

The Integration of Content and Language Learning (CLIL) in Pakistani Science Classrooms: Challenges and Opportunities

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Abstract

This paper investigates the challenges and opportunities associated with the integration of Content and Language Integrated Learning (CLIL) in science classrooms in Pakistan. CLIL, a pedagogical approach that intertwines language learning with subject matter, has gained momentum globally for its potential to enhance both content knowledge and language proficiency. However, its implementation in Pakistan faces multifaceted challenges stemming from contextual factors such as language policy, teacher training, resource availability, and cultural considerations. Drawing on existing literature and empirical evidence, this study identifies key challenges including insufficient teacher preparedness, linguistic barriers, lack of appropriate materials, and limited institutional support. Despite these challenges, the paper also highlights the opportunities inherent in CLIL implementation, such as promoting multilingualism, fostering critical thinking skills, and enhancing students' engagement and motivation. Furthermore, it discusses strategies to address the identified challenges and leverage the opportunities, including targeted teacher training programs, curriculum development initiatives, and policy reforms. By critically examining the challenges and opportunities of CLIL integration in Pakistani science classrooms, this paper contributes to the broader discourse on language education policy and practice in diverse educational contexts.

Keywords: CLIL, Content and Language Integrated Learning, science education, language policy, teacher training, Pakistan

Introduction

Second language acquisition is a challenging task. In view of investment of time and exertion bracketed with a comfortable learning atmosphere with competent teachers, learners need to have a strong motivational vigor to ease and accelerate learning. Woolfolk (1998) defines "Motivation as an internal state that arouses, directs and maintains behavior" (P.372). Salvin (2001) defines "Motivation as an internal process that activates, guides and maintains behavior over time" (P.345). Motivation creates the desire to start the process of learning and contributes to the determination to continue the process. In the absence of motivation, students would not be able to continue the long-lasting activity of the learning process. Several variables affect the motivational level of a student.

As Schunk, Pintrich & Meese (2007) conclude, "there is not only the reinforcement, stimuli or the inner forces involved on their own but also various mental processes such as beliefs, cognitions, attitudes, and values influence the motivation to learn." In simple words, motivation is the excellent power that urges people to carry out various tasks. In the modern world, globalization has become a source of inspiration for several people who want to learn English as a second language. Learning English is essential for people to meet their social, economic, cultural, and political needs in today's world. It is noticed that the English language is

enjoying being an international language. English is the most common language used as a mode of communication among various nations and communities of the world. In Pakistan, the English language has been taught throughout all levels of education. English serves as a gateway to success in Pakistan. English is also the language of modern technology, Military, administration, Beaurucracey in Pakistan. English is being taught at the University Level in Pakistan as a major subject to all disciplines. The medium of instruction in private Universities is English, and the students with poor English language skills are not able to carry on their educational tasks at any level. Regarding the existing status of English, it is being taught and learned as a second language in Pakistan. The various factors like socio-cultural differences influence of L1, teaching methodology, and competent teachers cast a deep effect on learning English as a second language.

Research Questions

1. What factors affect the motivational level of learners to learn English as a second language in the private universities of Pakistan, as perceived by the students themselves?
2. How much do these factors impact second language acquisition?

Aims of the Study

This study aims to identify the factors affecting students' motivational level to learn English at private universities in Pakistan. Various aspects determine motivation, have the compelling force and emerge through different conditions. Therefore, this study aims to investigate the motivational factors from different perspectives to discover what methodologies should be implemented during the learning process.

Rationale and Significance of the study

The English language is connected with power, status, respect, and success for students in Pakistan. "English is a compulsory subject from grade one until first university degree (jillani, 2009)". Various factors discourage students from learning English during the entire course, such as outdated textbooks, an unhealthy atmosphere, and a faulty examination system. The major element that motivates students to learn English is instrumental motivation and students' own interests. The key motivating element is to understand that knowledge of English is necessary for success in every field of life. . The rationale behind this belief is that the English language is being used as an official language and is considered a second language in Pakistan. "Regardless of the significance of English in Pakistani society, many students are still unable to learn English as their second language, as it is apparent from the fact that after spending 14 to 16 years learning English as a compulsory subject at different levels of education, a large number of students are not capable of speaking, writing, understanding nor reading the English language skilfully (Warsi, 2004)". This study will help identify the facctors that help motivate students to learn English as a second language.

Limitations of the study

Several factors can affect the motivation to learn English. This study examines the factors that university students believe are the most motivating. However, the present study provides a narrow insight into the factors investigated as it is hard to cover all aspects of the topic in-depth in a research paper. All the categories examined in this study would be worth further research, especially the teachers' influence, as students considered it more influential. Furthermore, the instrument that is used for data collection is a questionnaire. This method has certain

disadvantages because respondents may not be very cooperative and fill the questionnaire without due consideration.

