Perceptions and reactions of Indian student teachers engaged in a CLIL Teacher Training Mobility Programme in Italy

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Abstract

This article presents the main findings of a teacher training mobility program on Content and Language Integrated Learning (CLIL) conducted as part of the EDUREFORM Erasmus project. The project, led by a consortium of Indian and European partners, aims to promote innovation and critical thinking skills in the Indian school and university curricula. As one of the project's outputs, Indian student teachers attending a professional graduate programme in teacher education participated in a training programme hosted by Italian schools. The programme focused on CLIL and its main pillars, particularly the Cognitive Discourse Functions construct and thinking skills.

The article examines the reflections and thoughts of Indian students regarding their observation and micro-teaching experiences in Italian schools. Their reactions indicate a highly positive attitude towards CLIL, suggesting that it could provide added value to Indian educational institutions. CLIL facilitates interaction, encourages questioning, and utilizes a variety of interactive methodologies, such as debates, which can enhance deep content learning, especially when combined with learning technologies. Furthermore, CLIL is seen as a catalyst for multilingual and intercultural pedagogies, particularly in today's increasingly multiethnic and multicultural classrooms.

The study also reveals that CLIL lessons are perceived as effective tools for fostering critical thinking skills, with numerous Cognitive Discourse Functions being highlighted and identified. Indian students advocate for the integration of CLIL across the Indian school and university curricula, drawing inspiration from the remarkable success of CLIL in Europe.

KEYWORDS: CLIL, Thinking Skills, Cognitive Discourse Functions, Multilingual and Intercultural Pedagogies.

1. Introduction

This article focuses on a training mobility programme undertaken by four Indian student teachers enrolled in a professional graduate programme in teacher education. The mobility programme was organized and planned by the author of this article and hosted by Italian schools as part of the EDUREFORM project. The student teachers received scholarships from one of the universities that is a consortium member of the European project.

The EDUREFORM project, titled "Mitigate the Impact of the Fourth Industrial Revolution on Indian Society: Education Reform for Future and In-Service School Teachers", is co-funded by the European Commission. Its objective is to promote creative, critical, and analytical thinking in classrooms through pre-service and in-service teacher training. The ultimate aim of EDUREFORM is to raise awareness and empower future and in-service secondary school teachers in India to mitigate the anticipated societal impact of the Fourth Industrial Revolution.

The project has short-term and long-term objectives. The short-term objectives include empowering future and in-service teachers, creating conditions to mitigate the negative impact of the Fourth Industrial Revolution on the Indian labor force, and piloting activities in Indian secondary schools to enhance students'

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analytical, critical, and creative skills. The long-term objectives involve mitigating the impact of the Fourth Industrial Revolution on the Indian labor market by promoting critical and analytical skills among secondary school students, incorporating teaching practices that foster critical, creative, and analytical thinking among Indian secondary school students, and establishing new Indian-European joint initiatives while following up on EDUREFORM's capacity building actions.

The EDUREFORM consortium consists of 11 partners from Europe and India, including Chitkara University, the consortium leader, Shivaji University, The Maharaja Sayajirao University of Baroda, Chitkara International School, CXS Solutions Indian Private Limited, University of Latvia, JAMK University of Applied Sciences, University of Hamburg, IUL Telematic University in Italy, Liceo Artistico, Musicale e Coreutico, and Savitribai Phule Pune University.

Within this project, one of the outcomes involved a training mobility programme where Indian students attending a professional graduate programme in teacher education were hosted by Italian schools. During this programme, the student teachers observed CLIL (Content and Language Integrated Learning) lessons in Italy and engaged in micro-teaching activities using the CLIL methodology. CLIL is an innovative and interdisciplinary technique aimed at fostering critical thinking skills, creativity, and intercultural dialogue.

This article will provide an overview of CLIL's main conceptual frameworks and highlight the reactions and comments of the Indian students regarding their observations of CLIL lessons and their own CLIL micro-teaching activities during the mobility program in Italy. These discussions align with the main goals of the EDUREFORM project.

2. Methodology

The study aimed to address the following research questions:

1. What are the Indian student teachers' perceptions and impressions of CLIL lessons in Italian schools?
2. What are their ideas about the features, potential and impact of the CLIL methodology?
3. From the perspective of Indian student teachers, can the CLIL methodology contribute to the development of students' critical thinking skills?

