, the chances increase to seek new approaches by risky behavior towards being unconventional about proposing creative options or even experiment results. Extending this theory developed, study, this now gives the base showing learning climate boosts creativity independently, yet at a core mediational variable in relations existing between an invented concept generated under responsibility from one's teaching force and learner-innovation activity (Vergara et al., 2023). Through fostering interaction, collaboration, and exchange of ideas, educators can amplify the positive effects of responsibility climate on student creativity. The need here is for teachers to establish not only a responsibility climate but a learning climate that promotes creativity, implying the interrelation of the two with respect to producing creative outcomes in higher education. Thus, it provides strong evidence that responsibility climate and learning climate are both very important for creative and innovative capacity, and also provides practical suggestions for educators about how to design classrooms that are conducive to creative and innovative thinking.

The results fully supported the third hypothesis that proposed interactive teaching materials to moderate the interaction between responsibility climate and creativity. Indeed, the use of interactive teaching materials, such as digital tools and hands-on activities alongside project-based learning, enhanced the effect of responsibility climate on students' creative abilities quite significantly. This finding supports the work of (Royal, 2025), who stated that interactive materials should be used because they encourage the exploration of ideas in unorthodox ways and foster collaborative problem-solving, both of which are important components of creativity. Teachers can foster a supportive and intellectually stimulating environment in which the creative influence of responsibility climate is enhanced by giving opportunities to students for interaction with content in dynamic and immersive ways. The moderating role of interactive teaching materials suggests that creativity is not only a function of the intrinsic motivation created by a responsibility climate but also a function of the tools and resources available to students. In this regard, the findings support the view that creativity is enhanced when students are provided with resources that encourage experimentation, exploration, and risk-taking, as these experiences promote creative thinking (Koivula et al., 2023). As such, educators can significantly increase the creative potential of their students through the use of interactive teaching materials, especially if these materials are used in an environment characterized by high expectations and accountability.

The fourth hypothesis similarly posited transformational teaching moderation between responsibility climate and creativity, and, therefore, supported the same aspect with yet more insight into teaching practices and the resultant influence of these practices on creativity and innovation. Transformational teaching, comprised of intellectual stimulation, individualized consideration, and inspirational motivation, was found to positively impact responsibility climate to improve positive effects on the creative and innovative outcomes of the students. This finding accords with the theorBass (1985) on transformational leadership; it states that leaders who inspire, motivate, and intellectually stimulate their followers can better elicit higher levels of performance, even creativity. The transformational teachers in the school context set a high expectation as well as invite students to engage in critical thought, challenge assumptions, and bound conventional thought. By fostering a supportive and intellectually stimulating environment, transformational teaching enhances students' intrinsic motivation and their willingness to take creative risks (Hernández-Martos et al., 2024). The results of this study suggest that responsibility climate alone may not be sufficient to promote creativity unless it is accompanied by teaching strategies that inspire and challenge students to think creatively. This suggests that, on one hand, the moderation of transformational teaching brings forward teacher behavior, the kind that forms a certain type of environment, making their students more innovative in creativity. This implies that such a class climate that can promote innovation easily gets the best of autonomy and responsibility in its learning environment, created by a responsibility climate transformed into creative and innovative outcomes among the students. Therefore, this research contributes

to the ever-growing literature of leadership in education by showing that trans formative teaching is an important factor that mediates the relation of responsibility climate and creativity, providing valuable insight to the educators wishing to provide a creative and innovative classroom.

Conclusion

This research's findings collectively provide robust evidence to support the four hypotheses that examined the relationships between responsibility climate, learning climate, interactive teaching materials, transformational teaching, and graduates' creativity and innovation. Each hypothesis, directly or indirectly addressing responsibility climate as a direct, moderating, or mediating condition, reminds one that creativity could well be promoted by a complex interplay of diverse educational practices. The results add to the understanding of how education can balance responsibility and accountability, fostering and developing the creative potential through strategic teaching methods and materials. The paper examines the factors in an integrated and holistic way to bring out practical implications for educational practitioners and policy makers with the view of developing more innovative and creative graduates in the higher education environment.

