# Content Subject Teachers' Views of Implementing the English Across the Curriculum (EAC) Approach: A study of some South African high schools

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This article explores the views held by content subject teachers on the implementation of the English Across the Curriculum (EAC) approach in their high school classrooms. In South Africa, the EAC approach has been part of the school curriculum since 2014; however, to date, there is a paucity of studies that have focused on understanding how high school teachers implement this approach. In 2017, the South African Department of Basic Education reported that high school teachers were not using this approach without indicating why this was the case. To provide the views of the teachers, the present study drew theoretical insights from reflective teaching to explore the phenomenon. We conducted a qualitative intrinsic case study inquiry, during which we examined the views that 15 high school teachers held on implementing English language skills in content subjects. We collected data using a focus group interview form prepared based on Gibb's model. The findings indicate that content subject teachers have views on (i) the merits of EAC in general language development, (ii) EAC as a challenge to pedagogical-content knowledge, and (iii) strategies for improving the implementation of the EAC approach. This exploratory study has certain implications for the practice of implementing the EAC approach in content teaching, finding that there may be merit in the use of targeted continuing professional development for content teachers when implementing EAC. Secondly, there is a need for partnerships between teachers of English as a second language and content subject teachers, as this cross-curricular collaboration has the potential to enhance the implementation of the EAC approach in high school classrooms.

***Keywords***: CLIL, content subject teachers, English Across the Curriculum (EAC), high schools, South Africa

## Introduction

In South Africa, content subjects in high school are learnt and taught using the English language. For most learners, English is used as a second language. Although multilingualism is the norm in this country, English is widely used as the language of instruction; that is, English is privileged by being the language of learning and teaching. In such educational environments, the Language Across the Curriculum (LAC) approach is used to develop learners' English proficiency. In some educational contexts, the LAC approach is referred to as Content Language Integrated Learning (CLIL). The aim of the LAC approach is to integrate the second language across the curriculum for content subject learning (Chu, 2019; Vollmer, 2007). In addition. Coyle et al. (2010) stated that this is an educational approach where the content of all subjects and second language learning is integrated to provide authentic experiences for English language learners (ELLs). CLIL is a broad term that has many variants depending on the context and where it is implemented (Urmeneta, 2019; Van Kampen et al., 2018). In defining CLIL, Coyle et al. (2010, p, 1) stated that it is "a dual-focused education approach in which an additional language is used for the learning and teaching of both content and language." While researchers such as Lin (2016) and Urmeneta, (2019) distinguish between CLIL and LAC, in the South African context, the term 'LAC' is used interchangeably with 'CLIL' (Department of Basic Education, DBE [1](2015, p. 3). In addition,

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[1]  Department of Basic Education (DBE). (2015). *The English Across the Curriculum (EAC) strategy: Every teacher is a language teacher.* https://www. education.gov.za/Portals/0/Documents/Manuals/English%20Across%20the%20Curriculum%20 approach %20Flyer.pdf?ver=2015-04-24-155458-563

the DBE (2015) explains that since English is the Language of Learning and Teaching (LoLT) in most schools, LAC in the South African context is referred to as English Across the Curriculum (EAC). The reference to CLIL as EAC is a South African concept that differs from other educational contexts (DBE, 2014[2]).

English Across the Curriculum is used to guide learners to develop strategic and critical thinking skills in English in order to enhance their general and content subject learning and is concerned with the English language skills required in the formal education system (DBE, 2015). This means that content subject teachers need to be well grounded in the language of instruction. Realising this need, Swart et al. (2018, p. 412) call for the integration of "both pedagogical content and language knowledge into teachers' professional development to promote effective interaction with students about subject content." Urmeneta (2019) and Dalton-Puffer and Smit (2013) argue that in order to facilitate meaningful learning for ELLs, all teachers require a conceptual and technical understanding of the language for use in their discipline.

The South African Department of Basic Education (DBE, 2014) explained that the EAC approach has as its core purpose the need to assist learners who face learning barriers as a result of having to learn content subjects in English, a language that is not their mother tongue. Importantly, the DBE (2014) explained that EAC is an approach that emphasises skills such as writing, reading, speaking, and listening being taught across the curriculum to enhance ELLs' proficiency. Although, the purpose of EAC is well established in ESL literature, there is a dearth of studies that examine high school teachers' views on implementing EAC in their classrooms. In response to a call by San Isidro and Lasagabaster (2019, p. 3) that "implementation-oriented research on teachers' views is direly needed so as to gain a deep insight into the methodological commonalities that make CLIL what it is", this study explored the views of selected South African high school teachers. Specifically, the study provides answers to the following research question: What views do content subject teachers hold about the implementation of the EAC approach at a classroom level? The term 'view' was used in the context of this study to refer to high school teachers' opinions about their teaching practices when implementing the EAC approach.

**The context of the study: English Across the Curriculum in South Africa**

There is a debate in the literature as to whether EAC is an approach or a methodology (San Isidro & Lasagabaster, 2019). In South African DBE documents (see DBE 2014, 2015, 2017[3]), EAC is referred to as a strategy despite it embodying the philosophical insights of an approach. That is, the EAC design as it is used in South Africa can be viewed as both an approach and a strategy. Following Richards and Rodgers' (1982) definitions of an approach, the EAC document deals with the theory of language and learning while detailing the specific instructional actions (strategies) that content teachers are required to follow in order to infuse content and language learning. In the context of this study, the term 'approach' is used to refer to both the philosophies and the practices of implementing EAC into the South African high school curriculum.

The aim of the EAC approach is to support the language development of every learner, in all domains of language use, in every learning activity in school (DBE, 2014). Vollmer (2007) stated that EAC is an approach that emphasises the language learning that takes place in each subject and the academic/mental activities across the curriculum whether implicit or explicit. Corson (1990, as cited in Vollmer, 2007) highlighted the five basic tenets of EAC as: (i) language develops mainly through its purposeful use (domains to be broadened); (ii) learning (often) involves talking, writing, shaping, and moving (normally in reaction to perceptions); (iii) learning often occurs through speaking or writing as much as through shaping and moving; (iv) language use contributes to/is a prerequisite for cognitive development; and (v) language is the medium for reflecting on learning, for improving it, and for becoming (more or less) autonomous as learners. This means that although the high school system incorporates different subjects, they comprise common and discipline-specific language skills whose emphasis can enhance learning across the curriculum.

