

CODE-SWITCHING IN VIEWER COMMENTS ON AN INDONESIAN EDUCATIONAL YOUTUBE CHANNEL

Caku, Gabriela Apriani Koli, Axel Emmanuel Herman Jr. Kolatlana, Ouda Teda Ena
Sanata Dharma University

chencaku3@gmail.com, gabrielabellaa10@gmail.com, axeljrkolatlana@gmail.com, ouda@usd.ac.id

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Abstract: This study investigated code-switching patterns in viewer comments on the Indonesian educational YouTube channel "Kok Bisa." Using a descriptive qualitative content analysis approach, the research examined 103 comments from two science education videos uploaded in October 2025, focusing on code-switching types, languages involved, and communicative functions. The data were analyzed using Poplack's (1980) structural typology and Myers-Scotton's (1993) functional framework. The findings revealed that intra-sentential switching was the most frequent type (64%), followed by inter-sentential (17%), tag-switching (14%), and intra-word switching (5%). The primary languages involved were Indonesian and English, with English predominantly used for technical and scientific terminology. Clarification emerged as the dominant communicative function (40%), followed by emphasis (30%), engagement (20%), and identity expression (10%). The study showed that code-switching in educational YouTube comments served both cognitive-pedagogical and social-interactive purposes, facilitating comprehension of complex content while reflecting bilingual identity practices among Indonesian digital viewers. These findings contribute to understanding multilingual practices in digital educational spaces.

Keywords: code-switching; digital discourse; YouTube comments; bilingualism; educational communication

INTRODUCTION

The contemporary age of digitalization has transformed YouTube not only into a media-sharing site but also into a "virtual classroom" that is not bound by the restrictions of location or affiliation. Consequently, Computer-Mediated Communication (CMC) becomes a pivotal topic in contemporary discussions of education, where language use is dynamic, multimodal, and heterogeneous (Mageira et al., 2022). One of the key aspects of CMC communication is that CMC sites generate large amounts of multilingual data not only because of various messages created in different languages but also because of the use of multiple languages in the same message, making such platforms conducive to studying code-switching (Barasa, 2016). Code-switching is not a sign of linguistic inadequacy; rather, it is an important tool for effective communication in multilingual environments. According to the seminal work by Poplack (1980), code-switching is defined as the syntactic alternation of two languages in one utterance, spanning from simple tag-switching to complex intra- and inter-sentential alternations regulated by particular structural rules (Anzani et al., 2025). The process of such linguistic structuring is crucial as a mediator between global technological knowledge and local culture, especially within Indonesia. In the context of CMC environments, the phenomenon can be used to incorporate global technical jargon and linguistic proficiency into local communication in online educational spaces. In

Indonesia, young bilinguals tend to code-switch extensively as a result of their frequent contact with English-language online content and social prestige associated with bilingualism on digital media (Tarihoran et al., 2022).

The use of code-switching as a linguistic tool is informed not only by structural considerations but also by social and pragmatic motives. Using Myers-Scotton's (1993) Markedness Model, code-switching is viewed as a cognitive phenomenon when speakers choose whether to use a "marked" or "unmarked" language depending on the need to establish certain interpersonal relationships or affiliations with authority figures (Gimode & Barnes, 2015; Habyarimana et al., 2017). Studies reveal that in the case of multilingual viewers on Facebook, the most common reasons for code-switching in writing include lexical needs, clarification of certain details, and empathic expression. Hence, despite certain differences, functional motivations characteristic of code-switching in spoken communication are largely retained in written CMC (Caparas & Gustilo, 2017). As a tool facilitating pedagogical practices, code-switching on YouTube allows bilingual viewers to clarify complicated concepts, highlight important information, and establish themselves as globally minded learners (Cahyani et al., 2018). In terms of its pedagogical potential, code-switching becomes not merely a compensation strategy but also a useful instruction strategy allowing learners to benefit from their L1 skills and learn target language effectively by facilitating comprehension of complex topics (Ezeh et al., 2022). The approach is similar to translanguaging strategies widely used in modern linguistically diverse classrooms to achieve greater comprehension of complex material (Lemmi et al., 2019; Suárez, 2020).

As an educational platform, YouTube takes the above-described process to another level, incorporating additional elements. Ho and Tai (2021) demonstrate how English-tutoring videos produce an interactional translanguaging space where teachers regulate language usage, nonverbal communication, and visual resources as well as a performative translanguaging space in the comment section, where audience members adopt certain roles (instructor, learner, or critic). The above analysis shows that YouTube comment streams represent active spaces of identity negotiation and information exchange, where viewers interact on various levels. Further evidence comes from Androutsopoulos (2015)'s concept of networked multilingualism, which states that multilingual practices in CMC depend on the affordances of digital media, availability of networked resources, and audience orientation—a phenomenon that directly pertains to YouTube comments and the choice of languages viewers make when commenting on videos. Along the same lines, Barasa (2016) argues that code-switching in CMC genres should be considered from the perspective of genre-specific affordances, including rapidity, principle of least effort, space limitations, and creativity—the characteristics that differentiate code-switching in written and spoken communications and legitimize treating CMC code-switching separately.