Implications

The theoretical implications of this research are significant because it contributes to the growing body of knowledge about creativity and innovation in educational settings, especially in the context of responsibility climate and teaching practices. This study points out the learning climate, interactive teaching materials, and transformational teaching as contributing factors in understanding the dynamic influences on graduates' creativity and innovation. It would support the implementation of Self-Determination theory (Ryan & Deci, 2000), wherein there would be a greater need for autonomy and accountability among people for more creative and innovative behavior. Additionally, the results extend Vygotsky (1978) by illustrating how a supportive and intellectually stimulating learning environment can mediate the relationship between responsibility climate and creativity, thus highlighting the importance of social interaction and collaborative learning in fostering creativity. Moreover, the moderating roles of interactive teaching materials and transformational teaching reinforce the relevance of transformational leadership in educational contexts, as proposed by Bass (1985), demonstrating that teaching strategies that inspire and challenge students can enhance their creative potential. This research thus contributes to a more holistic understanding of creativity, incorporating both intrinsic motivation and external factors, such as teaching practices and learning environments, which play pivotal roles in cultivating innovative outcomes. The findings of this study call for further research into these relationships, especially in diverse educational contexts, and to examine the practical applications of these theoretical frameworks in designing teaching methodologies that foster creativity and innovation across disciplines.

The pragmatic implications of the study are long-term, holding value for educationists, curriculum developers, and educational institutes looking to help graduates become creative and innovative in their approach to solving problems. This study further provides a definitive framework on how teachers can provide environments that trigger creative thinking and problem-solving based on the responsible climate, further moderated by the learning climate, interactive teaching material, and transformational teaching. With such research findings, teachers can begin implementing teaching methodologies that not only maintain high standards of expectation but also foster supportive and intellectually challenging environments for the student. Therefore, the study outcome suggests that it would be crucial to include some more interactive content, such as hands-on learning material, in the pedagogical system, followed by them, in order to facilitate more participation among students. The transformational teaching style can further enhance the impact of responsibility climate on creativity through inspiring students, offering individualized support, and fostering intellectual stimulation. In addition, the knowledge gained through this research can be used by educational institutions to develop curricula and teaching strategies that would support independence and facilitation. Students need to have the freedom to explore ideas while still being guided on how to push beyond boundaries. This study calls for the development of a learning environment that promotes collaboration and interaction with others. It is under such an environment that students feel free to take risks and be innovative. Application of such practical implications will help educators and institutions prepare better-furnished graduates with creative and innovative skills to win in the modern, fast-changing scenario.

Limitations and future directions

Despite the important lessons learned from this study, it is crucial to note some of the limitations imposed on generalizing and applying its findings. Such limitations may have been inherent due to the use of a specific academic setting only, thus not allowing the researcher to extend this research into various educational contexts or disciplines. The research focused more on the graduates, which may not totally capture the totality of the spectrum for creativity and innovation throughout the various stages of education. Since it was self-reported, it can also bring in issues of potential response bias, as the perceptions of students' responsibility climate and teaching practices may not accurately reflect their experiences. Moreover, even though the hypotheses were supported by the data, the cross-sectional design

of the study limits the ability to draw causal inferences regarding the relationships between the variables. Longitudinal studies would be beneficial to examine how these factors evolve over time and how long-term exposure to responsibility climate and various teaching practices influences creativity and innovation. In fact, this study did not take into consideration potential confounding variables such as personal traits, prior knowledge, or external influences, which could be related to the outcomes. As such, further research should examine a variety of educational settings through mixed methods or experimental designs in order to gain a better insight into the interaction between teaching practices, learning environments, and creativity.

Future research directions are to overcome such limitations and further expand the scope of this research to investigate further the relationship of responsibility climate and learning climate and teaching practices, creativity in general, and specifically across educational levels and cultural contexts. Research in formal, nonformal, secondary, and elementary education settings will perhaps offer greater perspectives on aspects that influence such developments in their students' processes. Additionally, an examination into individual differences variables, such as personality, previous knowledge, motivation, etc, can shed light on how individual-specific factors combine with environmental attributes to facilitate this process of creation and innovation in human minds. Future studies may also consider a wider range of teaching strategies, such as digital tools, collaborative learning, and flipped classrooms, to further explore the role of technology and innovation in enhancing creative outcomes. Moreover, longitudinal and experimental research designs would allow for more robust causal conclusions and help in understanding the long-term impact of responsibility climate and teaching practices on students' creative abilities. Lastly, cross-cultural studies could provide deeper insights into how different cultural norms and educational systems influence the relationship between responsibility climate and creativity, enriching our understanding of the universality of these findings.