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[2] Department of Basic Education (DBE). (2014). *Manual for teaching English Across the Curriculum Book 2.* Pretoria: Department of Basic Education. Retrieved from https://www.education.gov.za/TeachingEnglish.aspx

[3] Department of Basic Education (DBE). (2017). *English Across the Curriculum (EAC) scripted lessons General Education and Training (GET).* https://www.education.gov.za/Portals/0/Documents/Manuals/English%20Across%20the%20Curriculum%20GET.pdf?ver=2017-11-29-155410-000

In the South African context, the EAC approach was founded on the understanding that every high school teacher across the curriculum is a language teacher (DBE, 2014, 2015, 2017). Thus, in every classroom the basic language skills of writing and presenting, reading and viewing, and listening and speaking are used to cement learners' language development. EAC is a relatively new approach in the South African school system and its implementation is documented in a number of documents (see DBE, 2014, 2015, 2017). According to the DBE (2015), the role of the English Language teacher is to introduce and teach all the language skills and to reinforce them consistently. Content subject teachers have the responsibility of applying the specific language skills in their discipline to promote learning by integrating language and content. The use of the slogan, "every teacher is a language teacher", underscores the importance of the EAC approach in high school teaching in South Africa. To date, very few studies in South Africa have explored the way in which content teachers implement EAC. Current studies in EAC in the South African context have focused mainly on science and mathematics teaching, such as Msimanga et al. (2017), Msimanga and Erduran (2018), and Setati (2001). There is, however, an expanse of research output that focuses on mother tongue instruction (Heugh, 2009; Mathole, 2016) and translanguaging practices (Makalela, 2015; Probyn, 2019), which although related to EAC do not emphasise this approach. Thus, the purpose of this study is to come up with suggestions for improving the implementation of EAC by exploring the views of content subject teachers.

# Literature review

Language is a tool for conceptualising the world and our knowledge of it. Language is important for effective instructional experiences across the high school curriculum, as all subjects are conceptualised through it (Svensson et al., 2009; Turner, 2020). It is through language that high school teachers and learners engage, present, display, and assess the learning processes, skills, and knowledge (Vicente & Martinez-Manrique, 2013). This mutual process is one of meaning-making and helps learners internalise the concepts, ideas, and knowledge that are being learnt (Nomlomo & Desai, 2014). Learners in South African multilingual classrooms have access to a number of languages as part of their repertoire. Vicente and Martinez-Manrique (2013, p. 89) explain that such resources provide learners with "different languages to carve the world in different categories." That is, high school learners experience language as part of the school curriculum and as part of their socialisation in their communities. However, English and Afrikaans are the only LoLTs in the South African education system. Consequently, in situations where high school learners use an LoLT that differs from their mother tongue, there is a need to support them (König et al., 2016).

The key to ensuring the effectiveness of learners' language development in ESL is the teacher (Aalto & Tarnanen, 2017). Drawing from sociocultural and dialogic orientations, Swart et al. (2018) explain that, as an approach to ensure effective learning, there is a need to include within the teacher professional competence the knowledge to integrate linguistic skills and subject matter. Additionally, König et al. (2016) observed that in order for ELLs to develop competence in discipline-specific English needs, disciplinary teachers need to engage them in activities that are beyond the general English skills. Although language is a critical component of content subject teaching and learning, it is "very much taken for granted both in practice and in educational research" (Svensson et al., 2009, p. 207). However, several researchers have indicated that the major challenges in the implementation of EAC are content subject teachers' preparation in it, their limited knowledge of linguistic skills, and the availability of teaching and learning resources for integrating content and language learning (Aalto & Tarnanen, 2017; Chionis et al., 2017; Kao, 2020; Karabassova, 2019, 2020).

Globally, a number of studies have been conducted to understand teachers' views on integrating a second language into content learning. For example, San Isidro and Lasagabaster (2019) reported on how Spanish high school teachers viewed CLIL They found that the teachers viewed the approach as an important pedagogical approach for learners' language development. Their findings also indicated that the teachers observed positive effects from the use of CLIL with improved performance in the content subject. However, their participants lacked support from the department of education in light of their limited competences and skills to implement CLIL as a pedagogical tool. The results of this study showed that teachers had a positive outlook on students' attitudes when CLIL was implemented. Koopman et al. (2014), working with six CLIL teachers in the Netherlands, found that the teachers had limited knowledge of the language forms required for content subject learning. These researchers stated that there was a need for content subject teachers to be grounded in general knowledge of second language acquisition.

In the South African context, Uys et al. (2007) reported on 38 primary and high school content teachers from South Africa and Namibia and what they viewed as their responsibilities for language teaching activities in content subject classrooms. Their findings highlight that both the primary and high school teachers in their study incorporated oral and reading skills in content learning but viewed the teaching of writing as the responsibility of the English language teacher. Focusing on high school teachers, Msimanga and Erduran (2018) stated that EAC requires content subject teachers to have a deeper understand of language skills that most do not have. The implementation of the EAC approach in South Africa, whether in initial teacher education preparation or in classroom practice, is an approach that is unfamiliar to most teachers (Uys et al., 2007). In addition to this instructional demand, there is limited research to anchor the practice of teaching and learning content subjects in South Africa (Msimanga et al., 2017). A summary of the reviewed studies acknowledges that teachers support the EAC approach although they struggle with the pedagogical knowledge required for effectively infusing language skills into content learning. From 1990 to 2015, Msimanga et al. (2017) found only six studies that focused on language development and teaching in South Africa – an indication that there has not been much focus on how content and language are integrated in the classroom. To address this knowledge gap, this study reports on content teachers' views on implementing the EAC approach at the classroom level.

## Materials and Methods

### Theoretical background

The theoretical principles that informed the way the methodology and the findings of the study are reported were drawn from reflective teaching. Reflective teaching has its roots in the works of Dewey (1933) and Schön (1983). Dewey (1933) explained that reflection is the active, persistent, and careful consideration of a belief or supposed form of knowledge embedded in the activities of practice. It is the kind of thinking that consists of turning a subject over in one's mind and giving it serious thought. For Schön (1983), reflective practice is the habit of inquiring into and investigating a problem situation in order to understand how to frame a solution. Drawn from both Dewey (1933) and Schön (1983), reflective teaching acknowledges the importance of teachers' intuitive, innovative, and creative practices when dealing with the uncertain situations that new instructional approaches such as EAC create.

