OPTIMIZATION OF ISLAMIC RELIGIOUS EDUCATION AND ETHICS LEARNING WITH THE INTEGRATION OF CONTEXTUAL TEACHING AND LEARNING WITH DIGITAL TECHNOLOGY

Sita Sukmawati[1], Nurul Latifatul Inayati[2]
[1,2] Universitas Muhammadiyah Surakarta, Surakarta, Indonesia
email: g000210066@student.ums.ac.id [1]
         nl122@ums.ac.id[2]
         * Corresponding Author

Abstrak

Penelitian ini mengkaji optimalisasi pembelajaran PAI dan Budi Pekerti melalui integrasi Contextual Teaching and Learning (CTL) dengan teknologi digital di SMK Negeri 7 Surakarta. Metode CTL digunakan untuk menghubungkan materi ajar dengan pengalaman nyata siswa, sementara teknologi digital dimanfaatkan untuk meningkatkan keterlibatan dan pemahaman mereka. Dengan pendekatan kualitatif deskriptif, penelitian ini mengumpulkan data melalui observasi, wawancara, dan analisis dokumen. Hasil penelitian menunjukkan bahwa integrasi CTL dan teknologi digital meningkatkan partisipasi siswa, memperkuat pemahaman konsep keagamaan, serta mendorong berpikir kritis dan reflektif. Namun, masih ditemukan kendala seperti rendahnya motivasi belajar, keterampilan membaca Al-Qur'an yang belum optimal, dan kurangnya internalisasi nilai-nilai religius. Untuk mengatasinya, guru menerapkan strategi pembiasaan ibadah, pembelajaran berbasis proyek, dan pemanfaatan media digital interaktif. Temuan ini menegaskan bahwa integrasi CTL dan teknologi digital dapat menciptakan pembelajaran PAI yang lebih relevan, menarik, dan bermakna bagi siswa SMK.

Kata kunci: Contextual Teaching and Learning; Pendidikan Agama Islam; Pembelajaran Kontekstual; Teknologi Digital.

Abstract

This study examines the optimization of Islamic Education (PAI) and Character Education learning through the integration of Contextual Teaching and Learning (CTL) with digital technology at SMK Negeri 7 Surakarta. The CTL method is used to connect instructional materials with students' real-life experiences, while digital technology is leveraged to enhance their engagement and comprehension. Using a descriptive qualitative approach, this research collected data through observations, interviews, and document analysis. The findings suggest that integrating CTL and digital technology enhances student participation, deepens their understanding of religious concepts, and promotes critical and reflective thinking. However, challenges remain, such as low learning motivation, suboptimal Quranic reading skills, and a lack of internalization of religious values. To address these issues, teachers implement strategies such as habitual worship practices, project-based learning, and the use of interactive digital media. These findings affirm that integrating CTL and digital technology can create a more relevant, engaging, and meaningful PAI learning experience for vocational school students.

Keywords: Contextual Learning, Contextual Teaching and Learning, Digital Technology, Islamic Religious Education.

INTRODUCTION

Learning is currently facing major problems, one of which is the lack of effectiveness of the education process. Included in the subject of PAI and Ethics is often perceived as something boring, rigid, monotonous, and lacks meaning for students. To improve the quality of Islamic religious education, it is necessary to observe more about the quality of various learning components, such as teachers, students, curriculum, media, methods, and others (Hikam & Karima, 2020). Students, as subjects in education, are the most crucial component in the implementation of teaching and learning activities, because the success of achieving educational goals is highly dependent on the development of the student. Choosing the right method for teachers can create an efficient teaching situation, so that students are able to understand the teaching material optimally. Contextual learning provides opportunities for students to deepen, expand, and apply the knowledge and competencies they have acquired, both in the school environment and outside of school, because it directly involves them in the learning process and encourages active participation in each stage.

