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TEACHING ENGLISH TO YOUNG CODERS IN FORMAL EDUCATION CONTEXT

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Abstract: This paper investigated how English teachers in a coding-integrated school of primary education level managed their teaching and learning process by utilizing digital technology. This study focused on two research problems: (1) how were the teachers' perceptions on the use of technology to teaching young coders? and (2) how was the young coders' performance in joining the English class? This narrative inquiry involved two English teachers as the participants. The data were collected using a narrative frame. Then, the data were analyzed using thematic coding analysis. The findings of this study revealed that both teachers felt challenged to teach young coders and they were encouraged to conduct learning activities which optimized the use of technology and supported their coding learning. Technology assisted them to provide various learning activities in the classroom and improve the students' participation, especially in speaking and physical-response activities. While students were actively involved in the classroom activities, they were less independent in reading and writing activities. Therefore, the teachers used to anticipate it through several strategies. In the future, they expect to improve their skill in developing their own learning materials through websites or applications which can better engage their students and improve their language skills altogether.
Key words: coding school, digital technology, ICT, TEYL

INTRODUCTION

The speedy growth of information and communication technology (ICT) has directed schools with proper facilities to provide advanced teaching and learning processes by utilizing technology. The use of ICT in daily ELT classroom practice has been widely used, starting from the simple one using PPT slides and LCD to present the learning materials and/or conduct supporting learning activities. The internet development has brought advancement in education. It provides unlimited learning resources from which students and teachers can learn from and bring it into classroom learning practice. In other words, the internet performs as a resource bank as well as a learning tool (Arikan, 2014).

The shift to technology has been carried out since primary to higher education level (Khezrlou, 2015) and nowadays digital education with mobile technology is becoming a global trend (Jie & Sunze, 2021). For young learners of English in the last decade, ICT plays a prominent role in their learning experiences. As they are native to technology, children, especially for advantaged and educated families, are generally connected closely to kinds of audio-visual media, one of which educational applications for learning English. Toddlers mostly have been familiar with English nursery rhymes and English games on mobile phones, iPad, or personal computers. However, many apps which were targeted to young learners were found to not be planned for English as a Foreign Language (EFL) learners, and do not inspired interaction around the texts (Chik, 2014). Therefore, one of the ideas to utilize those

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applications effectively is by bringing it to a formal education context with the right guidance from the teachers.

ICT has been brought into the ELT teaching and learning process for all education levels, starting from preschool to university. Various learning sources are available in accordance with the users and presented in educational games, quizzes, audio-visual learning materials, etc. However, it doesn't always provide suitable learning experiences for the students since some materials on the internet such as grammar were considered as traditional in nature and didn't promote communicative value (Arikan, 2014). Therefore, the role of teachers can better utilize those learning sources to develop students' communicative competence as well. On the other hand, with sufficient pedagogical knowledge and the subject content, the internet is really helpful for English educators to present interesting and engaging learning experiences for their students.

The closeness of young learners with technology has encouraged education institutions to bring ICT intensively to school curriculum, one of which by involving coding material to formal education context as the basis of digital application and program development. It has been familiar in European countries and the US in the last decade and it also has been started in Indonesia (Kurniawati et al., 2022). Bringing the value of school of technology with coding as the featured content, an ICT elementary school in Indonesia conducted its teaching and learning process by optimizing the use of digital learning media and creating its own learning management system. As for the English teaching, the school also provided digital learning media for their students. It didn't have printed materials. All the students' activities were organized through a learning management system. Even though English is not a compulsory subject in elementary education level (Nufus, 2019), this school provides regular English lessons because English is the most widely used language for coding learning and applications (García-Peñalvo et al., 2016). The crucial fact is that a technology-enhanced learning environment must be complemented by pedagogical trust (Zuiker et al., 2009), so the English teachers must manage the technology-enhanced learning optimally to achieve the learning goals.

Studies on teaching English to young learners using enhanced-technology have become a global issue and studied by previous researchers. Arıkan & Taraf (2010) studied authentic animated cartoons effectiveness to teach English to young learners in Turkey. This experimental study used a pre and post-test design to compare the use of authentic animated cartoons and instruction-based on vocabulary and traditional grammar teaching. The results pointed out that the experimental group outperformed the control group in learning target grammar points and vocabulary items. Sukenasa et al. (2020) studied the impacts of technology-mediated board games on young learners' vocabulary learning performance and learning motivation. He reported that technology-mediated board games could improve students' English vocabulary learning achievement. Besides, the use of technology-mediated board games initiated the young learners to have better learning motivation.

Taghizadeh & Yourdshahi (2020) examined English teachers' knowledge, attitude, challenges, and use of technological tools in teaching English to young learners.