Such linguistic practices have been studied in the context of Indonesian vlogs and YouTuber content. As Putranta and Aji (2025) discovered, intra-sentential code-switching became the prevailing type in vodcasts while Rini and Moehkardi (2021) emphasized the dominance of inter-sentential switching in narratives. A comparative analysis of Indonesian YouTubers revealed that both types of switching coexist in YouTube streams, with English being used as the embedded language in an Indonesian context. In turn, as in many countries, English represented higher levels of education and prestige in Indonesia (Afryanti et al., 2021). Regarding the phenomenon of comment code-switching, there is evidence that the bilingual language register of YouTube videos is reproduced in user comments and used as a basis for discourse creation in the latter medium (Danendra et al., 2022). However, the existing literature on the subject has focused mainly on code-switching used by content creators in their spoken communication, leaving the written code-switching used by viewers in comments relatively unexplored. At the same time, digital linguistic studies have shown that online comments can incorporate characteristics of spoken communication, thus allowing for the use of code-switching as a tool for achieving certain communicative aims (Montes-Alcalá, 2024; Darginavičienė & Ignaitė, 2020). Comment threads on YouTube videos also represent a venue of "audience design," as described by Liu (2021), where viewers' language choices are influenced by their desire to conform to digital communities. Therefore, this paper will fill the identified gap by studying 103 comment streams of the educational YouTube channel *Kok Bisa* and examining types of code-switching as well as functional communicative systems according to Myers-Scotton's Markedness Model.

METHOD

This research adopted a qualitative methodological approach based on content analysis. According to Krippendorff (2018), content analysis can be described as an analytical strategy for generating reliable inferences about the context of application from texts. This method was particularly relevant to the analysis of naturally occurring digital discourse because it enabled the researcher to analyze how language was used in authentic communication practices. The incorporation of structural analysis based on Poplack's (1980) classification and functional analysis according to Myers-Scotton's (1993) theoretical framework led to a better comprehension of both code-switching patterns and functions in the selected data.

The data source for the research was the YouTube channel "*Kok Bisa*". This channel was selected due to consistent use of both Indonesian and English languages in its educational science videos, audience engagement, and variety of topics. Videos selected for the analysis were "*Seberapa Bahaya Vape Sebenarnya?*" ("How Dangerous Is Vaping, Really?"; health sciences; 53 comments) and "*Kembaran Aneh Lubang Hitam yang Bikin Ilmuwan Pusing*" ("The Strange

Twin of Black Holes That Confuses Scientists”; astrophysics; 50 comments). These two videos covered different scientific subjects for comparison purposes.

Data were gathered by means of the YouTube Data API v3 retrieving comments written during the period from the date of publication until seven days later (October 2-8, 2025). As inclusion criteria, clear examples of code-switching, connection to the content of videos, and significant amount of textual information were required. Monolingual comments, those with emojis only, irrelevant, or spam messages were not included in the analysis. Eventually, 103 comments that met the set criteria were collected into the dataset. Selected sample size was considered appropriate for qualitative content analysis.

The data analysis was conducted in accordance with multiple stages. First, it was determined whether the example of code-switching was present in a comment. Then, the type of switching was classified according to Poplack’s (1980) classification: intra-sentential, inter-sentential, tag-switching, and intra-word switching. After that, the languages used were established, and the analysis was continued by means of functional analysis according to Myers-Scotton’s (1993) classification including clarification, emphasis, identity expression, and engagement functions. Frequency distribution and some exemplary quotes were compiled for each category.

FINDINGS AND DISCUSSION

Types of Code-Switching

The analysis of 103 YouTube comments revealed four distinct types of code-switching according to Poplack's (1980) typology. Table 1 presents the frequency distribution across both video datasets.

Table 1. Distribution of Code-Switching Types

Type	Dataset 1 (Vape)	Dataset 2 (Black Hole)	Total	Percentage
Intra-sentential	34	32	66	64%
Inter-sentential	10	8	18	17%
Tag-switching	6	8	14	14%
Intra-word	3	2	5	5%
Total	53	50	103	100%

The first and the most common phenomenon was intra-sentential switching that occurred in 66 comments, which makes 64% of the whole dataset. The significance of this finding is that the viewers typically did not divide Indonesian and English into different sentences. Instead, they incorporated English words or phrases within Indonesian sentence structures, and therefore, the language that remained predominant in comments was Indonesian, and English served only as an additional resource for expressing complex notions.

