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SHIFTING FROM ARABIC TO ENGLISH: IMPACT OF TEACHING DESIGN AND TEACHER PREPAREDNESS ON ACADEMIC MOTIVATION

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Abstract
This study investigates the relationships between information-based teaching design, teacher preparedness to use standards-based teaching practices, academic motivation, and the moderating role of the affective component of language attitude among university students. The research aims to understand how innovative teaching strategies influence academic motivation and the preparedness of teachers to adopt standards-based practices, with a focus on mediating and moderating mechanisms. The study was conducted in the language departments of universities, involving a sample of 255 students from different academic semesters. Data were collected using a structured questionnaire adapted from validated scales to align with the student perspective. Partial Least Squares Structural Equation Modeling (PLS-SEM) was employed for data analysis to examine hypothesized relationships and test mediation and moderation effects. The results confirmed that information-based teaching design significantly enhances both academic motivation and teacher preparedness. Teacher preparedness mediates the relationship between teaching design and academic motivation, while the affective component of language attitude moderates the impact of teaching design on motivation. These findings highlight the interplay of instructional design and affective factors in shaping academic outcomes. This research provides novel insights into the mediating and moderating mechanisms in educational settings, emphasizing the role of innovative teaching approaches and affective components in fostering academic motivation.

Keywords: Information-based teaching design, Academic motivation, Teacher preparedness, Affective language attitude, PLS-SEM analysis

1. INTRODUCTION

Education has gained interest in innovative teaching designs as institutions attempt to increase academic performance and align instruction with 21st-century demands. Effective teaching designs play the role of forging learners' academic motivation, which is widely known as a critical determinant of educational success (Çelik & Zehir Topkaya, 2023). Motivation makes students want to participate in learning activities, endure problems, and succeed, hence its backbone role in academic performance across subjects (Abdolrezapour et al., 2023). Conversely, the development of standards-based best practices by instructors is currently coming out as a hallmark of education reforms on most of the global arena, as the said approach keeps students aligned to the curriculum set objectives and is matched by consistent learning outcomes (Ahmadi et al., 2021). However, such pedagogical frameworks call for strong teacher preparedness, including knowledge, skills, and confidence in executing instructional strategies (Dasci Sonmez & Gokmenoglu, 2023).

Contemporaneously, the role of attitudes in learning has been accorded sufficient academic scrutiny, especially concerning language learning settings (Utami et al., 2020). Language attitudes, referring to emotions, beliefs, and dispositions that learners have towards a language, powerfully affect learner engagement, comprehension, and academic achievement (Abdolrezapour et al., 2023). Among the key dimensions of language attitude, the affective component—students' emotional responses to the language of instruction—has been found to moderate the effectiveness of teaching strategies, further pointing out its importance in multilingual and multicultural educational settings (Ianos et al., 2023). Based on this background, the present study sheds light on the interaction of information-based teaching designs, teacher preparedness, academic motivation, and the moderating role of language attitudes (Ekin et al., 2024). It speaks to pressing questions about how instructional frameworks can best support student learning and how educators might be equipped to meet the same pedagogical standards in linguistically diverse classrooms (Kim, 2024).

Empirical studies in the past have successfully contributed to understanding the impact of teaching designs on the academic output (Chen et al., 2023). The findings of these studies establish that information-based teaching designs characterize good instruction approaches, such as structured and interactive approaches to education, which promote students' engagement and motivation (Ahmadi et al., 2021). For example, (Feraco et al., 2022) discovered that teaching strategies based on structured information enhance students' intrinsic motivation due to the satisfaction of their psychological needs for autonomy and competence. Similarly, (Li et al., 2023) demonstrated that active learning strategies implemented within information-rich teaching frameworks enhance the levels of cognitive engagement among students, especially in the context of STEM education. Research has proven that teaching designs rich in real-world applications and culturally relevant materials are more meaningful to learners, thus enhancing motivation and performance in language learning contexts (Gan et al., 2021).

Teacher preparedness has also been well researched, and evidence points to the importance of teacher preparedness in standards-based teaching practices (Fundi et al., 2024). (Moorhouse, 2024) reported that well-prepared teachers are more likely to provide consistent, high-quality instruction aligned with curricular standards. (Pillai et al., 2024) also found that professional development programs that focus on information-rich instructional materials build educators' confidence and capacity to implement standards. Besides, various studies have well established that preparedness in a teacher has direct implications on students' performance since confident and well-prepared teachers set up a friendly learning environment with high academic motivation (Mpuangnan, 2024).

Another related direction is the studies on the role of language attitudes in education. (De Smet et al., 2023) held that positive language attitudes enhance learners' engagement and their willingness to

engage in educational activities, especially those related to acquiring a second language. Additionally, (Ekin et al., 2024) discussed how the affective dimensions of language attitudes-for example, enjoyment or anxiety-towards a particular language-influenced students' attitude towards the presentation of instruction to them. All these findings together reflect the complex relationships between teaching designs, teacher preparedness, student motivation, and language attitudes, providing a basis for the present study (Rowan et al., 2024).

While there is a body of work on teaching design, teacher preparedness, and student motivation, the existing literature is deficient in one critical area: minimal research has been conducted on whether teacher preparedness may play a mediating role in the relationship between instructional design and academic motivation (Pan, 2023). While research has established the individual impact of these constructs, fewer studies have looked at how teacher readiness to adopt standards-based practices influences the motivational effect of teaching designs (Berdida, 2023). Such a gap is more relevant today given the emphasis placed on educational reforms aimed at curricular standards-based teaching practices since the success of such reforms would be contingent on the ability of educators to translate the instructional frameworks into appropriate classroom practices .

Another critical gap is to do with the moderating role of language attitudes, primarily the affective component , that impacts teaching designs effectiveness (van der Steen et al., 2023). Indeed, most studies have acknowledged that language attitudes play an essential role in education; however, its concrete relationship with instructional frameworks and academic motivation is underresearched (Ponce & Lucas, 2024). This gap is especially evident in multilingual educational settings, where students' emotional responses to the language of instruction can greatly affect their engagement and learning outcomes (Ponce & Lucas, 2024). Most of the research studies available today focus on cognitive and behavioral dimensions of language attitudes and tend to overlook the affective aspect, which is critical in the shaping of students' emotional relationships with the learning process (Wang & Hatoss, 2023).

Furthermore, there is a need for holistic theoretical models that incorporate the interaction between information-based teaching designs, teacher preparedness, academic motivation, and language attitudes (Çelik & Zehir Topkaya, 2023). Although individual studies have contributed greatly to these constructs, they work in isolation most of the time, hence restricting their application in real educational contexts. This fragmentation calls for a holistic study of these relationships in an integrated framework, hence dealing with the complex dynamics of multilingual and standards-based classrooms (Ekin et al., 2024).