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The results revealed a positive tendency towards the integration of technology into young learner classes, but most teachers did not have sufficient pedagogical and technological knowledge. They were willing to participate in technology-based professional development programs, even though there was no provided training or courses on the use of technology in young learners' classes. The teachers' lack of skills and lack of support from the institutions are the major challenges along with limited computer facilities. Concerning teachers' perception, Pertiwi et al. (2020) investigated the teacher's perspective on the challenges while teaching English for young learners. Some challenges were unveiled, including teaching approach in the class, monotonous media, class sizes, students' characteristics, and the difficulties of language skills. Managing the class tended to be the most difficult one.

Of the previous studies presented above, integrating technologies to teach young learners has been proven to bring positive impacts. While conducting the teaching and learning process, teachers often faced challenges. The previous studies didn't clearly report how actually the teachers ran the classes in steps. It also didn't report how the students performed in detail. It then becomes an interesting issue on how the English teachers in the school managed the learning process with fully digital learning sources and how their perceptions on the students' performance in the classroom practice were. This study tried to fill this gap by investigating the teachers' roles in managing the teaching and learning activities by using technology and how the teachers perceived the students' performance in joining English class. The novelty of this study lies in its research focus on investigating the teachers' role in managing the class in steps, along with the benefits and challenges they faced. Teachers' perceptions about students' performance is also crucial to see how well the teachers pay attention to the students' responses and progress from which they can plan for better engaged learning experiences.

RESEARCH METHOD

This is a qualitative study which focuses on human experience and reflection on certain phenomena. Using narrative inquiry, this study tried to unveil the teachers' lived experience in teaching English to young learning in a coding school in Indonesia. It reflected their journey from the first time they taught English, their current practice, as well as their aspirations for the future. Through this narrative frame, teachers' perceptions could be explored more comprehensively, including the change of their perceptions and teaching practices.

Two English teachers of an ICT school for elementary level in Central Java were invited as the participants in this study, named Mrs. ER and Ms. AP. The data were collected through a written narrative frame and followed by several semi structured interviews to confirm the information or the participants' statements. The data were then analyzed using thematic coding. The findings were sent to the participants to be confirmed. The credibility of this study was supported by the different data collection methods, namely narrative frame and semi-structured interview. Shenton (2004) as cited in Akyıldız & Çelik (2020) also suggest several criteria of credibility used in this study, namely volunteerism of the research participants and direct

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quotations of the participants as presented in the results and discussion section. Meanwhile, the conformability of this study was done through data confirmation with the participants.

RESULTS AND DISCUSSION

Both the teachers felt happy and challenged in preparing the teaching and learning activities for the students since they would utilize digital materials and used technology in their classroom practice. This first perception of positive feeling or emotion is very important and can determine the teachers' teaching performance. Teachers' emotions are closely related to both teachers' outcomes and students' outcomes such as well-being, self-efficacy, engagement, motivation, and quality of classroom instruction (Nalipay et al., 2021). Further, it is very important in building learning engagement (Sadoughi & Hejazi, 2021). Integrating technology to classroom instruction seemed nice and effectively improved students' performance, but the teachers' roles to present it in steps is still uncovered.

The teachers' roles in managing the learning activities

The teachers' roles in managing the learning activities can be categorized into four stages: planning, implementation, evaluation, and professional development. Through each stage, there were several more detailed roles they should take.

Planning

The teachers plan their learning activities. In the planning stage, the teachers first figure out the characteristics of their students and predict the suitable learning experiences.

> "Their characters are varied. Some are quiet, critical, even when they feel bored, sometimes they often talk to their friends in class…. I think they like English lessons and they will be interested in learning activities that use video and sound," (Ms. AP)

After figuring the types of learning activities, they prepared the learning media which they believe to be able to engage the students' participation by utilizing videos and colorful digital contents. The use of digital content increases students' motivation in learning because the material provided has been designed to evoke students' interest (Fansury et al., 2020).

> "I prepare my laptop. The material has been compiled with colorful illustrations and text in the form of a summary. I find it helpful to have additional videos explaining the material I teach from YouTube or educational websites." (Ms. AP)

This school has provided a source book, but the teachers still need to digitalize the book. Therefore, they spent much time scanning and uploading the materials to the LMS which they use at school.

> "I need more time in compiling and uploading the contents in the form of questions and pictures, not to mention when checking the results of children's work and correcting wrong answers, the web does not yet provide an automatic check service." (Ms. AP)

To complete the learning activities with more variative ones, the teachers also added some materials they took from online sources. "The explanation in the book is still lacking in detail,

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so I still need to find additional information from other books or internet sources," said Mrs. ER. Besides, sometimes they found it difficult to find the materials which best suit their needs.