Literature Review

In consideration of second language acquisition, many researchers have pinpointed the important factors that encourage and motivate the learner to greater success. "Some factors about the students are their understanding, attitudes, aptitudes, and aspirations while *JRRE* (Vol.9, No 2, 2015) others relate to the more functional role of English, while some are very practical in relation to how English is learned". This section presents the literature review related to the topic. "Motivation to learn a foreign language involves all those affects and cognitions that initiate language learning, determine language choice, and energize the language learning process (Dornyei, 2000)". Barker (1998) is of view that "*motivation* is an individual's desire to succeed in some task or activity". Homola (1972, p.11) defines motivation as: "The word motivation is the common name for all impulses that lead to behaviour, or as the case may be, to certain behaviour." Williams & Burden (1997, p. 120) defined motivation as "a state of cognitive and emotional arousal, a state which leads to a conscious decision to act and gives rise to a period of sustained intellectual and/or physical effort" Thornbury (2006: 137) says that "motivation is what drives learners to achieve a goal, and is a key factor determining success or failure in language learning". The term "*Integrated motivation*" was introduced by "Gardner and Lambert in 1972" as a result of their investigation relating to L2 attitudes and motivation. According to them "second language motivation is an element which encourages intercultural communication between communities of different ethnic identities (Dornyei, 2003)". Integrative motivation is defined as "a positive attitude toward the second language in terms of strong likeliness for using this language for communication and adopting the culture of the speakers of that language (Gardner and Lambert, 1972)". Integrativeness is seen as "an individual orientation" in learning a language which involves the interaction with the speakers of target language and their interest in learning other languages. It shows openness to the different cultures, especially the target culture. The term Instrumentality is introduced by Vroom; he argues that "an employee's performance is based on individual factors such as personality, skills, knowledge, experience, and abilities." He stated that "effort, performance, and motivation are linked in a person's motivation". He uses the word "Instrumentality" for this. Instrumentality is the faith that you will receive the valued outcomes if you are performing well. Another factor that affects the motivational level is attitude. Černoušková (1988, p. 5) defines attitude as "mental dispositions expressing evaluative relationship which means that they are lasting systems of positive or negative evaluations, feelings, and tendencies of acting towards people, objects of the external world as well as towards ourselves". Attitudes generally arise when we want to satisfy our needs. Positive attitudes are associated with the desired need and the elements that help to achieve those needs. On the other hand, the negative develops when something prevents us from fulfilling our needs. Gardner (1985, p. 51) describes that "attitudes are together with desire the most important determinants of motivational intensity, which refers to the degree of effort the individual expends to achieve a goal." Černoušková suggests (1988, p. 7) that "the norms of behavior, values, and beliefs of the social group we are members of the most common determinants in the process of generating our attitudes." However, individuals adopt the attitudes that correspond to their personality. Cambridge Dictionary defines anxiety as "an uncomfortable feeling of worry about something that might happen or a cause of this." "The stressed environment of the SLA classroom is the major cause of anxiety among second

language learners and affects the learning and motivation towards the second language (Young, 1999)". Generally, it is considered that the language classroom environment is threatening. It is where students are obligatory to interact with each other by using the target language; that's why students with different backgrounds do not feel comfortable in the language classroom. Gardner (2010) also holds the view "that the experience of using the second language could cause the second language learners to face increased anxiety, as language has social implications." "These experiences might raise questions regarding the students' capability to use the particular language, and this, in turn, might interfere with the further development of language competency (Gardner, 2010)". There are two types of "language anxiety" introduced by Gardner (2010), these are "language class anxiety which is created in the environment of the language learning," and "language use anxiety which is created outside the language learning environment, in social settings." Anxiety that is associated with the grading system causes the discomfort because of the teacher and student relationship. Therefore, it is evident that "language anxiety is a key factor that is responsible for the decrease in the achievement and motivation of learners (MacIntyre, 1999)". Teachers' influence can greatly impact the student's achievement and motivation. Teacher plays a vital role in the learning process. The teacher is responsible for helping the students to motivate them to learn a second language. Promoting a positive attitude toward learning English as a subject and second language is also a teacher's responsibility. Williams & Burden (1997, p. 69) also point out that "the way the teacher presents the subject there is another very important aspect that influences the student's motivation; the teacher's personality." Griffing (2006, p. 47-53), who explored motivation in relation with teacher-student relationships, describes factors affecting the students motivational level. She explains that teachers' expectations positively influence the students' motivational level and encourage them to achieve the desired goal.