However, there are still obstacles in connecting the concepts taught with their application in the real world (Saputra et al., 2022). With the development of the times and rapid technological advancement, the use of digital technology has a crucial role in the field of education (Diana et al., 2024). Therefore, technology-based updates during PAI learning are an urgent need. Active learning that involves students' participation through projects, experiments, and problem-solving can strengthen their understanding and increase their motivation (Inayati & Ariona, 2023). Learning with a contextual approach, such as Contextual Teaching and Learning (CTL), should be combined with digital technology to create a more interactive and meaningful learning experience. The use of technology in PAI learning not only increases the attractiveness of learning, but also develops digital mindsets as well as critical and analytical thinking skills (Kharisma et al., 2024).

At SMK Negeri 7 Surakarta, the challenges in PAI learning are increasingly complex because of the characteristics of students who tend to be more oriented towards vocational skills rather than religious conceptual insights. Based on the results of observations and interviews with PAI teachers, it was found that many students find it difficult to connect religious materials with their lives, so their motivation in learning tends to be low. A Research revealed that the Contextual Teaching and Learning (CTL) method broadens the horizons of students related to PAI, but has not been effective in shaping religious character outside of school (Misra & Zakiyah, 2022). Meanwhile, other research emphasizes that the effectiveness of CTL depends on the relevance of the material to students' real lives (Agustiningsih et al., 2024). Different from the two studies, this study not only discusses the application of CTL in PAI learning, but also examines the role of

digital technology in increasing its effectiveness, especially in vocational schools that have unique challenges in shaping students' religious character

Research on the application of CTL in PAI learning has been done extensively and shows that this approach can broaden students' knowledge related to teaching materials. However, in reality, many students still have difficulty in internalizing religious values outside the school environment (Santoso et al., 2024). This condition indicates that even though contextual learning methods can support students' understanding of concepts in more depth (Lestari et al., 2021). Its effectiveness in forming religious character is still a challenge in itself. Therefore, the integration between CTL and digital technology is expected to be a solution in increasing the effectiveness of PAI learning, especially in vocational schools that have more practice- and skill-oriented student characteristics.

This research has urgency in developing a learning approach that is more aligned with the character and interests of vocational school students. PAI learning not only teaches the concept of Islamic teachings theoretically, but also plays a role in building character and accustoming students to practicing religious values in daily life. Through the use of digital technology in the learning process, it is hoped that students will be more motivated and able to understand and apply religious concepts in the context of real life more clearly (Mas'ula & Muzakki Hakim, 2023). In addition, the integration of religious values in vocational projects is also an important strategy so that students not only gain a theoretical understanding of religion, but also be able to apply it in their professional context in the future.

This research is focused on examining the optimization of PAI and Ethics learning through the integration of Contextual Teaching and Learning and digital technology at SMK Negeri 7 Surakarta. By referring to various literature, observation results, and interviews with teachers as well as students, this study explores how the application of the CTL method combined with technology can foster students' involvement and insight into teaching materials. Preliminary results show that some teachers have adopted this approach and experienced an increase in student engagement. Students who were initially passive became more active in discussing, asking questions, and exploring material using digital media. Thus, this research is anticipated to contribute to designing PAI and Ethics learning strategies that are more effective, innovative, and relevant to the needs of the current digital generation.

METHODS

This study applies a descriptive qualitative method to gain a deeper understanding of the implementation of the Contextual Teaching and Learning (CTL) approach and digital technology in the teaching of PAI and Ethics at SMK Negeri 7 Surakarta. This approach was chosen because it is more effective in exploring the subject's experiences, perceptions, and involvement in the learning

process, which cannot be measured numerically (Mulyana et al., 2024). With this method, the research can explore how the CTL strategy is applied by teachers, the challenges faced in learning, and its influence in developing an evaluative mindset and spiritual understanding of students.

The interview method in this study was carried out by communicating directly between researchers and participants to explore their views and experiences related to the application of Contextual Teaching and Learning (CTL) in PAI and Ethics learning. The interview involved two PAI teachers and five students in grades X and XI from the Department of Visual Communication Design (DKV) at SMK Negeri 7 Surakarta. The teachers interviewed were those who had applied CTL and digital technology in the learning process, while the students selected were students who showed an interest in learning in participating in CTL-based learning and had experience in using digital technology as part of the learning process.