There are two types of reflection, namely, reflection on and in action (Schön, 1983). On the one hand, reflection on action describes the process of reflection that takes place after the event where the practitioner evaluates the theories of action used to solve a problem. On the other hand, reflection in action describes interactions with a problem or interventions as they unfold. In the context of the study, we drew on the analytical toolkit provided by both types of reflection to orient the descriptions we required from the in-service high school teachers of their views on implementing the EAC approach in their classrooms. This stance allowed us to tease out the interplay between the description of the EAC process and how it is implemented in alignment with the sociocultural context of the discipline and the classroom. This theoretical stance acknowledges that through reflective practice teachers have agency, as they apply knowing in action (tacit knowledge), which they use to deal with and make meaning of the instruction tasks and actions.

In this study, Gibbs' (1988) six stages of the reflective cycle were applied, namely, description, feelings, evaluation, analysis, conclusion, and action plan. In the study context, Gibbs' (1988) reflective stages meant that the in-service teachers firstly described their EAC experiences. Secondly, they explained how they felt and what they thought about EAC. Thirdly, they evaluated and analysed their experiences to draw conclusions and draw up action plans for the future implementation of the EAC approach. Table 1 summarises the principles in each stage that the in-service teachers reflected on in order to describe the views they held about their experiences implementing EAC in their classrooms.

**Table 1**

*Reflective teaching stages as applied in the study*

| Gibbs' stage | Guiding principles | Main research question |
|---|---|---|
| Description | The participants described their experiences implementing EAC in the classroom in detail. Their descriptions included a focus on memorable aspects of their practices. | What views do content subject teachers hold about the implementation of the EAC approach at the classroom level? |
| Feelings | The participants expressed the feelings and thoughts they had during the experience of implementing the EAC approach and how they may have influenced the experience. | |
| Evaluation | The participants evaluated what worked and what did not work in their classrooms. They focused on both positive and negative outcomes. | |
| Analysis | In this stage, the participants provided reasons for their perspective drawn from their personal beliefs about teaching and learning. | |
| Conclusion | The participants drew conclusions about what happened in their classrooms. They summarised what they had learnt in the process of implementing EAC and highlighted what changes they wanted to make to improve their practice. | |
| Action plan | The participants planned for what they would do differently in a similar or related situation in the future. | |

From Gibbs, G. (1988). *Learning by doing: A guide to teaching and learning methods*. Further Education Unit, Oxford Polytechnic. Copyright 1988 by the Further Education Unit at Oxford Polytechnic.

## Research design

To answer the research question, we conducted a qualitative intrinsic case study. Stake (2005) explained that the purpose of an intrinsic case study is not theory building but an exploration to better understand the phenomenon. The case study design was ideal for our exploration as we sought to understand the teachers' views on implementing EAC in content learning (Yin, 2009).

## Participants

We selected participants using purposive sampling. This type of non-probability sampling is used when the selection of participants deliberately includes individuals with in-depth and contextual knowledge of the phenomenon (Creswell & Poth, 2018). The participants were selected using the following criteria: firstly, high school in-service teachers not teaching the following subjects: Afrikaans, English, isiXhosa, isiZulu, Sepedi, Sesotho, Setswana, siSwati, Tshivenda, Xitsonga, isiNdebele, and South African Sign Language. These subjects are other languages that are taught in South African high schools and we did not include these educators in the study. Secondly, we included teachers with less than six years' teaching experience. It was important to include these types of teachers as they had completed courses on how to use EAC in content teaching. Teachers who had completed their teacher training before 2014 did not receive this preparation, as the EAC approach was not included in the school curriculum.

The participants who were part of this study had a Bachelor of Education degree qualification in the different disciplines as captured in Table 2. They did not teach in the same school nor did they teach the same learners. All the teachers taught in the same South African province of KwaZulu-Natal in public high schools in towns. KwaZulu-Natal province covers an area of 94,361 km and is home to over 11 million people. In total, the province has over 1000 public schools. Due to the vastness of this province, only 15 participants who attended the same university as one of the researchers were included in the study. Each participant was drawn from one of the 15 districts of KwaZulu-Natal province. Table 2 summarises the descriptions of the participants in terms

of their disciplines, grades taught, and teaching experience following EAC. Pseudonyms have been used to identify the participants.

**Table 2**
*Participants biographical data*

| Pseudonym | Subject taught | Grades taught | Years of teaching experience |
|---|---|---|---|
| Kwaito | Economics and Management Sciences | Grades 8-9 | 3 |
| Mee | Natural Sciences and Technology | Grades 10-12 | 4 |
| Tee | Mathematics | Grades 10-12 | 3 |
| Kee | Geography and History | Grades 10-12 | 4 |
| Cee | Economics and Management Sciences | Grades 10-12 | 5 |
| Bee | Mathematics and Accounting | Grades 10-12 | 5 |
| Ree | History and Life Orientation | Grades 8-9 | 3 |
| Gee | Geography and History | Grades 10-12 | 4 |
| Anita | Physical Sciences | Grades 8-9 | 5 |
| Xee | Agriculture Sciences and Life Science | Grades 8-9 | 6 |
| Yoli | Life Sciences and Mathematics | Grades 10-12 | 2 |
| Sbu | Mathematics | Grades 10-12 | 4 |
| Langa | Geography and History | Grades 8-9 | 3 |
| John | Economics and Management Sciences | Grades 10-12 | 4 |
| Faith | Mathematics and Physical Sciences | Grades 10-12 | 4 |

## Data collection and analysis

We collected data using two focus group discussions (FGDs) (see the FGD Guide in Appendix A). This type of data generation method is an "interactive discussion of a topic by a collection of all participants and a team of facilitators as one group in one place" (Nyumba et al., 2018, p. 20). Three experts, one who is a qualitative methodologist and two who are English Language Teaching researchers content validated the questions for the FGD. We conducted a face-to-face FGD that allowed the participants to use their collective and cultural memory as members of the same community of practice (Krueger & Casey, 2009). The first FGD, which lasted for 65 minutes, focused on four of Gibbs' (1988) stages, namely, description, feelings, evaluation, and analysis. For the first FGD, the teachers expressed their knowledge of the approach and their instructional strengths and challenges in using it. The second FGD lasted for 62 minutes and focused on Gibbs' (1988) last stages comprising conclusion and action plans. During this FGD, the teachers described the plans they would draft in order to implement the EAC approach more effectively in their classrooms. By the end of the second FGD, the data saturation point was reached. The saturation point refers to the discontinuation of data collection because participants are not providing new information (Fusch & Ness, 2015).