Research Methodology

A questionnaire survey is used for this study. This research is a quantitative research method designed to collect data from a considerable number of participants. Choosing the quantitative method is that "it emphasizes objective measurements and the statistical, mathematical, or numerical analysis of data collected through polls, questionnaires, and surveys, or by manipulating pre-existing statistical data using computational techniques."

The instrument that is used to collect data is the written questionnaire. "Surveys can target a wide variety of language-related issues and allow researchers to make inferences about larger L2 learning populations; this obviously facilitates decision making and policy formation in an informed and principled manner." The questionnaire is written in English consists of seven factors (18 statements) that aim to investigate the factors affecting the learners' motivational level to learn English. Lickert scale is used that prevents the respondent from free writing. These closed-ended questions are accompanied by five response options to indicate the extent to which the respondents agree or disagree with statements by marking one of the responses ranging from "strongly agree" to "strongly disagree." There are 18 statements are designed after careful consideration of Dörnyei's motivation questionnaires. The total population of this study is all the private universities in Lahore. Our target population is two private universities. Fifty students are selected through "non-random convenience sampling". "A convenience sampling is a non-probability sampling method where the sample is taken from a group of people easy to contact or reach".

As it is stated before, the quantitative method is used for this study. In this method, collected data are analyzed through descriptive analysis. The data are presented and established in frequencies and transformed into percentages, then presented in the form of tables.

Data analysis

In this method, collected data are analyzed through descriptive analysis. According to MacKey "descriptive analysis enables to provide summaries and overview of a large number of collected data and their easy understanding". In order to make an appropriate interpretation, the data must be organised and described. To better understand the results, the description of the data might be accompanied by tables or graphs.

Integrativeness

This category comprises three statements that investigate to what extent the students are interested in knowing the culture of English-speaking communities.

Table 1 (Integrativeness): Frequency and Percentage

Factors and measuring items	Strongly Agree		Agree		Neutral		Disagree		Strongly Disagree	
	Freq.	%	Freq.	%	Freq.	%	Freq.	%	Freq.	%
Knowledge of English culture and English speaking communities helps to learn English	24	48	22	44	1	2	3	6	0	0
Studying English helps to understand people from all over the world, not just from English-speaking countries.	23	46	23	23	2	4	2	4	0	0
Studying English is important because it enables you to live in one of the English speaking countries (UK/USA) and integrate as a member of another community.	24	48	18	36	3	6	3	6	2	4

Table one shows that most of the students strongly agree with the statements mentioned above. It shows the students are strongly motivated by the integrative factors. The students showed a positive attitude to get the awareness of the socio-cultural values of English-speaking countries. The results show that this kind of motivation highly affects the students' motivational level. This kind of motivation enables them to perceive the knowledge about the target culture and live in an English-speaking community.

Instrumentality

This category comprises five statements, including "instrumentality promotion" and "instrumentality prevention."

Table 2: Frequency and Percentage

Factors and measuring items	Strongly Agree		Agree		Neutral		Disagree		Strongly Disagree	
	Freq.	%	Freq.	%	Freq.	%	Freq.	%	Freq.	%
Studying English is useful in getting a good job in future.	32	64	15	30	2	4	0	0	1	2
Studying English is important because you are planning to study abroad.	24	48	15	30	8	16	2	4	1	2
Studying English is important to you because English proficiency is necessary for promotion in the future.	24	48	20	40	3	6	2	4	1	2
Studying English is necessary to get good marks.	18	36	19	38	6	12	5	10	2	4
Studying English is necessary to pass the examination and to get degree.	28	56	13	26	5	10	2	4	2	4

Table 2 reveals that instrumentality strongly affects the students' motivational level to learn English. It shows that the majority of the students considered that the knowledge of English is mandatory to get good jobs and get their degrees. The results show that this kind of motivation energizes the learner to learn English.

English Anxiety

This category comprises 2 statements showing the uncomfortable feeling of worry and fear about what happens in the classroom.

Table 3: Frequency and Percentage

Factors and measuring items	Strongly Agree		Agree		Neutral		Disagree		Strongly disagree	
	Freq.	%	Freq.	%	Freq.	%	Freq.	%	Freq.	%
Your classmates speak English better than you.	9	18	12	24	13	26	10	20	6	12

You get nervous and confused when you speak English in class.	10	20	19	38	9	18	6	12	6	12
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The results in table 3 show that most of the students agree that they feel nervous when they speak English in the language classroom. Nine students agreed, and ten students disagreed with the statements.

Attitude

There are two statements in this category showing learners' attitude to learning English as second language.