Even though educational websites provided plenty of learning resources and exercises, several learning websites they utilized didn't support automatic correction tools, so they had to do manual correction. Those works of uploading the learning materials and correcting the students' work were very time consuming.

Besides preparing the learning materials and activities, they also anticipated if the students' performances were out of their expectations. If the students were about to be confused, Ms. AP had already prepared additional videos to help the students. She also used to speak Bahasa Indonesia. Meanwhile, Mrs. ER pointed out the students' problem in understanding English instruction, so she anticipated it by familiarizing the instructions on each meeting and asking the students to memorize three more vocabularies each meeting.

Implementation

In the next stage, the teachers implemented their plans. As the teachers had already made their teaching plan, they implemented their plan based on the schedule. Ms. AP felt happy when she was teaching since she had already recognized the students' characteristics and the classroom settings. Having prepared the materials to be taught also helped her to teach happily. The positive attitude such as enjoyment in joining English class is a prominent factor that facilitates foreign language learning (Liu & Hong, 2021). Besides, the good school facilities with one personal computer for each student, LCD, screen, speaker sounds, and internet connection did support the teachers in implementing their plans.

> "I prepare learning materials and media for children that can be integrated with
> IT and I find it helpful to have a computer that each student has, as well as LCDs
> and projectors in each class." (Mrs. ER)

The students generally could follow the teaching and learning activities as had been planned by the teachers.

> "My students are able to follow the learning activities well. Things that matched
> my expectations, among others, were being able to repeat and write the
> vocabulary I taught and do the practice questions well. The activities that students
> like the most when in class are brain gym by dancing following the videos I play
> before class starts as well as apperception activities" (Ms AP).

The teachers in this school always opened the class by having a brain gym and apperception. Brain gym was aimed at preparing the students' readiness and building their mood in joining the class. Before coming to the lesson, the teachers always gave them a perception. It was aimed to guide the students in knowing the objectives of their learning and recognize the correlation of the learning materials to their daily lives. This is important to let the students know that they are learning something relevant to their daily life (Lestariyana & Widodo, 2018), so the learning can be more meaningful.

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In conducting the teaching and learning process, sometimes they found some difficulties in the use of new English instruction dealing with the new materials. They chose to explain in bahasa Indonesia to ensure the students' understanding and then speak English for the rest of the class activities. Another problem was students' lack of participation in the classroom due to tiredness or boredom. When the students felt bored or didn't understand the materials well, sometimes they talked to their friends and it caused noise. The most difficult part is managing the class. The teacher should prepare the techniques to solve the challenge (Pertiwi et al., 2020). To encourage the students' focus and activeness in the classroom, the teachers did some strategies, among others giving reward and additional score to motivate the students in obeying the rules and refocus on the learning process. "If they seem less interested in joining the learning activities, I will reward them in the form of stars and additional marks," Ms. AP stated.

Evaluation

After teaching, the teachers evaluated their performance as well as the students' performance. There were two kinds of evaluation they did. The first one is in-class evaluation in which they check the students' understanding at the end of the class. "When I finish teaching, I usually review the lesson by asking some questions to the students. They really like this session," Mrs. ER stated.

The second kind of evaluation was done through self-reflection. They pointed out the strengths and the weaknesses from which they could learn for the next teaching session. To evaluate the students' understanding, they checked the students' score of the exercise they gave.

> "When I finish teaching, I usually write down the last material, just a simple reflection on the teaching process. I look at the results of student practice questions, and immediately check the next material." (Ms. AP)

By these two kinds of evaluation, the teachers believed that they could recognize what they should improve to perform better.

Professional Development

Professional development refers to the activities to keep improving teachers' capability in their fields. It includes learning how to learn and transforming teachers' knowledge into practice for the benefits of their students' growth (Zerey, 2018). Both of the English teachers in this school had a bachelor degree in English education as their basic knowledge to teach English. Not focusing only on teaching English to young learners, both participants learned a lot through daily classroom activities and professional development programs provided by the school. This school as well as the foundation had provided training for the teachers, both in the use of ICT and English skill enhancement. Therefore, the teachers always learned to improve their capability. ICT-assisted teaching training is very important and it is reported to have a significant effect on English language proficiency and the pedagogical knowledge of the teachers. ICT assisted teaching is very suggested to respond advanced technologies for English language teachers' professional development (Abraham et al., 2022)

As to optimize the teaching and learning process in English subjects, the teachers still wanted to improve their capabilities in ICT and English skills.