All of the participants were invited to the discussion at the university where one of the researchers was working. English was used as the language of communication. The discussion included 15 participants, although an ideal FGD includes six to eight participants (Krueger & Casey, 2009). However, since the EAC approach is an area that teachers have tentatively practised (DBE, 2017) and thus may have little experience with, a group size of 15 was more productive. Although the FGD allowed the participants to cover the maximum depth on their views on EAC, we were aware of its disadvantage for giving vocal participants more talk time. We attended to this disadvantage by using the turn-taking talking strategy where we posed a question and gave each participant an opportunity to respond. We documented the FGD using audio recordings. These recordings were transcribed verbatim by a professional transcriber who signed a confidentiality agreement. To ensure that the transcriptions were accurate, we re-read them through while listening to the audio recording. Member checking was used, with eight participants reading through the transcript to confirm credibility.

Since the purpose of this study was to understand content subject teachers' EAC practices within their contextual situations, an inductive thematic approach was used for data analysis. According to Nowell et al. (2017), an inductive thematic analysis is an approach that is used when identified themes are linked to raw data. We followed Nowell et al.'s (2017) framework of analysis as we familiarised ourselves with the data that we had transcribed. The second step was to generate initial codes, which was followed by the third step of searching for themes. In the fourth step, we reviewed the themes, followed by the fifth step where we defined

and named the themes. Both researchers (coders) were involved in coding the data to ensure intercoder reliability (ICD). ICD is the extent to which independent coders evaluate a characteristic of a message or artefact and reach the same conclusion (O'Connor & Joffe, 2020). We measured the interrater agreement using three strategies that included coefficient of the generalizability theory, percent crude agreement, and Cohen's kappa (Miles & Huberman, 1994). The level of interrater code-specific agreement was 93% while the kappa values were above 0.80, and a coefficient of generalizability equal to 0.93 was obtained.

Ethical clearance to conduct the study was granted by the Faculty of Education Ethics Committee at the University of Zululand. To adhere to ethical principles, the following considerations were consciously respected in conducting the study: ensuring the anonymity and confidentiality of the participants, informed consent and voluntary participation, and protecting participants from harm. Granted, while FGDs provide a supportive atmosphere for participants, they may also create a sense of professional vulnerability. To limit this, we explained to the participants before the discussion the importance of reflective teaching as a developmental process rather than a punitive one. Furthermore, we made ourselves available to continue working with participants who needed assistance with their EAC practices following the FGD.

In addition, we used Guba and Lincoln's (2005) quality criteria to establish the trustworthiness of the study. To attend to credibility, we prolonged our engagement in the field, as we conducted one long FGD. For dependability, we documented the data using an audio recorder and a verbatim transcript for audit trail purposes. We used the participants' rich descriptions of their classroom experiences to answer the research question so as to establish transferability. Confirmability was ensured through member checking, where the participants read through the transcript to confirm its contents.

# Results and Discussion

The content subject teachers in this study held views on the EAC approach and highlighted its merits, tensions, and complexities in terms of how it is implemented in the context of their classrooms. The teachers held three views, namely, (i) the merits of EAC in general language development; (ii) EAC as a challenge to pedagogical-content knowledge (PCK); and (iii) strategies for improving the implementation of the EAC approach as shown in Appendix B. We will now discuss the findings of the study aligned to both the theoretical frameworks and the following research question: What views do content subject teachers hold about the implementation of the EAC approach at a classroom level? The first section on the presentation of the findings highlights Gibbs' two stages of description and feelings, where they focused on describing the merits of the EAC approach. According to Gibbs (1988), feelings refer to thoughts that an individual holds after experiencing the phenomena. In the context of this study, the teachers described their thoughts on what they experienced as they implemented EAC. The second part discusses Gibbs' (1988) evaluation and analysis stages where the teachers highlighted the challenges they encountered when implementing the EAC approach. The last part of the discussion relates to Gibbs' (1988) stages of conclusions and action plans, where the participants made plans to enhance the implementation of the EAC approach in their classrooms. The findings were interpreted to highlight similarities with and differences from the current literature.

**The merits of EAC in general language development**

Aligned to Gibbs' (1988) description and feelings stages, the participants described their views of EAC largely through the merits of English as a second language, as opposed to their actual practices in the classroom. Accordingly, they believed that the English language serves an important purpose and function in the South African high school education system. The content subject teachers in this study viewed the EAC approach as a resource for improving learners' language usage across the curriculum to meet this purpose. The teachers described the merits of the EAC approach on a macro level where English has become a global language of communication. Meanwhile, at the meso level, the DBE require that English be used as the language of instruction. At the micro level, the learners require proficiency in English language for interactions inside and outside the classroom. Cee, an economics and management sciences teacher with five years of teaching experience, explained that "*English is an international language. Our learners in South Africa need to be exposed to it to participate in this global world. So, I believe all should be done to support learners to learn English.* Sbu, a mathematics teacher with four years of teaching experience, reflected on the meso merits of the EAC approach,

saying, "*I think it is a no brainer that English is important to learning. You see, learning is through English as well as assessment. This EAC approach is important in assisting the learners to improve their use of the language of learning. This I think will help them perform well in all their subjects.*" The advantages of the EAC approach also occur at a micro level, as described by John, an economics and management sciences teacher who has four years of teaching experience. He explained that "*South Africa is a multilingual country that also has a lot of foreigners. English makes it easy for learning and interaction for the learners to be possible …*" The content subject teachers highlighted the broad merits of English as a second language that is part of the learners' repertoires. Their understanding differs from the DBE's (2014) emphasis on EAC as the way in which language learning is given a context that supports linguistic and content development.

Although these content subject teachers highlighted the general merits of EAC in learning, they did not view the approach as an enhancer of disciplinary learning. The DBE (2017) explained that the EAC approach has as its main purpose the exposure of learners to the LoLT using content themes, however the teachers in this study did not highlight this use in their discipline. Alford and Windeyer (2014) mentioned that aspects of language may be common to a range of subject areas, but each area will produce and demand different lexico-grammatical and rhetorical textual features that reflect and construct the knowledge of that area in dynamic ways, something the content subject teachers in this study did not reflect or comment on. The absence of this view of EAC as an enhancer of discipline learning by the participants in this study aligns with the DBE's (2017) assertion that the approach has not been fully being implemented in classrooms.