Conclusion

The results from this study show evidence for the crucial roles responsibility climate, learning climate, interactive teaching resources, and transformational teaching play in fostering graduates' creativity and innovation. Indeed, a responsibility climate combined with an encouraging learning climate, interactive teaching materials, and transformational teaching would result in a very effective environment for creative and innovative outputs. This study thus underscores the benefits of combining intrinsic and external factors to promote an environment conducive to creativity by clarifying how learning climate mediates and teaching practices moderate the impact of responsibility climate. Quite simply, the practical implications for educators are: fostering a responsibility climate that is complemented by transformational teaching and interactive learning materials can have a substantial effect on the creative capacities of students. Moreover, the research contributes to the theoretical understanding of creativity in education by linking established psychological and educational theories to real-world teaching practices. While acknowledging the study's limitations, the findings pave the way for future research that can expand on these insights, exploring diverse educational contexts, incorporating a wider range of teaching strategies, and considering individual differences. This study ultimately highlights the role of careful design in teaching, which has implications for shaping the creative potential of future graduates, offering theoretical and practical contributions to the field of education.

References

Adomako, S., & Nguyen, N. P. (2023). Green creativity, responsible innovation, and product innovation performance: A study of entrepreneurial firms in an emerging economy. *Business Strategy and the Environment*, *32*(7), 4413–4425. https://doi.org/10.1002/bse.3373

Alt, D., Kapshuk, Y., & Dekel, H. (2023). Promoting perceived creativity and innovative behavior: Benefits of future problem-solving programs for higher education students. *Thinking Skills and Creativity*, *47*, 101201. https://doi.org/10.1016/j.tsc.2022.101201

Anwar, R. S. (2024). Mentoring magic: Career calling as a catalyst for tacit knowledge transfer in executive development centers (EDCs). *International Journal of Mentoring and Coaching in Education*, *13*(4), 472–492. https://doi.org/10.1108/IJMCE-07-2023-0066

Anwar, R. S., Ahmed, R. R., Streimikiene, D., Streimikis, J., & Zamek, D. (2025). Securing food futures: The interplay of safety governance, hygiene, supplier beliefs and consumer engagement. *British Food Journal*, *127*(2), 758–778. https://doi.org/10.1108/BFJ-09-2024-0882

Bass, B. M. (1985). Leadership: Good, better, best. *Organizational dynamics*, *13*(3), 26–40.

Beauchamp, M. R., Barling, J., Li, Z., Morton, K. L., Keith, S. E., & Zumbo, B. D. (2010). Development and psychometric properties of the transformational teaching questionnaire. *Journal of Health Psychology*, *15*(8), 1123–1134. https://doi.org/10.1177/1359105310364175

Bellamkonda, R. S., Rongala, S., et al. (2023). Review and synthesis of a decade of research on transformational teaching and student engagement. *MIER Journal of Educational Studies Trends and Practices*, *13*(2), 442–459. https://doi.org/10.52634/mier/2023/v13/i2/2521

Bentler, P. M. (1990). Comparative fit indexes in structural models. *Psychological Bulletin*, *107*(2), 238.

Browne, M. W., & Cudeck, R. (1992). Alternative ways of assessing model fit. *Sociological Methods & Research*, *21*(2), 230–258.

Byron, K., Keem, S., Darden, T., Shalley, C. E., & Zhou, J. (2023). Building blocks of idea generation and implementation in teams: A meta-analysis of team design and team creativity and innovation. *Personnel Psychology*, *76*(1), 249–278. https://doi.org/10.1111/peps.12501

Cao, Y. (2025). Teacher-Student rapport: An essential mediator in creating a learning climate conducive to psychological well-being of chinese students. *European Journal of Education*, *60*(1), e12794. https://doi.org/10.1111/ejed.12794

Conti, R., Coon, H., & Amabile, T. M. (1996). Evidence to support the componential model of creativity: Secondary analyses of three studies. *Creativity Research Journal*, *9*(4), 385–389.

Derakhshan, A., Fathi, J., Pawlak, M., & Kruk, M. (2024). Classroom social climate, growth language mindset, and student engagement: The mediating role of boredom in learning English as a foreign language. *Journal of Multilingual and Multicultural Development*, *45*(8), 3415–3433. https://doi.org/10.1080/01434632.2022.2099407

Esfandiyari, V., Zarifian, S., Isanezhad, A., Raheli, H., et al. (2024). Effect of optimizing cultivation pattern of agricultural crops on water consumption management under virtual water and water footprint approach. *Environment and Water Engineering*, *10*(2), 243–261.