A qualitative methodology was employed for this research, utilizing interviews, and learning journals as data collection instruments. The Indian students were instructed to maintain updated learning journals, essentially serving as their daily diaries. These journals provided a platform for the students to record their observations, reflections, and insights. The qualitative data obtained from the interviews and learning journals were analyzed using the Framework Analysis approach (Ritchie & Lewis, 2003). This methodology is well-suited for conducting thematic analysis of textual data, enabling the identification and organization of data into meaningful themes and categories.

The primary focus of the analysis was to explore the Indian students' perceptions and ideas concerning the potential of CLIL and its role in developing students' critical thinking skills, fostering creativity, and promoting intercultural dialogue.

3. Overview on CLIL

CLIL methodology (Coyle et al., 2010; Mehisto et al., 2008; Graziano et al., 2021) is a dynamic and dually focused pedagogy that integrates language and context to facilitate the creation and negotiation of subject knowledge and content. Unlike mere conversations in a foreign language, CLIL emphasizes collaborative group work aimed at carrying out authentic tasks (Task-Based Learning) (Willis & Willis, 2007; Nunan, 2004) or projects (Project-Based Learning) (Thomas, 2000; Cinganotto, 2021a) as tangible and visible outcomes of the learning process.

CLIL has received significant international encouragement (Council of Europe, 2019) as an effective strategy for increasing exposure to the target language while simultaneously conveying subject content. It serves as an excellent means to promote multilingualism, particularly because different vehicular languages can be used within CLIL instruction.

One of the most popular CLIL conceptual frameworks is the 4Cs framework (Coyle, 2005):

- Content: This refers to the subject matter that is involved and conveyed through CLIL instruction.
- Communication: It encompasses the verbal, non-verbal, and multimodal interactions among students and between students and teachers within the CLIL context.
- Culture: This aspect focuses on the cultural background and context that influences and shapes CLIL interactions.
- Cognition: It emphasizes the development of critical thinking skills in students through the assignments and tasks they engage in within the CLIL framework.

Regarding the last "C", the cognitive dimension is concerned, it is important to underline the connection between thinking skills and the verbal expressions of intentions and functions, as highlighted by Dalton-Puffer (2007; 2013) in the Cognitive Discourse Functions (CDFs) conceptual framework, summarized in the Table 1.

CDFs allow teachers to effectively plan and guide students to actively engage with subject content through various approaches. These functions activate thinking skills and are primarily expressed through verbs, requiring specific language resources for their execution (Morton, 2020). Verbs such as "classify", "define", and "describe" express different communicative intentions and functions, as depicted in Table 1.

By assigning students authentic CLIL tasks in STEM subjects or humanities, their critical thinking skills are stimulated. This dimension plays a pivotal role in the EDUREFORM project, which aims to incorporate tools for developing critical thinking skills across the curriculum.

Type	Communication intention	Label
1	I tell you how we can cut up the world according to certain ideas	CLASSIFY
2	I tell you about the extension of this object of specialist knowledge	DEFINE
3	I tell you details of what can be seen (also metaphorically)	DESCRIBE
4	I tell you what my position is vis a vis X	EVALUATE
5	I give you reasons for and tell you causes of X	EXPLAIN
6	I tell you something that is potential	EXPLORE
7	I tell you about something that is external to our immediate context on which I have a legitimate knowledge claim	REPORT

Table 1 - Cognitive Discourse Functions (Dalton-Puffer, 2013, p. 234).

The implementation of CLIL in Italy (Cinganotto, 2016) has gained recognition as a notable best practice in Europe, as acknowledged by the "Council Recommendation on the comprehensive approach to the teaching and learning of languages" (Council of Europe, 2019). CLIL was formally introduced by law (DPR 88-89 dated 2010) in all upper secondary schools. Furthermore, recent developments have expanded the adoption of CLIL to lower secondary schools, primary schools, and even pre-primary schools (Ministerial Decree dated 2022).

During the pandemic, a study conducted by Cinganotto et al. (2022) in collaboration with the European Commission and the Italian Ministry of Education and Merit revealed that Italian teachers persisted in teaching CLIL despite the challenges posed by emergency remote teaching. In fact, the extensive utilization of platforms, web tools, and digital resources enabled teachers to design and implement highly creative, dynamic, and successful CLIL approaches.