### EAC as a challenge to pedagogical-content knowledge

Drawing from Gibbs' (1988) stages of evaluation and analysis, the participants reflected on what was working and not working in their implantation of the EAC approach. By and large, the teachers explained that they lacked the ability to incorporate EAC in their teaching. Kwaito, an economics and management sciences teacher with three years of teaching experience, stating, "*When I was a learner, I do not remember my own teacher explicitly integrating language and business studies. During my training as a teacher, the university lecturers did not use the approach.*" These views were also expressed by Xee, an agriculture sciences and life sciences teacher with six years of experience, who noted, "*It is not a bad approach but we honestly do not know how to implement it in class. In my school, we have workshops on this EAC but I have failed on my own to use it.*" Secondly, the content subject teachers viewed the lack of teaching and learning material (TLM) for EAC in their discipline as a challenge. In explaining the need for TLM that is oriented to the EAC approach, Yoli, a life sciences and mathematics teacher with two years of experience, said, "*The scripted lessons* [referencing the DBE, 2017] *and two manuals are not adequate for me to understand what I need to do in class. I think if we had textbooks with the activities that integrate EAC and for, example mathematics, it will help.*" A similar view was voiced by Anita, a physical science teacher with five years' teaching experience, who said that "*… the manuals are helpful … I have tried the approach but the challenge is the lack of textbooks. I remember a situation where I asked the learners to read on Newton's third law of motion and answer comprehension questions in pairs. This activity was not successful as the English used in the textbook was difficult for my Grade 8 learners. They get frustrated with this and it is a lot of work for me to go around explaining words that limit learners' comprehension. It is just time consuming ….*"

Anita's pedagogical challenge in the lesson represents a curriculum design issue that could have been handled through an activity that stimulated learners' prior knowledge by means of pre-reading activities such as vocabulary development, questioning, or prediction, and the like. Anita's views on these challenges highlight that she lacks the experience to guide learners when reading lengthy contextual texts by introducing content-specific vocabulary to aid comprehension and decoding skills to activate learners' prior knowledge (Aalto & Tarnanen, 2017; Alford & Windeyer, 2014). According to Rapetsoa and Singh (2017), these pre-reading activities activate learners' pre-existing concepts about the world and about the text, thus enhancing their comprehension. The activation of learners' prior knowledge is an effective teaching practice rather than the central focus of implementing the EAC approach.

Langa, a geography and history teacher with four years of teaching experience, highlighted that "I support what my colleagues have said about a lack of learning materials for EAC. In the past in my geography class, I have developed my own TLM but it was a lot of work. There is just too much work from teaching to other administration duties." Langa explained that teachers are overworked with teaching and administrative duties, which means that they may not have the time to develop and review content materials to suit the EAC approach

in disciplinary learning. The teachers' views on EAC learning materials largely refer to the textbooks that learners read in order to receive language and content input. This seems like a limited view of the materials and highlights the gaps in the teachers' PCK conceptualisation, which go beyond the mere implementation of the EAC approach.

The teachers did not include linguistic and structural challenges in their descriptions as it seems that their application of the EAC approach is limited. In reference to the cultural challenges, the teachers in this study viewed EAC as challenging their PCK. Contained in their descriptions of PCK as a challenge is their understanding of teaching knowledge from a sociocultural worldview. This aligns with the observation made by Huang (2011) and Aalto and Tarnanen (2017) acknowledging that teachers are producers of their own PCK, which they draw from both experiential and formal preparation. However, the EAC approach poses a challenge to the content subject teachers as they do not have prior experiences explicitly observing it being implemented in the classrooms. That is, the teachers do not possess the pedagogical conceptualisations to blend content and pedagogy into an understanding of how particular aspects of subject matter are organised, adapted, and represented for EAC instruction. Lasagabaster (2018) and Davison (2006) suggest that this situation can be overcome by having collaborative links between language and content subject teachers, which the participants did not include as part of their instructional repertoires.

**Strategies for improving the implementation of the EAC approach**

Following Gibbs' (1988) stages of conclusion and action plans, the participants detailed how they would overcome the challenges in the implementation of EAC. The content subject teachers highlighted the need to improve the initial teacher education curriculum and continuing professional teacher development. In explaining this, Mee, with four years of teaching experience, stated, *"I have seen one of the manuals that says we need to integrate listening, speaking, reading, and writing in natural sciences and technology. How do I do it? I have been a teacher for four years but I am still unable to properly use the approach. I do not have the strategies to do this in my class. Maybe, if there was a course not only manuals I can attend, I would better implement the approach."* In support, Ree, a history and life orientation teacher with three years of teaching experience, explained that "*the manuals are just not enough to guide us with the implementation of the EAC approach. I think I can improve my teaching if I observe an experienced history teaching doing it."* The teachers' views indicate that they lacked the posteriori knowledge that is constructed as a result of experiencing (Carolina, 2009) the use of the EAC approach in teaching their discipline. Teachers draw their posteriori knowledge from experience embedded in the formal preparation curriculum, teaching practice, and modelling of how to implement the EAC approach.

Cee, an economics and management sciences teacher, and Bee, a mathematics and accounting teacher, both with five years of teaching experience, explained that they had come to possess experiential knowledge from implementing the EAC approach in their classrooms. Loughran (2019) describes experiential knowledge as not existing prior to an experience or being understood from mere observation. In alignment with this type of knowledge, Bee said, "*I am a very creative person. Having my Grade 10 learners read and answer comprehension questions in accounting was both innovating on my side and motivating for learners. When the reading approach becomes boring, I looked for other ways to engage them such as having them preparing, writing, and presenting financial statements."* In support, Cee explained that "*I let my learners read, debate, and write about cases studies in economics. While in mathematics, the learners write notes on rules they learn. They also research mathematical rules and present them in class*." This means that some content subject teachers regularly experience the EAC approach, hence the value they assign to it.

The teachers' beliefs that they require professional development indicates that they have no clear understanding of EAC as a pedagogical approach and thus need the knowledge and skills to strengthen their effectiveness in content subject teaching. Notwithstanding this view, some of the teachers recognised that they needed to think about the content to be taught, consider the linguistic demands of their discipline, and creatively facilitate learning that infuses the two. The two teachers (Bee and Cee) who were intentionally practising the implementation of the EAC approach confirmed that the profession cannot be totally mastered. Indeed, it is a lifelong process of constructing knowledge and refining skills through classroom experiences (Aalto & Tarnanen, 2017).