The strength of the theory base of SDT underlies relationships in this research model. According to SDT, the basic psychological needs of autonomy, competence, and relatedness enhance an individual's motivation to grow and learn (Jeno et al., 2023). Information-based teaching designs essentially fit into SDT by offering competence through structured instruction and clear explanation, through learner-centered approaches promoting autonomy, and through culturally relevant content that promotes relatedness (Li et al., 2023). Such dynamics are further enhanced by teacher preparedness in assuring that instructional strategies that are employed ensure that environments are supporting the intrinsic motivation of students (Dasci Sonmez & Gokmenoglu, 2023).

Related to this, the affective dimension of language attitudes fits SDT's relatedness component, where emotional relationships play an essential role in the learning process. Positive language attitudes intensify the motivational effect of instructional designs because they create an emotional tie between learners and the language of instruction; negative attitudes, on the other hand, prevent learners from being engaged (Ianos et al., 2023). This study aims to integrate these constructs into

an overarching model that incorporates both cognitive and affective dimensions of academic motivation (Ghasemy & Elwood, 2022).

The primary objectives of this research are to examine the direct impact of information-based teaching designs on academic motivation, explore the mediating role of teacher preparedness in this relationship, and investigate the moderating effect of the affective component of language attitudes. By addressing these objectives, the study aims to contribute to the theoretical understanding of instructional design and motivation while providing practical insights for educators and policymakers. This research will bridge existing gaps in the literature and offer actionable recommendations for enhancing teaching practices in multilingual and standards-based educational contexts.

2. LITERATURE REVIEW

Pedagogy language shift is one of the most relevant areas of study, especially in multilingual contexts where the education system has a retaining function of the cultural heritage but also competencies at the global level (Abdolrezapour et al., 2023). A major driver for this shift has been the increasing importance of English as the lingua franca of global commerce, science, and higher education (De Smet et al., 2023). Educational systems that had traditionally used indigenous or regional languages are now more and more including English in order to prepare the students for international opportunities (Ponce & Lucas, 2024). The process, however, raises issues about identity, cultural continuity, and linguistic heritage. Studies show that using English as the medium of instruction has positive implications in that access to international knowledge and career prospects improves (Ponce & Lucas, 2024). On the other hand, local languages can be marginalized while the students' sense of belonging may be eroded. For example, a weak base in the language would leave most of the students vulnerable to being relegated at educational outcomes (Sun, 2023). Such tensions become even more acute when Arabic plays a central role in the expression of cultural and religious identity, thereby creating a conflict between embracing the globalized English education versus maintaining the sociocultural values inherent in Arabic instruction (Utami et al., 2020).

Further research reveals that a change in pedagogy from one language to another is not only curricular but also changes in training for teachers, assessment techniques, and even classroom interactions (Çelik & Zehir Topkaya, 2023). Most teachers often find it challenging to adopt English as the medium of instruction when their proficiency in English is weak . This shift also affects the way students interact with subject matter, as content delivered in a second language may cause cognitive overload and impede deep comprehension (Wang & Hatoss, 2023). In addition, the cultural context embedded in English-medium materials may not resonate with students' lived experiences, creating a disconnection in the learning process (Ponce & Lucas, 2024). Proponents of the shift argue that exposure to English provides learners with critical thinking and problem-solving skills highly valued in the global knowledge economy. The literature calls for a balanced approach that integrates both languages in ways that enhance bilingual competencies while respecting local linguistic and cultural frameworks (Ianos et al., 2023). This would minimize the negative effects of language shift and promote a more inclusive schooling context that prepares students to be successful in both local and global contexts (Çelik & Zehir Topkaya, 2023).

2.1 Information-Based Teaching Design Impact

Research has continually proved that instructional designs based on efficient information dissemination promote academic motivation in students (Kim, 2024). It is found from studies that the teaching

approaches including structured and accessible information help to empower students for deeper engagement with course content, especially when learning environments use technology and digital resources (Li et al., 2023). Empirical studies show that students are more motivated if the instructor has clearly stated learning objectives, examples relevant to the topic, and materials that interest and cognitively challenge them (Abdolrezapour et al., 2023). Another framework that points out the role of informational clarity in satisfying the basic psychological needs of autonomy, competence, and relatedness for students to develop intrinsic motivation is Self-Determination Theory (Urhahne & Wijnia, 2023). Evidence from higher education shows that information-based teaching designs that incorporate multimedia, scaffolding, and active learning strategies significantly enhance students' academic drive and performance, especially in STEM and language learning contexts (Pillai et al., 2024). Such findings highlight the importance of well-designed instructional strategies in motivating learners to invest effort and persist in academic pursuits (Ahmadi et al., 2021).

Building on empirical evidence, the formulated hypothesis states that information-based instructional design plays an important role in academic motivation in that it will create a student-centered learning environment that emphasizes clearness, excitement, and access to knowledge (Berdida, 2023). That is, such designs avoid cognitive overload; they allow for the application of learning material towards real-world usage, further propelling the desire of students to learn. Empirical studies highlight that structured teaching plans aligned with students' developmental needs offer opportunities for success and achievement (Li et al., 2023). Moreover, the use of information-based designs, which incorporate technological tools, provide a variety of means of engagement based on different preferences for learning, thus increasing motivation . Therefore, the hypothesis comes in line with evidence that promotes teaching designs emphasizing effective information dissemination since they positively affect students' motivation to academic achievement by creating a situation of clarity, engagement, and autonomy (van der Steen et al., 2023).

H1: Information based teaching design significantly influences the academic motivation.

Influence of the instructional designs on quality is often impacted by the preparation of teachers with standards-based practices (Çelik & Zehir Topkaya, 2023). Empirical studies show how information-based designs for teaching and instruction, involving clear guidelines on what to do, detailed curriculum, and instructionally robust framework, boost confidence and capability on the part of teachers to address educational standards proficiently (Dasci Sonmez & Gokmenoglu, 2023). The body of research in elementary and secondary education points to the fact that when the resources and templates for instruction are carefully designed, teachers gain the knowledge to bring standards into classroom activities and assessments, thus ensuring homogeneity in teacher delivery (Li et al., 2023). Teacher preparation programs have shown the significance of professional learning communities utilizing information-based designs for enhancing teacher planning and improving their standards-related practice (Moorhouse, 2024). From the empirical literature, it becomes clear that one way to influence information-based professional development is through professional learning communities that take information-based designs on the road to more effective collaborative planning and standards-based teaching (Li et al., 2023).