4. Language diversity and CLIL in India

India has a population of approximately 1.3 billion people and stands as a unique example of ethnic, socio-cultural, and religious diversity, alongside its rich linguistic variety. Hindi and English are the two most widely spoken languages in the country, both recognized as co-official languages: Hindi holds greater prevalence, especially in rural areas, while English is common in urban settings, higher-level business, universities, and government contexts. Proficiency in English is perceived as a significant political and economic advantage, often limited to the middle and upper classes who can afford private schools where English is properly taught. India is renowned for its "melting pot" of regional languages, with the 2011 Census Report indicating the presence of 121 languages and 270 home languages spoken throughout the nation. All these languages are viewed as crucial for preserving cultural and social identities. Consequently, while there is a strong need to foster multilingualism in India, English has become a vital lingua franca in the globalized world. However, instruction in English is sometimes considered elitist, leading to discrepancies where children in urban areas receive extensive English education alongside their regional languages and mother tongues, while children in rural areas have limited exposure to English, reducing their opportunities for higher education and employment. The absence of a common school system, a high number of private schools, and disparities in resources contribute to a situation where only a limited number of students attend elite schools with an English-only model of instruction.

In 2014, the National Council of Education, Research and Training (NCERT) proposed that all states in India define class-wise learning indicators and implement a common curricular expectation. The recommendation was for English class activities to be based on English textbooks, encouraging a teaching-learning process that allows children to use their first language when necessary. The aim was to eliminate regional disparities and enable teachers to plan their pedagogic process accordingly.

The National Education Policy of 2019 designed an India-centered education system aimed at building an equitable knowledge society by providing high-quality education for all. According to the "three-language formula" (Hindi, English, the regional language), children should be exposed to three languages from preschool. The formula allows flexibility, enabling students to change one or more of the three languages in Grade 6 or Grade 7. Additionally, Sanskrit and other classical languages and literatures, such as Tamil,

Telugu, Kannada, Malayalam, Odia, Pali, Persian, and Prakrit, would also be offered at various levels of school and higher education.

English serves as the primary lingua franca in India, functioning as a means of communication and exchange among different states. Therefore, a dual model of instruction across all schools (both private and government) with a common curriculum could serve as a potential solution to ensure an inclusive pedagogic process. This approach could transform English into a tool for multilingualism, making the implementation of CLIL methodology more feasible. Presently, CLIL settings can be identified in Indian schools where the medium of instruction is English and immersion programmes are embraced, though CLIL is still in its early stages in India.

One of the Indian students' comments emphasizes the importance of considering the issues related to the Indian linguistic diversity while adopting CLIL pedagogy:

"To express the Indian perspective about CLIL pedagogy, considering this diversity in every term is crucial. Reason being, it is a baggage each learner carries, forming the learning process as an outcome of this diversification. Further, the considerable aspect about the structure of Indian education system, where the instructional medium is segregated".

The awareness of Indian linguistic diversity and the concept of a "melting pot" is evident in the comment, highlighting the close link between the learning process and diversification.

Some studies (Vency & Ramganesh, 2013) have demonstrated the potential and added value of CLIL in the Indian curricula, as it can facilitate and enhance students' learning outcomes. Given the success of CLIL in Europe, its implementation in the Indian school curricula would be beneficial.

Before the EDUREFORM project, another highly successful Erasmus project on CLIL was funded and implemented: the "CLIL@India" project (https://www.clilatindia.in/), completed in 2019. The consortium consisted of seven Indian and European universities engaged in developing a new model of bilingual education by introducing CLIL as an innovative pedagogical practice within the Indian education system to preserve the nation's multilingualism, serving as a supplement to the "three-language formula". The partnership with Università Degli Studi di Milano, Universidad de Castilla-La Mancha and Latvijas Universitāte, brought in the best of Content and Language Integrated Learning approach from Europe, facilitating the exchange and sharing of ideas and best practices between European and Indian academicians, resulting in the creation of innovative

professional profiles with in-depth skills in CLIL both in the academia and society.

Pilot projects were conducted in Indian schools with the aim of transferring and adapting CLIL methodology to the Indian context. In schools where the medium of instruction is the regional language, English was taught through the CLIL approach, while in schools where English is the medium of instruction, the regional language was targeted using CLIL.