# Implications for practice

The findings of this study have implications for the practice of EAC in the high school curriculum in South Africa. First, the EAC documents provided as pedagogical guidelines for EAC implementation are not adequate. Although the in-service teachers are aware of the EAC approach as it is presented in DBE documents, they experience challenges translating the text into action in their classrooms. Hence, there is need to have targeted professional development programmes that equip in-service content subject teachers with instructional modelling that emanates from observable experiences that are discipline-specific. Secondly, the implementation orientation of the EAC approach is fragmented. That is, it focuses only on the content subject teachers, excluding the ESL teachers. The EAC guidelines that the content subject teachers used did not highlight the possibilities of cross-curricular collaborations with ESL teachers for improving their classroom practices. Even when they encountered challenges, the content subject teachers in this study did not seek co-planning and co-teaching interventions with their ESL colleagues. This suggests the need to have EAC as a systematic practice at the school level rather than a classroom practice that, according to most of the participants in this study, was rarely used.

# Conclusion

We argued at the beginning of this article that there was a need to explore South African high school teachers' views on the implementation of the EAC approach in their subjects. The findings we have presented suggest that the high school teachers are aware of the importance of the EAC approach. That awareness does not, however, extend to their practices of fostering deep learning opportunities by co-developing the learners' content and language learning. The teachers in this study, although willing to implement the EAC approach, lacked the practical knowledge of how to do it. Accordingly, they indicated the need for a collaborative and scaffolded process for implementing the EAC approach. This process will involve professional development using the strategies of modelling, observation, and mentoring. While this study does not offer a conclusive answer regarding the teachers' viewed needs for the proper implementation of the EAC approach, it does offer a preliminary step for interrogating how both students and in-service teachers are prepared to use the approach. It would be desirable if future studies in this field focus on the implementation of the EAC approach using an action research design in order to enhance teachers' practices.

This study focused on describing the content subject teachers' views on implementing the EAC approach at the classroom level in South Africa. Following Gibbs' (1988) reflective stages, the participants described their feelings and evaluated and analysed their experiences implementing this approach. In answering this part of the research question, the participants indicated that they viewed the EAC approach as having merit for general language development. However, our findings indicated a gap in the content subject teachers' understanding of the merits of the EAC approach for disciplinary learning. Several researchers commented on this aspect as they noted that their understanding of EAC and how it unfolds in different disciplines was underdeveloped.

The content subject teachers viewed the EAC approach as a challenge to their PCK, as they lacked both professional expertise and learning materials to effectively engage the learners. The teachers' views that they have gaps in their teaching knowledge were based on the notion that they lacked the posteriori and experiential knowledge of the EAC approach required to integrate it into their professional repertoires that could have been provided to them during their initial teacher education.

To attend to Gibbs' last stage of the reflective cycle, the teachers concluded their reflections and suggested strategies and action plans for enhancing the implementation of the EAC approach in their classrooms. The content subject teachers explained two strategies for improving this implementation. The first approach is to strengthen initial teacher education to intentionally include the study of implementing the EAC approach in different disciplines. The second approach is enhancing continuing professional teacher development. This concurs with previous research that suggests the need for intentionally collaborative opportunities between ESL and content subject teachers to enhance learners' language development across the curriculum.

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## Conflict of interests

The authors declare that they have no conflicts of interest.

## References

Aalto, E., & Tarnanen, M. (2017). Negotiating language across disciplines in pre-service teacher collaboration. *European Journal of Applied Linguistics*, *5*(2), 245-271. https://doi/10.1515/eujal-2017-0011/html

Alford, J., & Windeyer, A. (2014). Responding to national curriculum goals for English language learners: Enhancing reading strategies in junior high school content areas. *Journal of Immersion and Content-Based Language Education*, *2*(1), 74–95. https://doi.org/10.1075/jicb.2.1.04alf

Calvo, E., & San Isidro, X. (2012). The fusion effect of CLIL on language-building and content learning: Research study. In O. Meyer, & D. Marsh, (Eds.), *Quality interfaces: Examining evidence & exploring solutions in CLIL* (pp. 103–140). Eichstaett Academic Press.

Carolina, G. V. (2009). Developing craft knowledge in teaching at university: How do beginning teachers learn to teach? *European Educational Research Journal*, *8*(2), 326–335.

Chionis, M., Dertili, D., Kynigou, I., & Xanthakou, E. (2017). Implementing CLIL in a Greek Secondary School Setting: A Suggestion for Good Teaching Practices. *Research Papers in Language Teaching & Learning*, *8*(2), 63-76.

Chu, E. Y. (2019). What is effective second language exposure and how does it relate to content-based instruction and language across the curriculum?. *Journal of Second Language Studies*, *2*(1), 93-118. https://doi.org/10.1075/jsls.18002.chu

Coyle, D., P. Hood & D. Marsh (2010). *Content and language integrated learning*. Cambridge University Press.

Creswell, J.W. & Poth, C., (2018). *Qualitative Inquiry and Research Design*, 4th . Sage.

Dalton-Puffer, C. (2007). *Discourse in Content and Language Integrated Learning (CLIL) classrooms*. John Benjamins.

Dalton-Puffer, C., & Smit, U. (2013). Content and language integrated learning: A research agenda. *Language Teaching*, *46*(4), 545–559. https://doi.org/10.1017/S0261444813000256

Davison, C. (2006). Collaboration between ESL and content teachers: How do we know when we are doing it right? *International Journal of Bilingual Education and Bilingualism*, *9*(4), 454–475. https://doi.org/10.2167/beb339.0

Dewey, J. (1933). *Democracy and education*. Free Company.

Fusch, P. I., & Ness, L. R. (2015). Are we there yet? Data saturation in qualitative research. *The Qualitative Report, 20*(9), 1408–1416.

Garrison-Fletcher, L. (2020). Language across the curriculum: Why all community college faculty must learn to support emergent bilingual students. *Community College Journal of Research and Practice*, *44*(5), 391–394. https://doi.org/10.1080/10668926.2019.1595218

Gibbs, G. (1988). *Learning by doing: A guide to teaching and learning methods.* Further Education Unit, Oxford Polytechnic.

Guba, E. G., & Lincoln, Y. S. (2005). Paradigmatic controversies, contradictions, and emerging confluences. In N. K. Denzin & Y. S. Lincoln (Eds.), *The Sage handbook of qualitative research* (3rd ed., pp. 191–216). Sage.