It is against this background that the hypothesis, based on the importance of clarity and structure for pedagogy, was that information-based teaching design greatly impacts teacher preparedness because rich information frameworks help the educators get down to tangible tools and implementable strategies for making instruction adhere to set standards (Mpuangnan, 2024). Well-prepared teachers via integrated, comprehensive instructional resources tend to feel better equipped to conduct standards-based practice because this research reduces uncertainty and supports the consistent application

of curricular goals, according to (Pan, 2023). Moreover, the theory is consistent with research suggesting that teachers who interact with information-based detailed designs for instruction are better professionally and have classroom efficacy (Dasci Sonmez & Gokmenoglu, 2023). In that respect, making the teaching designs explicit, accessible, and contextually relevant will prepare teachers to handle the complexities of standards-based teaching.

H2: Information based teaching design significantly influences the teacher preparedness to use standards-based teaching practices.

2.2 Teacher Preparedness Mediation

The mediating role of teacher preparedness in educational outcomes has been widely explored in different pedagogical settings. Studies suggest that teachers' preparedness for effective instructional practices directly impacts students' engagement and motivation (Fundi et al., 2024). Empirical evidence highlights that prepared and confident teachers are able to create positive classroom environments that further enhance students' intrinsic and extrinsic motivation (Kotera et al., 2023). For instance, studies done on language learning show that the teacher preparedness level influences the motivational levels of students and will ensure clarity in instructions, relevance of content, and relevance to the needs of learners (Jeno et al., 2023). Overall, professional development studies reveal that teacher preparedness is indeed a bridging factor between instructional design and student learning outcomes (Rowan et al., 2024). Teachers act as the critical link in this process as they translate the pedagogical framework into meaningful learning experiences.

Hypothetical basis - It is grounded on the supposition that preparedness of a teacher mediates between information-based teaching design and academic motivation due to the action as a facilitator through which instruction quality affects learner outcome (Martin et al., 2023). For example, those who are ready and prepared, they will also come up with better learning and motivational environments compared to those without information-rich designs (Wang et al., 2023). Empirical evidence exists to support the notion that when teachers understand and effectively use information-based resources, they enhance students' motivation by delivering lessons that are coherent, interactive, and aligned with learning objectives (Ahmadi et al., 2021). This hypothesis underscores the importance of teacher preparedness as a mediating variable, suggesting that the impact of instructional design on academic motivation is contingent on educators' ability to execute those designs effectively (Zhang et al., 2021).

H3: Teacher preparedness to use standards-based teaching practices significantly mediates the relationship of information-based teaching design and academic motivation.

2.3 Affective Component of Language Attitude Moderation

Affect is the part of language attitude that involves emotional responses, preferences, and feelings a learner has about a particular language (De Smet et al., 2023). It has been proved that academic motivation is linked with affect. In contexts of language acquisition, research indicates that there tends to be higher motivation as well as academic success for those students who hold a positive emotional attitude towards a certain language (Martin et al., 2023). Empirical evidence reveals that the affective component of the instructional designs influences the perceptions that learners have toward them, particularly in multilingual settings where attitudes shape participation and understanding (Sun, 2023). For instance, research with ESL contexts suggests that when there is a positive attitude toward the English language, the openness of the learner toward new, information-based teaching styles correlates well with the motivation to learn, as proposed by (Chen et al., 2023). Instead, negative attitudes create a barrier by weakening even the most expertly designed frameworks of instruction.

The hypothesis assumes that the affective component of language attitude would moderate the information-based teaching design and academic motivation by having an effect on how students emotionally relate to the material used to teach (Utami et al., 2020). On the other hand, a positive language attitude would magnify the motivational effect of an information-rich teaching design to enhance emotional engagement with the process of learning and thus increase willingness to participate actively in the classroom (Wang & Hatoss, 2023). Conversely, negative attitudes might also quash motivation even when the instructional designs are effective. The empirical evidence that supports this moderating role lies in how the affective responses of students mediate the cognitive and behavioral engagement with learning activities (Ramzan et al., 2023). This hypothesis underlines the need for teachers to address emotional attitudes toward the language of instruction on the part of students in order to maximize motivational potential in information-based teaching designs (Ponce & Lucas, 2024).

H4: Affective component of language attitude significantly moderates the relationship of information-based teaching design and academic motivation.

2.4 Theoretical Framework: Self-Determination Theory (SDT)

A good theoretical underpinning to the relationships and dynamics involved in this research model (Figure 1) is given by Self-Determination Theory (SDT). SDT states that people are motivated to learn and grow because of the satisfaction of basic psychological needs—autonomy, competence, and relatedness—and that individuals intrinsically act to achieve those needs (Urhahne & Wijnia, 2023). In information-based teaching designs, SDT is helpful in explaining how systematic and interesting instruction strategies meet the need for competence by making the content more understandable and applicable. Teacher readiness to implement standards-based practices aligns with the theory because it focuses on autonomy and competence, that is, an adequately prepared educator is more capable of developing a learner-centered classroom. Additionally, the affective component of language attitude aligns with the relatedness aspect of SDT: emotional and social connections are very important in academic motivation. With the inclusion of these constructs, SDT thus equips a comprehensive frame for exploring and validating the proposed hypotheses and relationships.

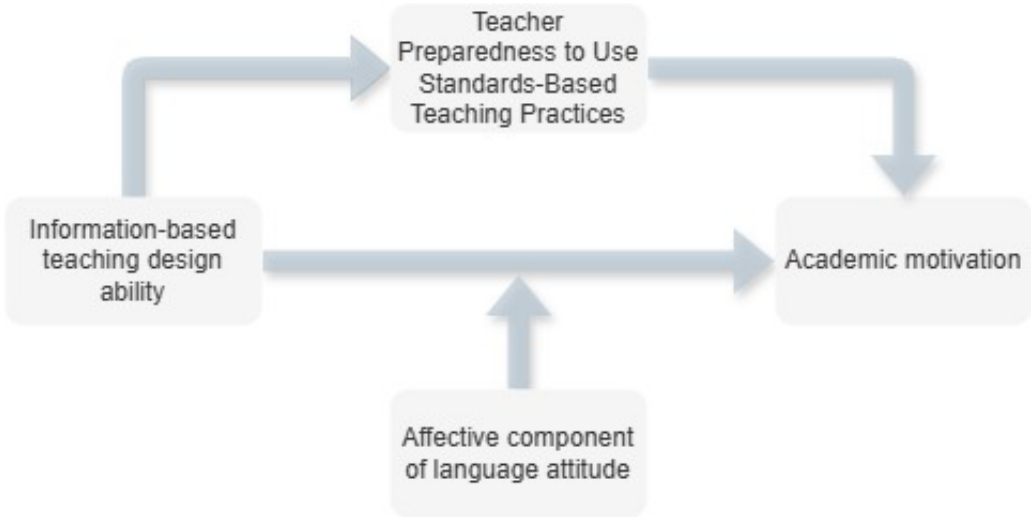

Figure 1: Theoretical Model

3. METHODOLOGY

3.1 Research Design

This study has utilized a quantitative research design to assess the interrelations of information-based teaching design, teacher preparedness to use standards-based teaching practices, academic motivation, and the affective component of language attitude. A structured survey approach was followed in the collection of data from university students on different semesters within a language department. The focus on university language departments was chosen because language instruction is highly relevant to the development of both cognitive and motivational aspects of learning. The PLS-SEM technique was used for data analysis because it is robust in handling complex models and allows for the examination of mediation and moderation effects simultaneously.