5. The Indian student teachers' profile

The Indian students who participated in the CLIL mobility programme were from various Indian cities and universities, all of which were consortium members of the EDUREFORM project. The selection criteria for the programme, designed by the author and organized by IUL Telematic University, were as follows:

- Graduated students in STEM subjects or humanities.
- Graduated students enrolled in a professional graduate programme in teacher education.
- Graduated students with a basic knowledge of CLIL methodology.
- Availability to agree to and follow the CLIL plan designed by IUL Telematic University, represented by the author.
- Availability to attend an online course on CLIL delivered by the author prior to the mobility.

The CLIL plan included a toolkit of learning materials for self-study, grids for lesson observation, tools for lesson planning, and guidelines for the learning journal.

During the online meetings and the pre-mobility online course, the students displayed great enthusiasm and a high level of motivation to enhance their understanding of CLIL and improve their teaching skills, capitalizing on the opportunities provided by this international project.

6. CLIL lesson observation: primary and lower secondary school

The EDUREFORM training mobility plan to Italy included visits to various schools, including a primary school and a lower secondary school, to observe and learn about CLIL implementation. The schools visited were located in Latina, Italy, and included IC "Da Vinci-Rodari" and IC "Frezzotti-Corradini" (comprehensive schools), Liceo Classico "Dante Alighieri", and "Istituto San Benedetto" (a vocational school and boarding school), where the teachers were hosted.

The visit to the "Da Vinci-Rodari" primary school was a memorable day for the students, as their comments illustrate:

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"This was a special day for us as today we visited a primary school where children aged 3 to 10 were present. They were very welcoming and interacted with us. Some of them were very shy and teachers helped translate things. They were very comfortable with the teachers and followed the instructions very well. I went through the books and notebooks of all the classes and noticed that there was a huge difference from the Indian books, and they were almost one year ahead of the Indian curriculum. After going through a lot of books I also noticed that the way of teaching and framing the books was also very different from the Indian books and in some ways, better than the Indian books. Italian teachers used a lot of tools to teach students about different concepts and student enjoyed studying with tools".

The comparison between Italian and Indian primary schools is quite intriguing: Italian methods appear to be more active, interactive, and playful, according to the students. They also observed that the Italian curriculum is one year ahead of the Indian curriculum, as reflected in the following comments:

"The school was based on learning by doing. For the pre-primary level, teaching was done through stories and play. Small children were able to understand English. From the age of three they start teaching students about colors, numbers, family, festivals with loads of creativity".

"The walls of the school were filled with informative art. And it was done by the students. These are drawings of families drawn by the students".

"Students were given such printed materials to practice writing. And such activities are used for learning to make it interesting. And we went to the class where a beat dance on mathematical activity was also done by the students. This was a wonderful activity which for sure engages students' psychomotor domain".

The Indian students were impressed by the students' command of English at such a young age. They also appreciated the practical, hands-on approach and the extensive use of tools and visual materials, which were well-aligned with the children's cognitive development.

At IC "Frezzotti-Corradini", a lower secondary school, the Indian students were pleasantly surprised by a debating activity organized between two classes on the topic of "e-books vs. printed books". One of the comments highlighted the following:

"Two classes were performing, and one was evaluating them. And other classes from the schools were also observing them and listening to them. These students were brilliant and this activity of arranging the debate at this age is a very thoughtful experience. Where the students would learn at an early age about public speaking and their presentation skills will surely get developed. And the debate teacher was hosting the debate and other teachers were observing".

Debate, as a teaching and learning tool for CLIL (Cinganotto, 2019; 2021b), was also a topic covered in one of the modules of the EDUREFORM MOOC (https://www.edureform.eu/mooc/) produced by IUL University. The Indian partners were fascinated by the potential of debate for language learning and CLIL, as it can enhance communication skills, public speaking skills, creativity, and critical thinking, aligning with the main goals of the EDUREFORM project.

The Indian teachers also appreciated the "DADA" organization and setting implemented in the lower secondary school. Each subject had its own laboratory, and students rotated from one classroom to another, as one comment highlighted:

"Environment was conducive to a more functional teaching approach for the subjects being studied. Here they shared their experience of using a locker in school, where students carried the lesson material for two hours and after that they went to the locker to get the material for the next class. By doing so students didn't get bored by sitting in place and their productivity improved. Also, it helped them to develop organizational skills at an early age".