Fatima, T., Bilal, A. R., Imran, M. K., & Jam, F. A. (2025). Developing entrepreneurial orientation: Comprehensive skill development guide for software industry in South Asia. In *Entrepreneurship in the creative industries* (pp. 132–157). Routledge.

Fernández Río, F. J., Cecchini Estrada, J. A., Merino Barrero, J. A., Valero Valenzuela, A., et al. (2019). Perceived classroom responsibility climate questionnaire: A new scale. *Psicothema*, *31*(4), 475–481.

Gelaidan, H. M., Al-Swidi, A. K., & Al-Hakimi, M. A. (2024). Servant and authentic leadership as drivers of innovative work behaviour: the moderating role of creative self-efficacy. *European Journal of Innovation Management*, *27*(6), 1938–1966.

Genuba, R. L., & Abellanosa, G. G. (2018). Identity orientations, 21st century skills and classroom management strategies of teachers: A structural equation model on the student engagement. *Journal of Advances in Humanities and Social Sciences*, *4*(3), 127–136.

Hernández-Martos, J., Morales-Sánchez, V., Monteiro, D., Franquelo, M. A., Pérez-López, R., Hernández-Mendo, A., & Reigal, R. E. (2024). Examination of associations across transformational teacher leadership, motivational orientation, enjoyment, and boredom in physical education students. *European Physical Education Review*, *30*(2), 194–211.

Houtgraaf, G., Kruyen, P. M., & van Thiel, S. (2023). Public sector creativity as the origin of public sector innovation: A taxonomy and future research agenda. *Public Administration*, *101*(2), 539–556. https://doi.org/10.1111/padm.12778

Hu, L., & Bentler, P. M. (1999). Cutoff criteria for fit indexes in covariance structure analysis: Conventional criteria versus new alternatives. *Structural equation modeling: a multidisciplinary journal*, *6*(1), 1–55. https://doi.org/10.1080/10705519909540118

Jam, F. A., Ali, I., Albishri, N., Mammadov, A., & Mohapatra, A. K. (2025). How does the adoption of digital technologies in supply chain management enhance supply chain performance? A mediated and moderated model. *Technological Forecasting and Social Change*, *219*, 124225.

Koivula, M., Villi, M., & Sivunen, A. (2023). Creativity and innovation in technology-mediated journalistic work: Mapping out enablers and constraints. *Digital Journalism*, *11*(6), 906–923. https://doi.org/10.1080/21670811.2020.1788962

Lin, C. (2024). Assessing internship learning performance and its predictors: Moderation of learning climate. *Education+ Training*, *66*(4), 447–462. https://doi.org/10.1108/ET-09-2023-0400

Liu, S., & Hallinger, P. (2024). The effects of instructional leadership, teacher responsibility and procedural justice climate on professional learning communities: A cross-level moderated mediation examination. *Educational Management Administration & Leadership*, *52*(3), 556–575. https://doi.org/10.1177/17411432221089185

Mayes, E. (2024). Young people learning climate justice: Education beyond schooling through youth-led climate justice activism. In *Handbook of children and youth studies* (pp. 943–956). Springer.

Mikhailova, O. B. (2018). Features of creativity and innovation development in students at secondary and high school. *International Journal of Cognitive Research in Science, Engineering and Education (IJCRSEE)*, *6*(2), 11–19.

Mingorance-Estrada, Á. C., Granda-Vera, J., Rojas-Ruiz, G., & Alemany-Arrebola, I. (2021). Validation of a questionnaire on the use of Interactive Response System in Higher Education. *Revista Latino-Americana de Enfermagem*, *29*, e3418.

Nguyen, N. T., Hooi, L. W., & Avvari, M. V. (2023). Leadership styles and organisational innovation in Vietnam: Does employee creativity matter? *International Journal of Productivity and Performance Management*, *72*(2), 331–360. https://doi.org/10.1108/IJPPM-10-2020-0563

Olivier, E., Morin, A. J., Plante, I., Archambault, I., & Dupéré, V. (2024). Classroom learning climate profiles: Combining classroom goal structure and social climate to support student school functioning and behavioral adaptation. *Journal of Educational Psychology*, *116*(2), 256. https://doi.org/10.1037/edu0000837

Peng, J., & Chen, S. (2023). Learning climate and innovative creative performance: Exploring the multi-level mediating mechanism of team psychological capital and work engagement. *Current Psychology*, *42*(15), 13114–13132. https://doi.org/10.1007/s12144-021-02617-3

Rambaree, K. (2024). Teaching and learning in ecosocial work: Concepts, methods and practice. In C. Forde, S. Ranta-Tyrkkö, P. Lievens, K. Rambaree, & H. Belchior-Rocha (Ed.). Springer.