3.2 Sample and Participants

The sample of students consisted of 255 students representing various semesters in the language departments of a number of universities. A stratified sampling procedure was used to draw a sample representative of different levels of academic years so that changes in students' experience with information-based teaching design and academic motivation would be captured. The sample comprised both undergraduate and postgraduate students who belonged to various age groups such as early and mid-adults. This diversity within the sample would thus allow for a broader investigation of variables.

3.3 Data Collection Instruments

The data collection instruments (Table 1) were structured questionnaires designed to measure the constructs of interest. The scales used for measurement were adopted from previously validated research but were slightly modified to align with the context of university students, as two of the variables (teacher preparedness and information-based teaching design) were originally developed for teachers. The questionnaire consisted of four main sections, each targeting one of the variables:

Table 1: Questionnaire Profile

Variable Name	No of Items	Adopted From
Information based teaching design	Four	(Liu et al., 2019)
Teacher preparedness to use standards-based teaching practices	Nine	(Ucang, 2018)
Affective component of language attitude	Ten	(Utami et al., 2020)
Academic motivation	Sixteen	(Alivernini & Lucidi, 2008)

Each item was rated on a 5-point Likert scale ranging from 1 (strongly disagree) to 5 (strongly agree). Pre-testing of the modified instrument was conducted on a small pilot sample to ensure clarity and reliability.

3.4 Data Collection Procedure

Data collection was carried out over a four-week period. Permission was sought from department heads to distribute the questionnaire among students during their regular class hours. The questionnaires were distributed in both paper-based and online formats to maximize response rates and accommodate students' preferences. Clear instructions were provided to ensure that participants understood the purpose of the study and the meaning of each item on the questionnaire.

3.5 Data Analysis

The collected data were analyzed using PLS-SEM, which was chosen for its ability to handle complex relationships among latent variables and small-to-medium sample sizes. The analysis involved several steps:

1. Measurement Model Assessment: The reliability and validity of the constructs were assessed using Cronbach's Alpha, rho_A, Composite Reliability, and Average Variance Extracted (AVE). Factor loadings for individual items were also evaluated to ensure that they met the required thresholds.
2. Structural Model Assessment: The relationships between the variables were examined to test the hypotheses. Path coefficients, R-squared values, and F-squared values were computed to determine the strength and significance of the relationships.
3. Moderation and Mediation Analysis: The moderating effect of the affective component of language attitude and the mediating role of teacher preparedness were assessed using bootstrapping procedures, with 5,000 resamples to ensure robustness of the results.

The analytical process provided detailed insights into the direct, indirect, and moderating effects of the variables, contributing to a comprehensive understanding of the research model. All statistical analyses were performed using SmartPLS software, and results were interpreted based on established thresholds and guidelines in the PLS-SEM literature.

4. RESULTS

Table 2 provides reliability and validity statistics for the four leading variables used in the study: academic motivation, the affective component of language attitude, information-based teaching design, and teacher preparedness. The Cronbach's Alpha, rho_A, and Composite Reliability all referred to the internal consistency of the constructs. Therefore, the students that will be graduating academic motivation is reliable with Cronbach's Alpha of 0.887, rho_A of 0.890, and Composite Reliability of 0.904 all of which surpass the generally accepted threshold of 0.70, signifying that the scale used to measure academic motivation is highly reliable. Similarly, the affective component of language attitude also proved robust reliability with 0.878 Cronbach's Alpha, 0.882 rho_A, and 0.901 Composite Reliability. These results support the notion that the instrument validly measures students' emotional and attitudinal responses toward language learning.

Information-based teaching design also exhibited high internal consistency, with Cronbach's Alpha and rho_A both equal to 0.855, and Composite Reliability at 0.902, suggesting that this construct is measured reliably and consistently across the sample. Teacher preparedness, although a bit lower than the other variables, still met reliability standards with a Cronbach's Alpha of 0.791, rho_A of 0.797, and Composite Reliability of 0.841. Although a little lower than the other constructs, these values are still in an acceptable range, meaning that the teacher preparedness scale measures the educators' readiness to implement standards-based teaching practices with some reliability.

Table 2: Variables reliability and validity

	Cronbach's Alpha	rho_A	Composite Reliability	Average Variance Extracted (AVE)
Academic motivation	0.887	0.890	0.904	0.571
Affective component	0.878	0.882	0.901	0.548
Information based teaching design	0.855	0.855	0.902	0.697
Teacher preparedness	0.791	0.797	0.841	0.537

Furthermore, the Average Variance Extracted (AVE) values reveal that all constructs achieve convergent validity, with AVEs above 0.50 for each variable. Academic motivation has an AVE of 0.571, the affective component of language attitude has 0.548, information-based teaching design has 0.697, and teacher preparedness has 0.537 (Figure 2). These AVE values confirm that a large part of the variance in each construct is being captured by respective measurement items, thereby supporting the discriminant and convergent validity of the applied scales.