7. CLIL lesson observation: upper secondary school

The Indian student teachers primarily spent their time observing lessons at two upper secondary schools: the Istituto "San Benedetto" and the Liceo Classico "Dante Alighieri" with an IGCSE (International General Certificate of Secondary Education) curriculum, where they had the opportunity to observe IGCSE lessons in Math, Chemistry, and Latin, all taught in English by native speakers.

Here are some of the comments and observations collected from their learning journeys and interviews:

"The next class we attended was Mathematics in English, and we were able to understand everything. The class had a student-centered approach with a friendly atmosphere. The topic for the class was linear equations, and students

were asked to expand and simplify given questions. Some aspects of binomial and polynomial equations were also covered by involving the students. For evaluation, the teacher had the learners solve questions from the Cambridge question paper. I appreciate this method because Mathematics is a practical subject that requires practice."

The Indian teachers noted the practical and interactive approach used in STEM subjects. They also observed strategies for developing thinking skills, as evident from the statement "students were asked to expand and simplify given questions".

Similarities were found between the Indian Chemistry lesson and the Italian one:

"The first class of the day was Chemistry in English, where the teacher taught about elements of the periodic table. The class was interactive, with students actively participating by drawing the structure of the elements. This class was similar to the Indian approach, as it involved discussions on the properties, uses, and functions of the elements. The teacher used diagrams to explain electronic configuration and the concepts of electrons, protons, and neutrons. After the topic discussion, the teacher evaluated the content using questions from previous year question papers. This was an important and effective method as it provided learners with an idea of exam preparation and boosted their confidence".

The main strategies highlighted were discussions, interactions, the use of visuals and diagrams as scaffolding techniques, and mock tests.

One student emphasized the competitive dimension and game-based approach in the Chemistry class, as mentioned below:

"The second class was Chemistry, where we conducted an experiment to determine the concentration of HCl in a solution. The experiment was done as a competition between different groups of students, including our own group. We achieved third place in the experiment, with a concentration value close to the actual value. The teacher recorded all the data and showed it to the students for further improvement."

It is noteworthy that consideration was given to recording data for "further improvement", which fosters critical thinking skills, self-awareness, and metacognition.

"I performed the titration experiment with my group of students. The class was interactive, and the teachers were very helpful and cooperative towards the students. Our group also received the second prize for having the least deviation from the expected values".

Competition and prizes were highly appreciated by the Indian students as additional incentives in the class.

The Indian student teachers also observed some History lessons and noted the use of the deductive method:

"The next class was History, where the teacher employed the deductive method. The discussion focused on socialism, communalism, and nationalism. There were around 18 students in the class, and the environment was learner-friendly".

"The first lecture was on Italian history, and after some time, the teacher asked us about Indian history, showing a keen interest. In response, I started a lecture on Indian history, starting from the Mughal period and discussing up to the country's independence. They were surprised to learn about the facts I presented and wanted to know more about Indian history".

It is interesting to note how the presence of Indian student teachers in the class acted as a catalyst for intercultural dialogue and exchange. Italian students were curious to learn more about Indian history and culture.

The observation of the Latin class in English was particularly impressive for the Indian students and led to broader reflections on the history of the world, the meaning of life, and its foundations:

"We attended the Latin class, where we learned about the general history of the Roman Empire through a video presentation. The video helped us visualize and imagine the structure of the city. It demonstrated that history is the same everywhere, with survival and a dignified life as the basis of human existence. The teacher used the video to interpret its contents, linking it with the present and providing direction to the learners. She had a command over the language and was clear in her explanations. To evaluate the class, a Quizlet activity was used, where the learners had to answer questions briefly. The textbook used was in English, and some Latin words were incorporated into the lesson, along with information on historical events".

Videos, images, and learning technologies like Quizlet were mentioned as examples of scaffolding techniques used to make the lesson interactive and engaging.

"Sometimes, the teacher had to explain new concepts in Italian. Later, as a means to assess students' understanding and competence, an activity was given where students had to write down what they understood from the class in English and then read it aloud. This allowed the observation of their reading, writing, and speaking skills in English. It was a group activity, and all the students performed well".

The use of *translanguaging* (García, Wei, 2014; Cinganotto, Turchetta, 2020) was also highlighted, where Italian was used as a scaffolding technique to facilitate understanding of content in English. Additionally, code-switching and code-mixing among Italian, Latin, and English were addressed as unusual but noteworthy aspects.