For example, in a comment "Tips dari gw non perokok di circle perokok: keep consistent guys," Indonesian grammar was used along with English words "circle," "keep consistent," and "guys." As a result, it was possible to use a certain casual tone without interrupting the sentence structure, and therefore, viewers could motivate others easily. The line "*bukannya konsep lubang putih/white hole itu bisa ada karena aturan*" reveals that it was quite typical of the viewers to name their comments in both languages simultaneously. In this way, double naming helped to ensure comprehensibility and the presence of the original scientific notion.

Therefore, the predominance of intra-sentential switching shows that the phenomenon in YouTube comments is a purposeful technique, and viewers switch between languages in cases when English terms help to be more effective, more recognizable, and convey technical concepts better. Thus, intra-sentential switching is associated with a certain balance between local linguistic traditions and global academic or scientific terminology.

The second phenomenon is inter-sentential switching that occurred in 18 comments and made 17% of the dataset. In such a way, it took place when the user started speaking the other language across sentence boundaries. Unlike intra-sentential switching, inter-sentential switching is rarer since viewers prefer to stick to the framework offered by Indonesian sentences. However, when occurring, it adds some emphasis or expresses some emotions.

In addition, there is tag-switching that was present in 14 comments, 14% of the whole dataset. This phenomenon is characterized by the presence of English terms, mostly discourse markers, such as guys or believe it or not. Even though it is not the most common form of switching, tag-switching has an important function since it enables making the comments more colloquial and building closer relationships with other viewers.

Finally, intra-word switching is the rarest phenomenon because it is represented by only five comments that constitute 5% of the whole dataset. From this, it follows that viewers seldom combine both Indonesian and English morphemes. On the contrary, viewers have a tendency to use the whole phrases instead of mixing languages in the middle of the word formation.

Languages Involved

As far as the overall structure of comments goes, Indonesian was used as the dominant language that provided the basic grammatical structures in which the language resources of other languages were incorporated. English seemed to stand out among other languages due to its widespread use in technical, scientific, medical, and lifestyle terms.

In the case of vaping-related video, the English linguistic resources were used in the form of nicotine withdrawal, panic attack, intermittent fasting, and food grade. Such English terms appear to be characteristic of the online discussions on the issues related to people's health. Hence, their

usage might be interpreted as the indication that people may consider English terms more accurate or familiar compared to their Indonesian counterparts.

In the case of black hole video, English language resources appeared in the scientific terms of white hole, exotic matter, event horizon, Hawking radiation, and general relativity. As one can easily notice, the aforementioned words refer to physics and astronomy. The use of these scientific terms in English seems justified by the fact that the information about these concepts is readily available via scientific textbooks and science channels.

A few Arabic words related to religion, as well as some internet slang terms, could also be identified among other languages that appear in the dataset. However, those examples could hardly be considered separate dominant languages in terms of their frequency of usage since they are not used as the basis for the comment structures.

The pattern of language use in YouTube comment sections demonstrated by the research shows that Indonesian viewers do not tend to substitute Indonesian language with English. English words and phrases tend to have specific purposes, which might be either technical or connected to modern identity.

Communicative Functions

Analysis using Myers-Scotton's (1993) framework revealed four primary communicative functions. Table 2 presents the distribution of these functions across the dataset.

Table 2. Distribution of Communicative Functions

Function	Count	Percentage	Primary Associated Type
Clarification	41	40%	Intra-sentential
Emphasis	31	30%	Inter-sentential, Tag-switching
Engagement	21	20%	Tag-switching
Identity Expression	10	10%	Intra-word, Intra-sentential
Total	103	100%	-

The most frequent function of code-switching was clarification, observed in 41 comments or 40% of data. This means that the speakers were using code-switching to clarify and emphasize different concepts, and this type of switching is particularly relevant for educational content because the speakers use switching not only to react to the information presented in the video but also to educate themselves and other viewers.

For instance, in the comment such as "*ini mustahil karena dibutuhkan materi eksotik*," the term "exotic matter" becomes the key word, which needs to be explained to make sure that it is used correctly. The speaker uses code-switching not because he or she cannot express his or her opinion using Indonesian words but to make sure that the term will be understood properly.

Secondly, emphasis could be traced in 31 comments or 30% of data. English expressions were mainly used to increase the power of a certain statement or an idea. For example, "Believe it or not..." is a good introduction for a story about a person's personal experience that suggests the speaker's point of view. Code-switching in this case is necessary not to impress the viewer with a different language but to make the statement sound persuasive enough.

Thirdly, engagement occurred in 21 comments or 20% of data. This function was mostly associated with the usage of such short expressions as guys and others that reflect informal communication and make the conversation more dynamic and friendly. In this case, code-switching works as a tool that makes the communication more engaging because it makes the discussion interactive.