Heugh, K. (2009). Into the cauldron: An interplay of indigenous and globalised knowledge with strong and weak notions of literacy and language education in Ethiopia and South Africa. *Language Matters*, *40*(2), 166–189. https://doi.org/10.1080/10228190903188559

Huang, Y. P. (2011). English-medium instruction (EMI) content-area teachers. *Taiwan Journal of TESOL*, *8*(1), 35–66. https://doi.org/ 10.30397/TJTESOL.201103_8(1).0002

Kao, Y. T. (2020). Understanding and addressing the challenges of teaching an online CLIL course: a teacher education study. *International Journal of Bilingual Education and Bilingualism*, 1-20. https://doi.org/10.1080/13670050.2020.1713723

Karabassova, L. (2019). CLIL or "just good teaching" in Kazakhstan? *Revista Nebrija de Lingüística Aplicada a la Enseñanza de Lenguas*, *13*(27), 55–81. https://doi.org/10.26378/rnlael1327341

Karabassova, L. (2020). Is top-down CLIL justified? A grounded theory exploration of secondary school Science teachers' experiences. *International Journal of Bilingual Education and Bilingualism*, 1–16. https://doi.org/10.1080/13670050.2020.1775781

Koopman, G. J., Skeet, J., & De Graaff, R. (2014). Exploring content teachers' knowledge of language pedagogy: A report on a small-scale research project in a Dutch CLIL context. *The Language Learning Journal*, *42*(2), 123–136. https://doi.org/10.1080/09571736.2014.889974

König, J., Lammerding, S., Nold, G., Rohde, A., Strauß, S., & Tachtsoglou, S. (2016). Teachers' professional knowledge for teaching English as a foreign language: Assessing the outcomes of teacher education. *Journal of Teacher Education*, *67*(4), 320–337. https://doi.org/10.1177/0022487116644956

Krueger, R. A., & Casey, J. (2009). *Successful focus groups: Practical guidelines for research.* Sage.

Lasagabaster, D. (2018). Fostering team teaching: Mapping out a research agenda for English-medium instruction at university level. *Language Teaching*, *51*(3), 400–416. https://doi.org/doi:10.1017/S0261444818000113

Lin, A. M. (2016). *Language Across the Curriculum & CLIL in English as an Additional Language (EAL) contexts: Theory and practice*. Springer.

Loughran, J. (2019). Pedagogical reasoning: the foundation of the professional knowledge of teaching. *Teachers and Teaching*, *25*(5), 523–535. https://doi.org/10.1080/13540602.2019.1633294

Lughmani, S. D., Gardner, S., Chen, J., Wong, H., & Chan, L. (2016). *English across the curriculum: Fostering collaboration.* https://pureportal.coventry.ac.uk/en/publications/english-across-the-curriculum-fostering-collaboration-2

Makalela, L. (2015). Moving out of linguistic boxes: The effects of translanguaging strategies for multilingual classrooms. *Language and Education*, *29*(3), 200–217.https://doi.org/10.1080/09500782.2014.994524

Mathole, Y. (2016). Using content and language integrated learning (CLIL) to address multilingualism in South African schools. *European Journal of Language Policy*, *8*(1), 57–78.

Miles, M.B., & Huberman, A.M. (1994). *Qualitative data analysis* 2ⁿᵈ Ed. Thousand Oaks, CA: Sage Publishers.

Msimanga, A., Denley, P., & Gumede, N. (2017). The pedagogical role of language in science teaching and learning in South Africa: A review of research 1990–2015. *African Journal of Research in Mathematics, Science and Technology Education*, *21*(3), 245–255. https://doi.org/10.1080/18117295.2017.1367874

Msimanga, A., & Erduran, S. (2018). Language, literacy and science learning for English language learners: Teacher meta talk vignettes from a South African science classroom. In K.S. Tang, & K. Danielsson (Eds.), *Global developments in literacy research for science education* (pp. 97–111). Springer.

Nomlomo, V., & Desai, Z. (2014). Reflections on the development of a pre-service language curriculum for the BEd (Foundation Phase). *South African Journal of Childhood Education*, *4*(3), 87–102.

Nowell, L.S., Norris, J.M., White, D.E., & Moules, N.J. (2017). Thematic analysis: Striving to meet the trustworthiness criteria. *International Journal of Qualitative Methods*, *16*(1), 1–16. https://doi.org/10.1177/1609406917733847

Nyumba, T. O., Wilson, K., Derrick, C. J., & Mukherjee, N. (2018). The use of focus group discussion methodology: Insights from two decades of application in conservation. *Methods in Ecology and Evolution*, *9*(1), 20–32. http://doi.org/10.1111/2041-210X.12860

O'Connor, C., & Joffe, H., 2020. Intercoder reliability in qualitative research: Debates and practical guidelines. *International Journal of Qualitative Methods, 19*(1), 1–13. https://doi.org/10.1177/1609406919899220

Probyn, M. (2019). Pedagogical translanguaging and the construction of science knowledge in a multilingual South African classroom: Challenging monoglossic/post-colonial orthodoxies. *Classroom Discourse*, *10*(3–4), 216–236. https://doi.org/10.1080/19463014.2019.1628792

Rapetsoa, J. M., & Singh, R. J. (2017). Does the Curriculum and Assessment Policy Statement address teaching and learning of reading skills in English First Additional Language? *Mousaion*, *35*(2), 56–78. http://doi.org/10.25159/0027-2639/1270

Richards, J. C., & Rodgers, T (1982). Method: Approach, design, and procedure. *TESOL Quarterly, 16*(2), 53–168.

San Isidro, X., & Lasagabaster, D. (2019). Monitoring of teachers' views on both CLIL and the development of pluriliteracies: A longitudinal qualitative study. *English Language Teaching*, *12*(2), 1–16. https://doi.org/10.5539/elt.v12n2p1

Schön, D. A. (1983). *The reflective practitioner: How professionals think in action*. Basic Books.

Setati, M. (2008). Access to mathematics versus access to the language of power: The struggle in multilingual mathematics classrooms. *South African Journal of Education*, *28*(1), 103–116.

Setati, M. (2001). Researching Mathematics education and language in multilingual South Africa. *The Mathematics Educator, 12*(2), 6–20.

Stake, R. E. (2005). Qualitative case studies. In N. K. Denzin, & Y. S. Lincoln (Eds.), *The SAGE handbook of qualitative research* (3rd ed, pp. 443–466). Sage Publications.

Svensson, L., Anderberg, E., Alvegård, C., & Johansson, T. (2009). The use of language in understanding subject matter. *Instructional Science*, *37*(3), 205–225. https://doi.org/10.1007/s11251-007-9046-1

Swart, F., De Graaff, R., Onstenk, J., & Knèzic, D. (2018). Teacher educators' conceptualization of ongoing language development in professional learning and teaching. *Professional Development in Education*, *44*(3), 412–427. https://doi.org/10.1080/19415257.2017.1345775

Turner, M. (2020). Knowledge about (English) language across the curriculum in EAL and CLIL contexts. In P. Mickan & I. Wallace (Eds.), *Handbook of language education curriculum design* (pp. 90–106). London: Routledge.