8. CLIL microteaching

Under the supervision of the author and the host teachers, the students were guided to plan and carry out their own lesson plan in their respective subjects, implementing micro-teaching interventions.

An example of a lesson plan in Math is reported below. The Indian student teacher planned it carefully, after meeting the students and having discussed with them about their possible pre-requisites.

8.1. The lesson plan

TOPIC: Probability

GLOBAL GOAL: To familiarize the students with the concept of probability and set theory

AGE OF STUDENTS: 13

LEVEL: 2nd year

TIMING: minutes 30

Aims
The concept will be taught with the help of the English language and numerous illustrations.
TEACHING OBJECTIVES (What I plan to teach)
• Students will understand the concept of probability. • Students will develop an interest in set theory.
Content
• Definition of event, random experiment, sample space, set, etc. • Properties of union, intersection, and De Morgan's Law.

Cognition	Culture
• Students will understand set theory.	• Students will gain knowledge about set theory in an international context.

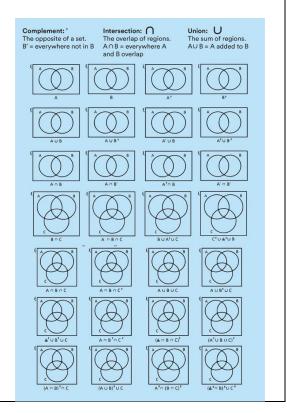| Communication |
|---|
| **Key vocabulary:**
Set
Equations
Intersection
Union
Overlapping
Complement
Null set |

LEARNING OUTCOMES
By the end of the lesson(s) learners will be able to: • Define the terms used in probability. • Write down the properties of union and intersection. • Establish relationships between different Venn diagrams.

By the end of the unit learners will be able to: Apply different equations to solve Venn diagrams and describe their properties.

Assessment Method tools
Assessment will be conducted by frequently asking questions in class and providing diagrams for students to solve equations.

8.2. Reflections on micro-teaching

The interview with the Indian student teacher regarding the reactions and feedback on the Math lesson clearly highlights the benefits of CLIL in terms of cognitive skills. The student reports observing progress in delivering concepts, emphasizing the role of questions in fostering thinking skills and communication in the foreign language, as advocated by CLIL.

> *"I chose the topic of probability to teach to the 2nd-year students. After assessing their prior knowledge on the topic, I started from the basics and introduced different concepts. The students responded well to the initial concepts, and when I gave them some questions, most of them were able to find the answers easily. Encouraged by their response, I proceeded with more concepts and presented them with a few tricky questions. Although it took them some time, they eventually solved the questions. I noticed that the students were listening attentively, which indicated their interest and enthusiasm for the lesson. The fact that they grasped the concepts easily demonstrates their potential to learn even more advanced concepts."*

This reflection highlights the student teacher's effective instructional approach, starting from the basics and gradually introducing more complex concepts. It also emphasizes the students' active engagement and ability to comprehend and apply the learned material. The student teacher's observation of the students' attentiveness and enthusiasm further supports the positive impact of CLIL on student motivation and learning outcomes.

9. Interviews with the Indian student teachers

The interviews with the Indian student teachers revealed their positive attitudes and reactions towards CLIL. They mentioned various benefits, encompassing all four Cs, as summarized by the following comments:

> *"Students and teachers will be well versed in using the 4 C's".*

> *"Exchange of culture with language integrated into subject knowledge".*

> *"We prepare global students. Students studied with CLIL are ready for the world which uses English as its global language".*

> *"It would help with the introduction of a new language other than the mother tongue, which would aid students who go for further studies to other countries as well as help in corporate jobs".*

The Indian student teachers highlighted interesting aspects about the CLIL lessons they observed:

> *"Students were excited to learn with a new aspect".*

> *"The activity planned for the topic was productive".*

> *"I noticed that students are able to understand in the English language, and with a little more effort, there is a high scope of improvement, and conditions can be to global level".*

> *"Students were highly interested in learning English and were working hard to try and converse in the English language".*

The Indian student teachers identified favorable conditions in the CLIL environment for language improvement, content acquisition, and engagement.