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"I plan to improve my skills in terms of using websites and mobile phone applications by discussing with teachers at school as well as attending training organized by PLN (Professional Learning Network)." (Ms. AP)

The same aspiration regarding their professional development was also stated by Mrs. ER.

"I plan to improve my skills in mastering the material by using some learning media. I think that in the future my students will need a variety of English learning activities, such as meeting foreigners and other challenging activities." (Mrs. ER)

It is seen from the statements that both teachers were really well-engaged on their duty as English teachers. Not only running the teaching and learning process, they also did professional development programs regularly, as well as having plans for their own professional development.

The teachers' perceptions on the students' performance

They taught students aged 7-10 years old or grade 1-4 in the Indonesian education system. The students at the school were characterized as active and curious learners. Most of the students showed high enthusiasm to learn English and they even got more interested in the learning process which combined audio-visual media and physical activities. Both teachers agreed that the students had a positive attitude toward English learning at school and performed well on the learning process.

"My students can fulfill my expectation by responding to the questions in English that I give, understand what I say in English, and dare to speak in English even though it is still incorrect." (Mrs. ER)

The discussion of this section is focused on the students' achievement in the English class and the students' engagement in teaching and learning process. In general, both teachers reported good achievement of the students. Ms. AP reported that 90% of her students could pass the passing grade in an English subject, while only 10% of them required remedial test. Mrs. ER also reported the same information that almost all of her students could pass the passing grade, and only few of them need remedial work. They were quite satisfied with their students' achievements. "My students' English scores are not only seen from the test results, but also from their activeness in class and doing assignments," Mrs. ER added.

Dealing with the students' engagement to the classroom learning activities, the teachers pointed out the activities in which the students were well-engaged and less-engaged. The students performed better on activities which required body movements and IT, but they showed less interest in reading and writing long sentences.

"My students like English learning activities that combine movement or activities as well as IT. Because I teach in a technology-based school, I am required to be

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able to teach learning activities using technology. Therefore, I prepared learning materials and media for children that can be combined with IT." (Mrs. ER)

The students were also interested in computer-based learning activities, such as answering the quizzes in the LMS or uploading their work to Google drive.

"They like to answer quizzes with English games on the computer or answer questions in Microsoft word then upload it to the Google drive." (Mrs. ER)

It implies that the students were really engaged in IT in their daily classroom activities. They were already familiar with it and knew how to operate basic IT instruction, so they didn't need much assistance from the teachers. It shows that technology worked as a mediational tool in the classroom to influence class interactions and student learning experience (Kim, 2021). Moreover, using LMS has the potential to be a key part of a primary classroom environment since it can personalize learning. In this case the teachers should be able to manage the learning pedagogy and the use of the LMS as a tool to support learning (Edmunds & Hartnett, 2014)

On the other hand, the students were less-engaged in reading and writing activities. Mrs ER reported, "they seem less interested in reading activities." Ms. AP reported that her students showed less interest in typing long sentences on their computer. As two of the basic skills in English, reading and writing are both important. It might be influenced by their lack of both activities in general lessons since most of their lessons were computerized and multimodal, so that it decreased their interest in reading and writing which require more effort than clicking on applications that they use to do.

Since they were still in the lower grade of elementary school, the teachers didn't take it as a serious problem, rather they chose to motivate the students to develop their better engagement on both activities. The teachers' strategies in addressing the students' less engagement were done in several ways. Ms. AP chose to give a reward or additional score, while Mrs. ER preferred to read together with the students.

CONCLUSION

Teaching English to young learners who actively used and learned technology on a daily basis has encouraged the teachers to provide technology- integrated learning experiences. Aside from fulfilling the school's requirements, the teachers found it as a meaningful journey in their career since they should do more work in implementing their roles compared to other English teachers in general. As a professional English teacher, they played several roles, including planning the lesson, implementing their plans, evaluating their performance as well as the students, and joining professional development programs. In each of the roles, they are always connected to technology and digital contents. Though it was very challenging and time consuming at first, they were satisfied with the students' engagement and achievement.

Concerning the students' performance, the teachers found the students to have good participation in the learning process. They also generally got good grades in English. The students performed better engagement in learning activities which involved the physical activities such as dancing, brain gym; audio visual learning materials such as videos; and integrated with ICT, such as online quizzes, doing exercise in LMS. However, they were less

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engaged in reading and writing activities. In addressing this problem, the teachers implement several strategies of giving rewards or guiding the students to do the task.

English teaching to young learners using technology tends to be a world-wide issue we could address, both in formal education context, or informal ones through various applications on mobile phones or websites.

Thus, study on this field can be variative, among others, further studies can focus on vocabulary mastery of children using mobile applications, or the students' perceptions on certain applications in supporting their English learning.

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