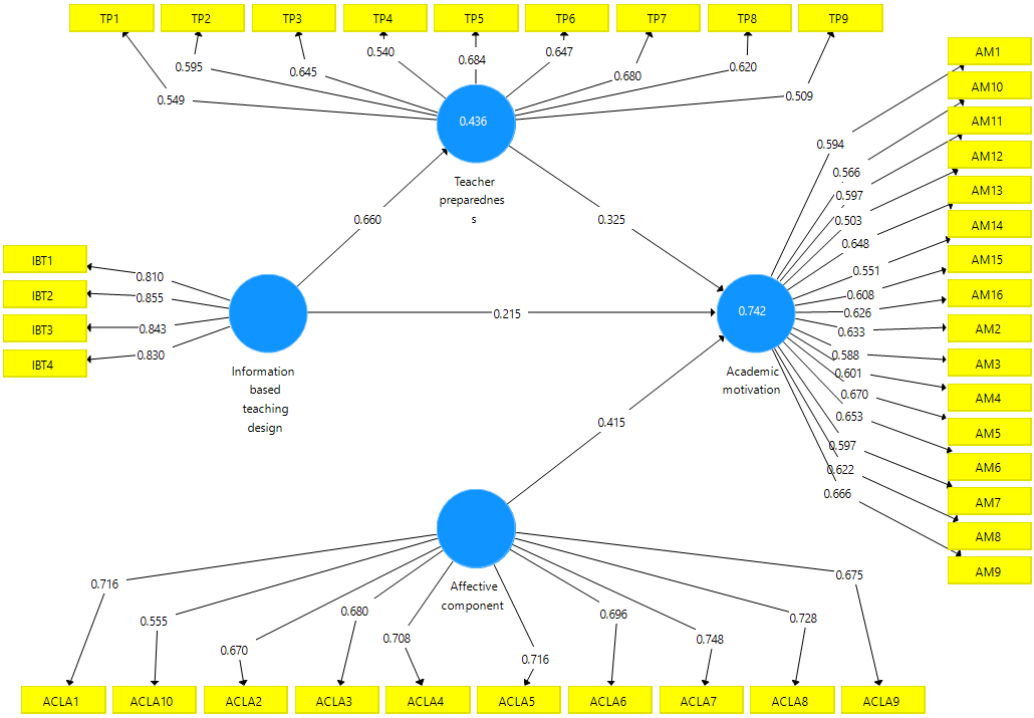

Figure 2: Estimated Model

Table 3 outlines the fitness statistics for each variable's measurement item, providing its original sample estimate, sample mean, standard deviation, T statistic, and P value. The T values for all the items refer to the statistical significance of each one's loadings, indicating their significance at 5% and above are a value of over 1.96. All items for the affective component of language attitude, academic motivation, information-based teaching design, and teacher preparedness have high T statistics, suggesting that they are statistically significant in measuring their constructs. For example, all the items for the affective component of language attitude, viz., ACLA1 to ACLA10, have T statistics above 10, with a high T statistic of 25.356 for ACLA1, meaning that each item considerably correlates with the underlying construct.

Similarly, the academic motivation item scales (AM1 to AM16) are strongly loaded, whose T statistics are varied between 8.385 and 18.515 for AM12 and AM5, respectively, with all showing a significantly strong contribution toward the construct. The information-based teaching design item scales (IBT1 to IBT4) also have very high T statistics, with IBT2 having the highest T statistics of 42.073, which reinforces the significance of such items in measuring the construct accurately. The

teacher preparedness items also were highly significant as TP1-TP9 demonstrate, though in the low and lowest T statistics ranking, it comes with T=8.150 for TP9. This therefore depicts that all these items in respective constructs are meaningful and add on to the measurability of the concerned variable. The consistent statistical significance of all measurement items supports the validity of the measurement scales, and the P-values for all items are 0.000, indicating that these results are highly reliable and not due to chance. This further confirms the robustness of the constructs and measurement items used in this study.

Table 3: Measurement Items Fitness Statistics

Variable		Original Sample (O)	Sample Mean (M)	Standard Deviation (STDEV)	T Statistics (|O/STDEV|)	P Values
Affective component of language attitude	ACLA1	0.716	0.717	0.028	25.356	0.000
	ACLA2	0.555	0.556	0.053	10.488	0.000
	ACLA3	0.670	0.668	0.039	17.360	0.000
	ACLA4	0.680	0.678	0.039	17.654	0.000
	ACLA5	0.708	0.706	0.035	19.961	0.000
	ACLA6	0.716	0.713	0.037	19.541	0.000
	ACLA7	0.696	0.693	0.032	21.942	0.000
	ACLA8	0.748	0.748	0.029	25.707	0.000
	ACLA9	0.728	0.726	0.034	21.485	0.000
	ACLA10	0.675	0.672	0.039	17.260	0.000
Academic motivation	AM1	0.594	0.589	0.052	11.452	0.000
	AM10	0.566	0.563	0.055	10.239	0.000
	AM11	0.597	0.593	0.050	11.926	0.000
	AM12	0.503	0.500	0.060	8.385	0.000
	AM13	0.648	0.647	0.047	13.817	0.000
	AM14	0.551	0.543	0.068	8.086	0.000
	AM15	0.608	0.606	0.051	11.899	0.000
	AM16	0.626	0.627	0.041	15.251	0.000
	AM2	0.633	0.626	0.050	12.762	0.000
	AM3	0.588	0.582	0.055	10.677	0.000
	AM4	0.601	0.600	0.043	14.079	0.000
	AM5	0.670	0.671	0.036	18.515	0.000
	AM6	0.653	0.651	0.039	16.759	0.000
	AM7	0.597	0.596	0.048	12.365	0.000
	AM8	0.622	0.620	0.040	15.467	0.000
	AM9	0.666	0.665	0.037	18.057	0.000
Information based teaching design	IBT1	0.810	0.809	0.025	32.235	0.000
	IBT2	0.855	0.854	0.020	42.073	0.000
	IBT3	0.843	0.841	0.026	32.244	0.000
	IBT4	0.830	0.830	0.021	39.010	0.000
Teacher preparedness to use standards-based teaching practices	TP1	0.549	0.546	0.054	10.185	0.000
	TP2	0.595	0.596	0.058	10.268	0.000
	TP3	0.645	0.639	0.044	14.690	0.000
	TP4	0.540	0.535	0.063	8.634	0.000
	TP5	0.684	0.684	0.037	18.662	0.000
	TP6	0.647	0.642	0.051	12.560	0.000
	TP7	0.680	0.679	0.036	18.854	0.000
	TP8	0.620	0.616	0.051	12.142	0.000
	TP9	0.509	0.507	0.062	8.150	0.000

Table 4 lists the HTMT values used to determine discriminant validity between the constructs. Any value of greater than 0.85 on the HTMT indicates that an issue of a possible failure in discriminant validity is present, as it may be too highly correlated. In the present study, the HTMT values are all well below the threshold of 0.85, thus indicating that the discriminative validity of each construct is

adequate. For instance, the HTMT value between academic motivation and the affective component of language attitude was 0.872, which is high but within an acceptable range. The HTMT value for the information-based teaching design and teacher preparedness was 0.780, which was relatively low; it suggests that these constructs are distinct from one another. The correlations of the relationships between academic motivation, affective component, and information-based teaching design show moderate values from 0.834 to 0.849. These values represent that there is some overlap of the constructs; however, the constructs are adequately distinct to include them as different variables in the model. On the whole, the HTMT values have confirmed that the constructs are empirically distinct, and the model appropriately represents the different aspects of the learning process.