In particular, regarding communication and interaction, the Indian student teachers observed a strong command of the English language and recognized the high potential of CLIL as an effective strategy to improve it, as reflected in the following comments:

> *"Students interact well in English. During the teaching-learning process, content is covered with perfection. Some students make errors related to language, including spelling, writing, and sentence framing".*

The reflections on CLIL methodology refer to the innovative techniques adopted, the use of learning technologies, and the creation of good conditions for safe, student-centric, and comfortable learning environments. This allows students to feel free to express themselves in English without fear of making mistakes.

> *"It is a mix of traditional methods with the addition of ICT. They use smart boards, but they can enhance their skills in using them meticulously".*

> *"The teacher-student relationship is more friendly here. The school environment is very positive, and the major learning is how building a positive environment is helpful for learner to grow well".*

> *"The school is student-centric, and students actively participate in class activities. They do*

not have any fear of expressing themselves, which is essential aspect of the teaching and learning process".

Positive remarks were also expressed about one of the 4 Cs, "Culture": CLIL with Indian students represented a natural environment for intercultural dialogue and exchange, as shown below:

"Students were enthusiastic to learn different cultures and were also eager to share their own culture through ppt slides and hosting parties (sharing food)".

The Indian student teachers were also interviewed about another of the 4 Cs, "Cognition." They were aware of the Cognitive Discourse Functions (CDFs) conceptual construct presented during the online CLIL course before the mobility. Their reflections were very interesting:

"During the class observations, multiple discourse functions were used by the teachers. At the beginning of the sessions, there was a time structure that could be classified under the "classify" category. The act of "defining" the topic to be taught was almost always present in every class. The "describing" function, where the teacher helps the learners identify, specify, and name relevant information, was also observed. "Evaluation" at the end of the sessions was conducted, although the specific methods varied from class to class. It was noted that learners were encouraged to explore beyond the topic and share their perspectives. In terms of student participation, there was a collective use of discourse functions when answering questions or engaging in activities. Some of the discourse functions prominently used by the students were "explain," "classify," "describe," and "define." During the lesson I conducted, I used "explain," "classify," and "define" to warm up and introduce the topic based on the specific needs of the lesson. As the session progressed, "describe" and "explore" were employed to encourage learner participation and assess their learning progress. Finally, at the end of the session, evaluation was conducted to determine the level of understanding.

In summary, during the teaching and learning process, all seven Cognitive Discourse Functions (CDFs) are naturally employed to ensure the effectiveness and accuracy of the process.

"When discussing cognitive discourse, we refer to the processes involved in learning academic content, such as describing, defining, explaining, or evaluating. These processes are understood using linguistic patterns employed in the classroom. The verbs associated with these aspects are already included in the objectives of various academic subjects, describing specific cognitive operations like defining, evaluating, and explaining. It is important to note that these operations or functions have specific linguistic realizations that can be taught to students."

When considering the use of learning technologies in a CLIL class, one of the students suggested the inclusion of new Cognitive Discourse Functions (CDFs) such as Comprehend, Analyze, and Frame. These CDFs relate to aspects commonly used for metacognition, where learners analyze their own learning, assess their understanding, and activate self-monitoring strategies. The proposed CDFs highlight the importance of engaging learners in higher order thinking skills and promoting self-reflection and self-regulation in the learning process. By incorporating these CDFs, CLIL instruction can further enhance students' metacognitive abilities and facilitate deeper understanding and application of the subject matter.

"Metacognition is an essential component of the learning process, and incorporating cognitive discourses is crucial for its development. When learners share their experiences, they often use words, verbs, or phrases such as "feel," "analyze," "understand," and "experience." These words and verbs align with the cognitive discourses and reflect the learners' engagement in metacognitive processes. As a teacher, using these verbs naturally during a lesson helps guide learners towards achieving the desired outcomes. By integrating metacognitive strategies and promoting self-reflection, educators can empower students to take ownership of their learning, monitor their understanding, and make meaningful connections to the subject matter."

Another important aspect mentioned in relation to CLIL is the activation of critical thinking skills. One comment emphasizes the significance of critical thinking in CLIL:

"CLIL provides an opportunity for students to develop critical thinking skills through the integration of content and language. Students are encouraged to analyze, evaluate, and apply their knowledge in various contexts, fostering a deeper understanding of the subject matter."

By engaging in CLIL activities, students are challenged to think critically, solve problems, and make

connections between different concepts. This promotes higher order thinking skills and enhances their ability to think independently and critically evaluate information. Overall, CLIL not only facilitates language learning but also nurtures metacognition and critical thinking skills, preparing students for academic success and lifelong learning.