Royal, C. (2025). Prompting, patience, and perspective: Applying transformational teaching theory to using artificial intelligence in a coding course. *Journalism & Mass Communication Educator*, *80*(2), 156–174. https://doi.org/10.1177/10776958241299077

Ryan, R. M. (2023). *The Oxford handbook of self-determination theory*. Oxford University Press.

Ryan, R. M., & Deci, E. L. (2000). Intrinsic and extrinsic motivations: Classic definitions and new directions. *Contemporary Educational Psychology*, *25*(1), 54–67.

Ryan, R. M., & Deci, E. L. (2024). Self-determination theory. In *Encyclopedia of quality of life and well-being research* (pp. 6229–6235). Springer.

Sparkes, E., & Werners, S. E. (2023). Monitoring, evaluation and learning requirements for climate-resilient development pathways. *Current Opinion in Environmental Sustainability*, *64*, 101329.

Suebvises, P. (2024). The effects of decentralized organizational structure and an ethical work climate on the work engagement of local public officials in Thailand. *State and Local Government Review*, *56*(1), 26–41.

Swain, D., Jena, L. K., Dash, S. S., & Yadav, R. S. (2023). Motivation to learn, mobile learning and online learning climate: Moderating role of learner interaction. *European Journal of Training and Development*, *47*(1/2), 123–140. https://doi.org/10.1108/EJTD-06-2021-0077

Tuan, L. T. (2023). Fostering green product innovation through green entrepreneurial orientation: The roles of employee green creativity, green role identity, and organizational transactive memory system. *Business Strategy and the Environment*, *32*(1), 639–653. https://doi.org/10.1002/bse.3165

Vergara, K. C., Santos, J. E., Blasa-Cheng, A., Balatbat, M., & Vergara, R. A. (2023). Engagement and learning success: Evidence from three years of transformational teaching strategies in online event marketing education. *International Journal of Multidisciplinary: Applied Business and Education Research*, *4*(11), 4101–4112. https://doi.org/10.11594/ijmaber.04.11.27

Vygotsky, L. S. (1978). *4-vygotsky* (tech. rep.).

West, M. A., & Sacramento, C. A. (2023). Handbook of organizational creativity. In R. Reiter-Palmon & S. Hunter (Eds.) (Ed.). Elsevier.

Yu, S., Traynor, A., & Levesque-Bristol, C. (2018). Psychometric examination of the short version of the learning climate questionnaire using item response theory. *Motivation and Emotion*, *42*(6), 795–803.

Zhang, N., Ren, X., Sun, X., & Jin, C. (2024). The effect of corporate social responsibility characteristics on employee green behavior: A moral emotions perspective. *Behavioral Sciences*, *14*(11), 1045. https://doi.org/10.3390/bs14111045

Appendix

Questionnaire
Responsibility Climate
1. My teacher holds me accountable for my academic performance.
2. I am encouraged to take responsibility for my learning progress.
3. My teacher expects high standards of responsibility from students.
4. I feel personally accountable for my actions in class.
5. The teacher ensures that students are responsible for their own tasks.
6. The learning environment promotes personal responsibility among students.
Creativity and Innovation
1. I frequently come up with new ideas during class activities.
2. I feel encouraged to think outside the box in my assignments.
3. I am able to apply innovative solutions to problems presented in class.
4. I believe my creativity is fostered by the teaching methods in my program.
5. I can express my ideas in innovative ways during group discussions.
Learning Climate
1. The classroom environment is supportive of students' learning needs.
2. I feel that my learning environment promotes intellectual engagement.
3. My teacher creates an atmosphere where I feel safe to share new ideas.
4. The learning climate encourages collaboration and sharing of ideas.
Interactive Teaching Materials
1. The use of multimedia materials enhances my understanding of the subject.
2. Interactive tools like digital resources make learning more engaging.
3. I feel more motivated when I use interactive teaching materials in class.
4. The use of technology in the classroom helps stimulate my creativity.
Transformational Teaching
1. My teacher inspires me to reach my full creative potential.
2. My teacher challenges me to think critically about the subject matter.
3. I receive personalized feedback that helps me grow as a student.
4. My teacher encourages me to explore new ideas and concepts outside of the curriculum.