Table 4: Heterotrait-Monotrait Ratio (HTMT)

	1	2	3	4
Academic motivation				
Affective component	0.872			
Information based teaching design	0.834	0.849		
Teacher preparedness	0.828	0.840	0.780	

Table 5 also gives the R-square and R-square adjusted of the constructs that were used to study the model. This is a measure of the ability of the model in explaining the data. The R-square for academic motivation is at 0.742, meaning the model explains 74.2% of the variation in academic motivation. This shows a high degree of explanatory power, meaning the variables in the model have strong influences on the students' motivation towards academics. The value of R-square adjusted for academic motivation is 0.741, which explains the number of predictors and therefore this model is robust and generalizable. For teacher preparedness, R-square is 0.436, meaning the model explains 43.6% of variance in teacher preparedness. This is moderate, and thus while the model does offer a good account for teacher preparedness, possibly other factors besides those included in the model explain teacher preparedness also. The value of R-square adjusted for teacher preparedness stands at 0.435; thus, a similar fit as above applies also for this construct. The SRMR for the Saturated and Estimated Model values is 0.041 and 0.061, respectively, and are well within the threshold limit of 0.08, suggesting that the model fits the data very well. The values thus suggest that the hypothesized relationships are supported by the data and that the model provides an adequate representation of the underlying structural relationships.

Table 5: R-square statistics Model Goodness of Fit Statistics

	R Square	R Square Adjusted	Saturated Model	Estimated Model
SRMR			0.041	0.061
Academic motivation	0.742	0.741		
Teacher preparedness	0.436	0.435		

The F-square statistics for the key relationships in the model are reported in Table 6, showing the effect size of the constructs on the dependent variables. Academic motivation displays an effect size value for the affective component as 0.240, which is a medium effect. Therefore, the affective component of language attitude would moderately influence academic motivation. The effect size of information-based teaching design on academic motivation is 0.074, a small effect size, which indicates

that this relationship, although significant, has a relatively smaller influence on academic motivation. Information-based teaching design F-square value = 0.773: this is a large effect size. Thus, it means that information-based teaching design has a strong influence on teachers' preparedness in support of the hypothesis that teaching design is a principal determinant of teacher readiness. The F-square value for teacher preparedness is 0.185- moderate effect on the academic motivation construct.

Table 6: F-square statistics

	Academic motivation	Teacher preparedness
Affective component	0.240	
Information based teaching design	0.074	0.773
Teacher preparedness	0.185	

Table 7: Path analysis results. Information-based teaching design to academic motivation path coefficient 0.152 T-statistic 3.526 p-value 0.000 Conclusion This shows that there is a relationship between the variables of information-based teaching design and academic motivation, as supported by the hypothesis that teaching design has an influence on academic motivation. The relationship of information-based teaching design with the teacher preparedness also is of the positive and significant order since it had the original sample estimate of 0.660, a T-statistic of 17.184, and a p-value of 0.000, implying that teaching design significantly contributes towards the preparedness of teachers in delivering standards-based practice (Figure 3).

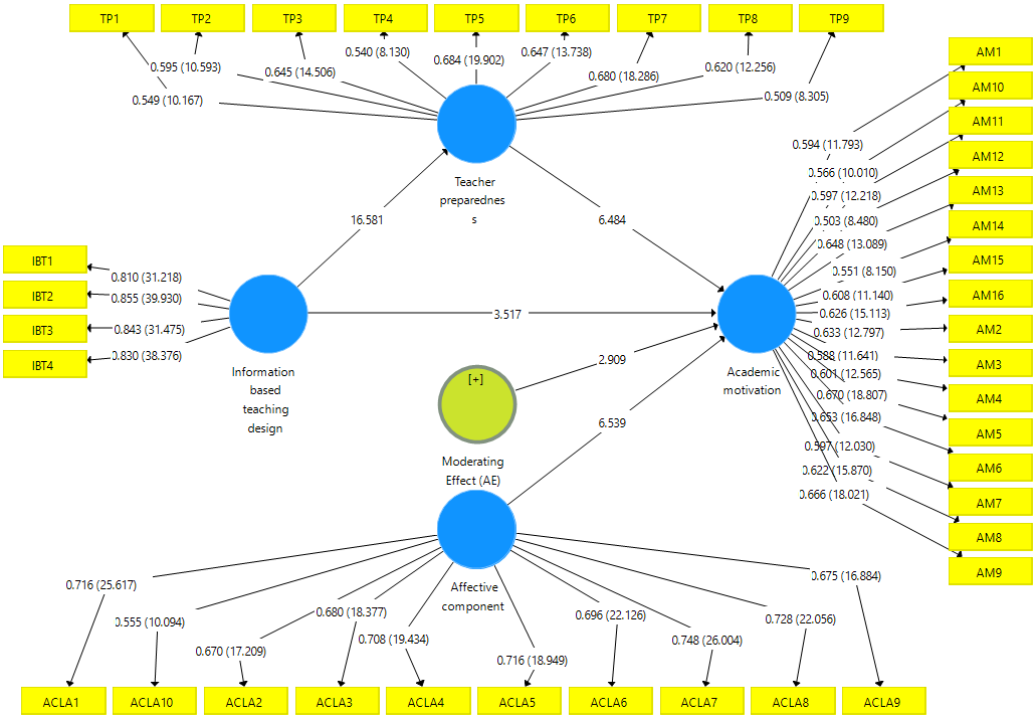

Figure 3: Structural Model for Path Analysis

The mediation effect of teacher preparedness on the relationship between teaching design and academic motivation is also significant, with an estimate of 0.206, a T-statistic of 6.184, and a p-value of 0.000, supporting the hypothesis that teacher preparedness mediates this relationship. Finally, the affective component of language attitude moderates the relationship between information-based teaching design and academic motivation, with an estimate of 0.089, T-statistic of 2.945, and a p-value of 0.003, thereby supporting the hypothesis that emotional responses to language instruction influence the effectiveness of teaching design in motivating students. These results together highlight the salience of each construct in forming academic outcomes and empirically validate the proposed model.