> *"More tasks that involve expressing oneself in the target language while using subject content, along with self-reflection and metacognition by the learner, are considered essential".*

Critical thinking skills are also highlighted in relation to CLIL, as mentioned in another remark:

> *"Teachers also implemented various activities in the class, such as solving application-based questions or completing worksheets in groups or individually."*

A very positive comment by one of the student teachers highlighted the valuable contribution of CLIL to the Italian school curricula, which could serve as an inspiring case study for the further implementation of CLIL in India.

> *"You have done such great work for future generations. Shaping new minds is a great task that not everyone can do or even think about. And yes, congratulations for envisioning it and implementing it with CLIL!"*

9. Results and Discussions

According to the Framework Analysis, comments, notes on learning journals, and interviews with the Indian student teachers were triangulated to collect their reactions and thoughts into certain categories, identifying their attitudes towards CLIL lessons and CLIL potential. The main reflections and opinions of the Indian student teachers on CLIL are collected and summarized below.

They believe that CLIL can increase students' exposure to English, creating favorable conditions to improve their language competences. A good level of English was generally observed among Italian students, who appeared eager to communicate and express themselves during CLIL lessons.

CLIL teachers are described as employing interactive methodologies and incorporating learning technologies in a friendly environment.

CLIL classrooms are noted to be ICT-friendly, with interactive whiteboards and devices being common in the host schools, even at the primary and lower secondary levels. The learning environments are described as dynamic, interactive, and flexible,

following the "DADA model," which can facilitate the learning process. According to the students, CLIL classes were highly effective when teachers utilized ICT tools such as presentations, videos, and audio stimuli to enhance learning and content retention in English. Engaging in debates in English was also identified as an effective strategy in CLIL.

CLIL is seen as a facilitator of intercultural dialogue and an enhancer of multilingual pedagogies.

The Indian student teachers were impressed by the diverse range of languages taught in CLIL classrooms, which included English, Latin, Greek, and Spanish. They appreciated the use of various techniques, such as *translanguaging*, to incorporate these languages, each bringing its own cultural dimensions and values. The presence of Indian students in the class was seen as a catalyst for intercultural dialogue and global exchange, and it also contributed to the enrichment of home languages, particularly for students with a migration background, such as Indian students living in Italy and attending Italian hosting schools.

Additionally, CLIL was recognized as a means to foster critical thinking skills.

The Indian student teachers emphasized the potential of CLIL in developing critical thinking skills. They observed that in the CLIL lessons they witnessed, planned, and conducted, all seven CDFs outlined in the Dalton-Puffer conceptual framework were evident. They specifically noted the presence of metacognition and self-regulation strategies, which contribute to fostering critical thinking in CLIL classrooms.

Conclusions

The study conducted as part of the EDUREFORM project focused on a sample of Indian student teachers who were hosted by Italian schools. During their three-week training mobility on CLIL, the student teachers had the opportunity to observe, plan, and conduct CLIL lessons. It is important to note that the study has certain limitations, such as the small sample size and the short duration of the mobility programme. As a result, the study does not aim to provide a comprehensive analysis but rather offers insights based on the research questions outlined in paragraph 2:

1. What are the Indian student teachers' perceptions and impressions of CLIL lessons in Italian schools?
2. What are their ideas about the features, potential and impact of the CLIL methodology?
3. From the perspective of Indian student teachers, can the CLIL methodology contribute to the development of students' critical thinking skills?

The reactions and thoughts of the Indian student teachers, gathered through learning diaries and interviews, are positive and highly rewarding. They

firmly believe in the potential of CLIL in terms of increased exposure to the target language, the utilization of innovative and interactive teaching methodologies, the promotion of multilingual pedagogies, and the facilitation of intercultural dialogue. According to their perspective, CLIL can play a significant role in developing critical thinking skills by nurturing all the CDFs, including metacognition and meta-reflection on their learning. They believe that CLIL could be further implemented in India, also considering its success in Italy and Europe.

However, it is important to encourage more studies on CLIL in India in the future to further explore the current state of CLIL implementation on the Indian continent. This research should focus on identifying the main challenges and limitations hindering the widespread adoption of CLIL, as well as proposing potential interventions and actions for improvement.

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