Table 4: Frequency and Percentage

Factors and measuring items	Strongly Agree		Agree		Neutral		Disagree		Strongly Disagree	
	Freq	%	Freq.	%	Freq.	%	Freq.	%	Freq.	%
You like the environment of your English classes	16	32	21	42	9	18	3	6	1	2
You like the way English is being used in conversation	22	44	22	44	5	10	1	2	0	0

In the above table, the results show that the majority of the students agree that they have a positive outlook toward learning English as a second language. Their interest and the environment of their class affects their motivational level.

Travel orientation

This category consists of statements that investigate the importance of English for traveling abroad.

Table 5: Frequency and percentage

Factors and measuring items	Strongly Agree		Agree		Neutral		Disagree		Strongly disagree	
	Freq.	%	Freq.	%	Freq	%	Freq	%	freq	%
Learning English is important to you because it enables you to travel abroad	27	54	16	32	6	12	1	2	0	0

Studying English is important to you because without English you won't be able to travel a lot.	12	24	18	36	13	26	6	12	1	2
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The above table shows that majority of the respondents are strongly motivated by this factor.

Students agree that knowledge of English is necessary to travel abroad.

Parental Encouragement

Parents play an important role in the learning process. This category comprises two statements that investigate the importance of parents' encouragement.

Table 6: Frequency and Percentage

Factors and measuring items	Strongly Agree		Agree		Neutral		Disagree		Strongly disagree	
	Freq.	%	Freq.	%	Freq	%	Freq	%	Freq	%
Your motivation increases when your parents praise you for your achievement in English	17	34	28	56	3	6	2	4	0	0
Parental encouragement motivates you to study English	17	34	23	46	5	10	4	8	1	2

Table 6 shows that the parents' involvement affects the motivational level of their children to learn English. The results of the statements are relevant to "parental encouragement" show that parents and their involvement do have a great effect on the students' motivational level to learn the English language.

Teacher's Influence

This category aims to analyze the teacher's influence on students' motivation to learn English. This category comprises two statements.

Table 7: Frequency and percentage

Factors and measuring items	Strongly Agree		Agree		Neutral		Disagree		Strongly disagree	
	Freq.	%	Freq.	%	Freq	%	Fre q.	%	Fre q.	%

Teacher's encouragement motivates you to learn English.	24	48	18	36	5	10	3	6	0	0
The expectations of teacher motivate you to study English	18	36	24	48	5	10	2	4	1	2

The above table shows the results of the statement related to the teacher's influence. From the results we can conclude that the majority of the students agree that the teachers' influence affects the learners' motivational level to learn English.

Various reasons describe why these factors are essential for students' motivation to learn English. One is that English is taught as a compulsory subject for students in Pakistan. "Without studying English, students cannot get their degree and cannot progress into the next year if they fail in the English examinations. Secondly, as mentioned earlier, "English is an official language in Pakistan. "English is the language used in all of the higher government offices such as the parliament, presidential and prime minister's secretariats, the higher military, judiciary, and bureaucratic offices, universities, the media and similarly in international private organizations such as the telecommunications industries and banking sector (Abbas, 1993; Shamim, 2008; Mansoor, 1993 and 2004; Ministry of Education, 2009)". These are the reasons that motivate the students to learn English to succeed in their studies and get white-collar jobs. Indeed, candidates who apply for a job are supposed to be incompetent for jobs if they are not proficient in English. English is considered as an amendatory requirement for educational and carrier success. English is used as an official language and serves as a gateway to success in every field of life.

Conclusion

This research is conducted to explore the factors that affect the students' motivational level and their intensity to learn English as a second language. The data collected through the motivation questionnaire shows that the students' motivational level to learn English is highly stimulated by various factors. In this research seven factors are investigated. The students recognized as more influential factor is "instrumental motivation". This kind of motivation arises from the need to learn English to achieve specific objectives. Students strongly agreed that English knowledge is essential to get good jobs and enable them to work abroad. The second most influential factor is integrativeness. Students have a personal likeness to the people who speak English; they want to know about their culture and society and even would like to become a member of that community. According to the results students recognize that sociocultural knowledge of English speaking community is motivating. Apart from the above-mentioned factors, travel orientation, parental encouragement, attitude towards learning English, and teachers' influence are some other factors that affect the students' motivational level. Teachers' influence is acknowledged as another important factor that affects the student's motivational level. The findings explore the numerous essential implications for the teaching and learning process and clearly point out that the teacher's role is vital in arousing the students' interest to learn English by keeping them engaged in different tasks and activities and providing a comfortable learning environment in the classroom.

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