Table 7: Path Analysis

	Original Sample (O)	Sample Mean (M)	Standard Deviation (STDEV)	T Statistics (|O/STDEV|)	P Values
Information based teaching design significantly influences the academic motivation.	0.152	0.150	0.043	3.526	0.000
Information based teaching design significantly influences the teacher preparedness to use standards-based teaching practices.	0.660	0.661	0.038	17.184	0.000
Teacher preparedness to use standards-based teaching practices significantly mediates the relationship of information-based teaching design and academic motivation.	0.206	0.206	0.033	6.184	0.000
Affective component of language attitude significantly moderates the relationship of information-based teaching design and academic motivation.	0.089	0.089	0.030	2.945	0.003

5. DISCUSSION

In education, research has continued to focus on long-term effects in teaching design concerning academic outcomes; however, pedagogical contexts involving instructional strategies, teacher preparedness, and student motivation have only been minimally explored (Gan et al., 2021). In this regard, the paper seeks to explore how information-based teaching designs, teacher preparedness, and language attitudes all impact academic motivation as a new framework for bettering these dynamics. The outcomes of this study serve as an extension to theoretical building as well as practice in the domain of education. Each hypothesis is empirically proved, and meaningful insights have been derived from it about how designs of teaching shape motivation (Li et al., 2023). At the same time, it has come into focus how teacher readiness along with emotional dispositions towards the language matter while maximizing the impact of teaching and instruction (Dasci Sonmez & Gokmenoglu, 2023). These results go beyond validating the model proposed and draw attention to a multifaceted nature of academic motivation, resulting in very fruitful implications for education stakeholders (Abdolrezapour et al., 2023).

Overall, the findings demonstrate an enormous and positive relationship that relates information-based designs in teaching and academic motivation and, by extension, support findings from previous literature indicating crucial roles of structure and engagement of teaching approaches as pointed out by (Sun, 2023). Based on the nature of outcome, information-based designs have worked well to produce motivation for academia in terms of clear communication, providing a sense for meeting developmental needs, as well as amplifying feelings about competence and mastery. This follows from Self-Determination Theory- that motivation happens more readily within a learning context when the space for learning feels supportive and meaningful (Urhahne & Wijnia, 2023). The information-based designs probably also accounted for the results because the use of interactive

and multimedia-enhanced teaching materials made them exciting to the students due to stimulation from multiple sensory modalities, which increased their deeper cognitive and emotional involvement. These results strengthen the need for the design of instruction frameworks that promote accessibility, relevance, and interactivity to motivate learners to participate actively and persevere in their learning activities (Pillai et al., 2024).

The second hypothesis acceptance revealed that information-rich designs for teaching are imperative for teachers to receive the necessary skills and confidence in leading standard-based practices with proficiency. Teachers who experienced work with clear, detailed, and accessible instructional designs were much better prepared than comparative studies based on the significance of robust teaching frameworks for professional development . In addition, the outcomes also reveal that such designs eradicate ambiguities within the alignment of classroom instruction towards curricular standards with its capacity to allow for quality and coherent instruction from educators. Lastly, professional learning communities and collaborative planning sessions added to this preparedness with knowledge sharing among the teaching staff and creating a shared responsibility atmosphere (Fundi et al., 2024). These findings call for a well-structured instructional resource for teachers and continuous training opportunities to make them effective in meeting pedagogical standards.

The findings thus validate that teacher preparedness is indeed an intervening factor between instruction-deployment-through-information-based teaching design and academic motivation. This finding thus indicates the same critical characteristic for teachers as well to make an instructional framework perform a meaningful learning experience-a factor that has long been documented in literature to establish that educators are indeed the connection between curricula intended and student performance (Rowan et al., 2024). The mediational effect found in this study shows that the best-designed instructional frameworks may never reach their full potential without adequate teachers to implement such programs. Teachers who reported higher levels of preparation scored higher in terms of efficacy concerning learner-centered environments, engaging lessons, and positive classroom climate (van Wyk & Waghid, 2023). These findings indicate the need to give significant importance to teacher training and professional development programs that would prepare teachers to obtain the appropriate tools and strategies to provide maximum motivational effect of instructional designs.

The moderating effect of the affective component of language attitude was also justified, indicating that the emotional responses evoked by students toward the instructional language are fundamental to the teaching design in an academic motivation context. This is consistent with previous research suggesting the need for emotional engagement in learning, especially in multilingual and multicultural educational settings (Wang & Hatoss, 2023). Students with positive attitude toward the language of instruction reported to gain more motivation level when exposed to information-based teaching designs, while students with negative attitude gain decreased levels of motivational responses. This underlines a crucial need to educate professionals to create or control students' emotional attachment with the language of instruction using culturally responsive teaching resources, friendly classroom practices, and facilitative learning climates. It underscores how the factor of academic motivation is complex by showing the role of cognitive, emotional, and social factors in crafting the involvement and performance of the learners (Jeno et al., 2023).

This discussion chapter elaborates on the findings, bringing together theoretical and empirical insights on the interplay among information-based teaching designs, teacher preparedness, academic motivation, and language attitudes. The acceptance of all four hypotheses is testimony that academic motivation is multifaceted and instructional frameworks and teacher readiness play a pivotal role in the success of students. Additionally, the moderating role of language attitudes underscores the importance of taking into account the emotional dimensions of learning in multilingual educational

settings. These findings not only advance our theoretical understanding of pedagogical dynamics but also offer actionable recommendations for educators, policymakers, and curriculum developers seeking to enhance teaching practices and student outcomes. In fact, the gaps filled in existing literature by a comprehensive framework give meaningful contribution to an ongoing discussion of effective teaching and learning within different contexts.

6. CONCLUSION

By pointing out the essential role of the design of teaching information in creating teacher preparedness and academic motivation, this paper brings together a mix of theory and practice about improvement of educational outcomes. Through the mediator effect of preparedness and moderator effect of affective language attitude on learning, this study emphasizes holistic pedagogical models that focus on cognitive, motivational, and emotional dimensions of teaching. These findings provide a strong foundation for advancing educational practices and policies, highlighting the need for professional development initiatives and emotionally supportive learning environments. The study also underscores the interconnectedness of teaching design, teacher readiness, and student motivation, offering a roadmap for future research to build on these relationships. While addressing the limitations of this research, new variables and contexts are opened to explore, making its findings more generalizable and applicable. Finally, this work adds to the ever-growing knowledge on effective teaching strategies, inspiring educators and policymakers to use evidence-based approaches to support both academic success and emotional well-being among learners.