Urmeneta, C. E. (2019). An introduction to content and language integrated learning (CLIL) for teachers and teacher educators. *CLIL. Journal of Innovation and Research in Plurilingual and Pluricultural Education*, *2*(1), 7-19. https://doi.org/10.5565/rev/clil.21

Uys, M., Van der Walt, J., Van den Berg, R., & Botha, S. (2007). English medium of instruction: A situation analysis. *South African Journal of Education, 27*(1), 69–82.

Van Kampen, E., Admiraal, W., & Berry, A. (2018). Content and language integrated learning in the Netherlands: Teachers' self-reported pedagogical practices. *International Journal of Bilingual Education and Bilingualism*, *21*(2), 222–236. https://doi.org/10.1080/13670050.2016.1154004

Van Rooyen, D., & Jordaan, H. (2009). An aspect of language for academic purposes in secondary education: complex sentence comprehension by learners in an integrated Gauteng school. *South African Journal of Education*, *29*(2), 271–287.

Vicente, A., & Martinez-Manrique, F. (2013). The influence of language on conceptualization: Three views. *Protosociology*, *30,* 89–106.

Vollmer, H. J. (2007). Language across the curriculum a way towards plurilingualism. In W. Martinyuk (Ed.), *Towards a common European framework of reference for languages of school education* (pp. 177–192). Universitas.

Yin, R. K. (2009). *Case study research: Design and methods* (4th ed.). Sage.

# APPENDIX A

**FOCUS GROUP DISCUSSION GUIDE**

Content subject teachers' views of implementing the English Across the Curriculum (EAC) approach: a study of some South African high schools

*SECTION A: PERSONAL INFORMATION*

| | |
|---|---|
| Selected pseudonym | |
| Number of years as a high school teacher | |
| Number of years using the EAC approach | |
| Grade taught | |
| Subjects taught | |
| Highest qualification | |
| Availability for a follow-up study | YES/NO |

*SECTION B: FOCUS GROUP DISCUSSION*

| | |
|---|---|
| Date | 10 August, 2020 |
| Location | _____ |
| Time | 10:15-12:10 |
| Number of participants | 15 |
| Moderators | _____ |

1. OPENING REMARKS
2. REMINDER OF THE FOCUS GROUP DISCUSSION
3. GROUND RULES
4. CONSENT PROCESS

As a group, we are going to go over the informed consent form before we start our focus group to be sure that you understand why we are having this focus group and to be sure that you voluntarily want to participate. You are still free to withdraw from the discussion at any time.

| Questions | Gibb's (1988) stages of reflection |
|---|---|
| Introductory question<br>We are going to give you a couple of minutes to think about implementing the EAC approach in your subject.<br>Is anyone happy to share his or her experience? | |
| What is you understanding of the EAC approach?<br>How do you implement the EAC approach in your subject? | Description |
| What are your favourite aspects of implementing the EAC approach in your subject?<br>What are your least favourite aspects of implementing the EAC approach in your subject? | Feelings |
| What has worked for you when implementing the EAC approach in your subject?<br>What has not worked for you when implementing the EAC approach in your subject? | Evaluation |
| What influences how you implement the EAC approach in your subject?<br>What influences you not to implement the EAC approach in your subject? | Analysis |
| What have you learnt implementing the EAC approach in your subject?<br> What changes would you make based on what you have learnt about implementing the EAC approach in your subject? | Conclusion |
| What plans would you make to ensure changes you highlighted are implemented when integrating content and language learning? | Action plans |
| Exit question<br>Is there anything else you would like to say aboutimplementing EAC approach in your subject? | |
| Wrap up and thank you | |

# APPENDIX B

## THEMES, SUB-THEMES AND CATEGORIES

| THEME 1: THE MERITS OF EAC IN GENERAL LANGUAGE DEVELOPMENT | |
|---|---|
| **Sub-theme 1.1: Macro-level merits of EAC** | |
| **Categories** | **Number of times the participants mentioned the category** |
| 1.1.1: *English proficiency enhances learners' opportunities in global communication.* | 15 |
| 1.1.2: *The learners need English language for entertainment purposes.* | 9 |
| **Sub-theme 1.2: Meso-level merits of EAC** | |
| 1.2.1: *English proficiency improves learners' mastery of educational concepts.* | 13 |
| 1.2.2: *English proficiency enhances career prospects.* | 15 |
| **Sub-theme 1.3: Micro-level merits of EAC** | |
| 1.3.1: *English is the language of learning and teaching (LoLT).* | 15 |
| 1.3.2: *The ability for learners to use English improves the quality of their social interactions inside and outside the classroom.* | 10 |

| THEME 2: EAC AS A CHALLENGE TO PEDAGOGICAL-CONTENT KNOWLEDGE | |
|---|---|
| **Sub-theme 2.1: EAC as a hindrance to content learning** | |
| **Categories** | **Number of times the participants mentioned the category** |
| 2.1.1: *Limited knowledge on how to design lessons that integrate content and language learning* | 10 |
| 2.1.2: *Limited knowledge on how to facilitate learning activities that integrate content and language learning* | 9 |
| 2.1.3: *Limited knowledge on how to pace a lesson that integrates content and language learning* | 8 |
| 2.1.4: *Limited knowledge of the language structures and how they are used in the discipline* | 9 |
| **Sub-theme 2.2: Lack of EAC teaching and learning materials (TLMs)** | |
| 2.2.1: *The textbooks used in different disciplines do not use the EAC approach* | 13 |
| 2.2.2: *Limited knowledge of developing own TLMs that integrate content and language learning* | 10 |

| THEME 3: STRATEGIES FOR IMPROVING THE IMPLEMENTATION OF EAC | |
|---|---|
| **Sub-theme 3.1: Enhancing teacher theoretical knowledge of implementing the EAC approach** | |
| **Categories** | **Number of times the category is mentioned** |
| 3.1.1: *Improved EAC programmes in initial teacher education* | 9 |
| 3.1.2: *Enhanced professional development in the implementation of EAC for in-service teachers* | 12 |
| **Sub-theme 3.2: Enhancing teachers' experiential knowledge of implementing the EAC approach** | |
| 3.2.1: *Opportunities for modelling of the EAC approach* | 10 |
| 3.2.2: *Opportunities to observe EAC experts in the classroom* | 7 |
| 3.2.3: *Opportunities to be mentored to become EAC experts in the classroom* | 6 |