Finally, identity expression could be noticed in 10 comments or 10% of data. Despite the small number of cases, this category is still significant because in some cases, viewers were using English terms to show their knowledge of global topics, modern lifestyles, and scientific discussions. Terms such as "intermittent fasting," "americano," or "physics" demonstrate that the user wants to become part of the global digital discourse.

Comparative Analysis Between Videos

A comparison of the two videos revealed both shared patterns and notable differences. Both datasets indicated dominance of intra-sentential switching, the use of English for technical terminology, clarification as the primary function, and Indonesian as the matrix language. Nevertheless, variations were observed in the nature and density of code-switching. A summary of these comparative findings is presented in Table 3.

Table 3. Comparative Analysis Between Videos

Aspect	Video 1 (Vape)	Video 2 (Black Hole)
Technical Density	Moderate (health terms)	High (physics concepts)
English Type	Health/lifestyle vocabulary	Scientific/theoretical terminology
Personal Narratives	Frequent testimonials	Fewer, more theoretical discussions
Clarification Percentage	35%	45%

The black hole video had a higher proportion of clarifying comments, with 45% of comments focusing on clarifying the concepts. Therefore, abstract and conceptual discussions require more explanation code-switching than factual discussions because such ideas as event horizon, white hole, and general relativity cannot be completely explained using Indonesian vocabulary, and people usually use the term in English but explain it with the help of Indonesian grammar.

In contrast, in the vaping discussion, people discussed their experience, such as their personal habits and attempts to quit smoking, as well as health concerns associated with it. Hence, in this

case, the function of code-switching was closer to the engagement of the viewers who described their experience and opinions about the issue at hand.

Thus, the difference between the videos demonstrates that the function of code-switching depends on the content of a post. Scientific discussions involve more clarification because people try to articulate complex ideas. At the same time, discussions about health and lifestyles lead to a more personal type of code-switching because people comment on the issues with reference to their own experience.

Theoretical Contributions

These findings expand the understanding of code-switching by showing how structures and functions develop in written digital interaction. First, intra-sentential switching dominated YouTube comments, indicating that bilingual viewers used Indonesian and English within the same sentence to facilitate communication. This corresponds to Poplack's typology of code-switching, yet it demonstrates additional functionality of intra-sentential switching in YouTube comments as a method of handling difficult vocabulary, making content more accessible to viewers, and enabling informal communication.

Second, code-switching in educational YouTube comments is motivated by several communicative purposes. It facilitates the explanation of concepts, highlights personal opinions and points of view, helps viewers interact with each other, and expresses their identity. In other words, code-switching in this context cannot be viewed only as a solution to lexical gaps but rather as a tool of negotiating meanings and identity.

Furthermore, this research shifts attention from YouTube creators' spoken content to viewers' written comments. While many researchers examine only content created by YouTube channels, this paper shows that users themselves take an active role in generating bilingual content in the comment sections.

The comparison of two topics shows that the complexity of discussion plays a role in choosing the functions of code-switching. In the case of vaping video, there were more personal opinions expressed, thus, the role of switching in engaging the viewer and expressing their identity became more important. At the same time, switching in the second video was aimed mostly at facilitating understanding because of the complicated nature of scientific concepts.

Overall, this research expands our understanding of code-switching as an adaptive mechanism of digital bilingual education. Indonesian and English languages complement each other in order to ensure explanation and communication.

CONCLUSION

From the findings of this study, it can be stated that the code-switching behavior in comments left by the viewers of the two selected Indonesian educational YouTube videos was strategic

rather than haphazard. This mode of interaction enabled viewers to discuss scientific and health-related issues in accurate, accessible, and socially engaging ways.

The Indonesian language dominated all the comments, whereas the English language was strategically used to introduce scientific terminology, highlight some aspects of discussion, and display digital savvy. In other words, code-switching allowed the viewers to modify their language to meet the needs of both topics and target audiences. The use of Indonesian facilitated clear communication, whereas the presence of English provided the language resources needed to discuss particular scientific concepts and join the digital conversation.

As one can observe from the comparison, the role of code-switching depended on the type of content in each video. Code-switching proved useful when discussing abstract scientific issues, while more personal and audience-oriented expression of thoughts prevailed when discussing health issues. Therefore, the process of code-switching is affected by bilingual practices, complexity of topics, and intentions behind social interaction.

To conclude, viewer comments posted under educational YouTube videos are also a means of informal learning opportunities. Using code-switching strategies, the viewers not only react to videos but also develop ideas and express their opinions about the issues raised, as well as communicate with other members of the audience. Future research may compare viewer comments across various educational YouTube channels to examine whether similar code-switching patterns appear in broader digital learning contexts.

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