7. IMPLICATIONS OF THE STUDY

It adds theoretically relevant contribution through further probing on the mechanisms with which information-based teaching design both shapes teacher preparedness and influences academic motivation. Founded in both educational and psychological theories, the work stresses the salience of the pedagogical framework to involve both cognitive and motivational components. In particular, the study enhances Self-Determination Theory as espoused by (Urhahne & Wijnia, 2023)since teaching designs based on well-structured information-based instruction increase students' intrinsic motivation but at the same time prepare teachers for standards-based instruction. The former outcome underlines the essential balance between teacher-centered and student-centered approaches and brings a much needed subtlety to understanding the manner in which teaching strategies impact the learning outcome. In this regard, this study introduces the affective component of language attitude as a pertinent moderator, filling the gap in extant literature that frequently tends to neglect emotional and attitudinal dimensions of learning environments. This theoretical integration creates an avenue for further research to be conducted on the scope of this model being applied widely to various educational settings.

Furthermore, the study enriches the existing body of knowledge by providing the illustration of the role of teacher preparedness in mediating the relationship that exists between teaching design and academic motivation. Earlier studies have considered these variables in isolation, but it integrates them into a single framework, thereby appreciating their interdependence. The holistic approach makes the theoretical discourse rich by validating the importance of teacher readiness as a critical link in translating innovative teaching designs into meaningful student outcomes. Most importantly, the moderating role of the affective component underlines the necessity of taking into consideration

emotional and attitudinal factors in the building of pedagogical models, as supported by contemporary theories of emotional intelligence and learner engagement. The theoretical impact not only envisages the development of more comprehensive frameworks but also inspires new interdisciplinary models in which motivation, pedagogy, and emotional engagement are interwoven with educational research. As one who is directly engaged in an actual teaching experience, this paper contributes actionable insights towards better teacher readiness and student engagement. The paper establishes the basis that information-driven approaches in teaching will result in increased successful outcomes in academically centered assessments. Improved academic performance outcomes from a school and educators' standards-based teaching ability would be obtained when teachers use standards-based designs from better-organized pedagogies. Training workshops and professional development programs should thus enhance their knowledge about various teaching design models but also increase teachers' confidence in using these designs. The impact that a well-prepared teacher has on student motivation also necessitates the need for consistent support mechanisms, like mentorship programs and collaborative teaching environments, to ensure that teachers are adequately prepared to deal with the demands of diverse classrooms.

This research underlines the necessity of affective and attitudinal aspects in schools. The results point out that an affective-friendly atmosphere can supplement the influence of informative design so as to enhance the motivation of students. Practical intervention, including the use of culturally appropriate materials, making use of inclusive language, and providing supportiveness of the atmosphere in the classroom, will work toward increasing the affective aspects of a student's attitude towards his or her language. Such curriculum changes accompanied by these emotional aspects must also be considered, keeping in mind teaching strategies addressing the cognitive and emotional needs. These findings are very relevant in multilingual or multicultural settings where attitudes toward language greatly influence the experience of learning. By being mindful of these factors, educators can create a more holistic learning environment that supports both academic success and emotional investment.

8. LIMITATIONS AND FUTURE RESEARCH DIRECTIONS

While many contributions emanated from this study, several areas should be furthered in future studies: no cross-sectional design; hence, only a causal relationship would be expected with regard to some of the associations between variables examined. A long-term, intensive longitudinal study would be helpful to determine how teacher preparedness and academic motivation vary over time following information-based teaching designs. Another limitation is that the study is specific about education; this may, by itself, limit the generalization of findings to diverse cultural or institutional settings. Future research could expand this model toward varied populations and educational systems in order to understand more accurately how these constructs might interact within other contexts. This. What is even more significant is that, although the study is focused on the affective aspect of language attitude, no probing was done on other dimensions, and these include cognitive and behavioral attitudes. Future studies, then, can include all these aspects, hence furnishing more holistic perspective regarding how language attitudes impact academic outcomes. Moreover, the study. (van der Steen et al., 2023) wasn't able to track if there were any parental involvement, socioeconomic status, or accessibility of technology on other external factors that might influence relationships being under examined. These variables might be crucial to include within future research for a better understanding of what factors shape teacher preparedness and student motivation. This model can further be tested through interdisciplinary approaches with real-world interventions to validate and refine its practical applications.

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APPENDIX 1

Affective component of language attitude

1. I feel proud when studying English language
2. I feel excited when I communicate in English with others.
3. Studying English subject makes me feel more confident
4. I don't get anxious when I have to communicate in English
5. I enjoy doing all the activities in English.
6. I can speak with confidently in front of people when using English
7. I am interested in studying English.
8. I am always excited when there are competitions that use English.
9. Studying English makes me have good emotions (feeling).
10. My curiosity about English is very high.

Academic motivation

Amotivation

1. Honestly, I don't know; I really feel that I am wasting my time in school.
2. I once had good reasons for going to school; however, now I wonder whether I should continue.
3. I can't see why I go to school and, frankly, I couldn't care less.
4. I don't know; I cant understand what I am doing in school.

External Regulation

1. Because I need at least a high-school degree in order to find a high-paying job later on.
2. In order to obtain a more prestigious job later on.
3. Because I want to have "the good life" later on.
4. In order to have a better salary later on.

Introjected Regulation

1. To prove to myself that I am capable of completing my high-school degree.
2. Because of the fact that when I succeed in school I feel important.
3. To show myself that I am an intelligent person.
4. Because I want to show myself that I can succeed in my studies.

Identified Regulation

1. Because this will help me make a better choice regarding my career orientation.
2. Because eventually it will enable me to enter the job market in a field that I like.
3. Because I think that a high-school education will help me better prepare for the career I have chosen.
4. Because I believe that my high school education will improve my competence as a worker.
5. Because I experience pleasure and satisfaction while learning new things.

Information-Based Teaching Design (Adapted for Students)

1. I can identify the key knowledge points that are effectively taught using micro lectures.
2. I can recognize which media types are best suited to my learning abilities based on different learning objectives.
3. I am able to select and use appropriate teaching resources based on various learning goals.
4. I am able to actively engage with the different stages of the teaching process and apply available technological tools effectively in my learning.

Teacher Preparedness to Use Standards-Based Teaching Practices (Adapted for Students)

1. My teachers take into account my prior knowledge and understanding when planning lessons and curriculum.
2. My instructors help me develop a deeper conceptual understanding of the subject matter.
3. My teachers focus on thoroughly covering a smaller number of key concepts rather than trying to address too many.
4. My teachers make connections between the subject I'm learning and other fields of study.
5. I feel my teachers are skilled at managing the class, especially when we are involved in hands-on or project-based activities.
6. I regularly work in cooperative learning groups where we collaborate on assignments and projects.
7. My teachers listen to or ask questions while we work to assess our understanding and help guide our learning.
8. My teachers use textbooks as a reference, but do not rely on them as the only source of instruction.
9. I experience lessons that accommodate different levels of ability within the class, ensuring all students are challenged appropriately.