Observations were carried out in classes X and XI of DKV to see the application of CTL in PAI learning, including student involvement, discussion, material exploration, and the use of digital technology. This observation aims to assess the effectiveness of CTL in improving student understanding. Meanwhile, documentation is the process of collecting data from various documents or archives to support the results of interviews and observations (Achjar et al., 2023). In this case, it can be through learning recordings, classroom photos, student work, and teachers' digital teaching materials, which strengthen research findings related to the application of CTL and digital technology.

Table 1. Interview, Observation, Documentation Instruments and Indicators in The Study

Instruments	Type	Information	Purpose	Indicator
Teacher Interviews	Semi-Structured Interviews	Interviews with two PAI teachers who apply CTL and digital technology.	Understand CTL strategies, obstacles, and impacts of digital technology integration in PAI learning.	1. The use of digital technology in CTL. 2. CTL learning strategies. 3. Obstacles in the implementation of CTL. 4. The impact of CTL on student understanding. 5. The role of teachers as facilitators.
Student Interviews	Semi-Structured Interviews	Interviews with five students of	Exploring students' experiences in	1. Student experience in CTL.

Instruments	Type	Information	Purpose	Indicator
		grades X and XI majoring in DKV.	CTL, the effectiveness of digital technology.	2. The effectiveness of digital technology. 3. Interest in PAI learning. 4. Application of Islamic values.
Teacher's Observation	Participatory Observation	Direct observation of teachers' activities in teaching using CTL and digital technology.	Assess the application of CTL and the use of technology in learning.	1. The use of technology in teaching. 2. Application of the principles of CTL da technology. 3. Teachers' Strategies in Guiding Students. 4. The learning model provided by the teacher. 5. CTL-based learning evaluation.
Student Observation	Participatory Observation	Observations on student engagement in CTL-based learning and the use of digital technology.	Measuring student participation and the effectiveness of technology in supporting learning.	1. Involvement in discussions. 2. Interest and enthusiasm for CTL. 3. The application of Islamic values in daily life. 4. Critical thinking and reflection skills.
Documentation	Document Analysis	Collection of supporting evidence such as syllabus, lesson plans, student work results, and learning recordings.	Strengthening research results with concrete data related to the implementation of CTL and digital technology.	1. Learning recordings. 2. Photos of learning activities. 3. Student work. 4. Teacher teaching materials.

The data analysis process refers to the Miles and Huberman model, which includes three stages, namely the reduction stage, data presentation, and conclusion drawing (Palazzolo, 2023). In the data reduction stage, information collected from interviews, observations, and documentation is selected and categorized based on key themes, such as the application of CTL principles, the use of digital technology, and student involvement in PAI learning. The data obtained is presented in the form of a descriptive narrative and is equipped with a table to clarify the findings, which makes it easier to identify patterns and relationships between variables. At the conclusion stage, the research findings were analyzed in depth to understand the effectiveness of the CTL method and the integration of digital technology in improving students' understanding of PAI materials. To ensure the consistency of research findings, triangulation of sources and methods is carried out by analyzing data from interviews, observations, and documentation comprehensively and complementing each other.

Data verification was carried out through source triangulation, where the information obtained from the teacher was analyzed and compared with the information from the students related to the application of the CTL method and the use of digital technology. The triangulation method is carried out by linking the results of interviews, observations, and documentation. If observations show that students are more engaged in group discussions after being given material with the CTL approach, then this is reinforced by student interviews that reveal that discussion methods and self-exploration help them understand the material better. Documentation, such as photos of learning activities or student work, is also used as concrete evidence of the effectiveness of the method.

This analysis stage describes how the data that has been obtained is systematically processed to answer the research focus related to the optimization of learning and ethics with the integration of contextual teaching and learning and digital technology at SMK N 7 Surakarta.

RESULTS AND DISCUSSION
Integration of Contextual Teaching and Learning and Digital Technology in PAI and Ethics Subjects

At SMK Negeri 7 Surakarta, the application of the Contextual Teaching and Learning (CTL) learning model in PAI and Ethics subjects is strengthened with digital technology, such as interactive learning videos and educational applications. The CTL model not only focuses on understanding concepts theoretically but also encourages students to integrate religious values in their daily practice. It was explained that the orientation of the CTL method is to provide more meaning in learning by connecting teaching materials with student experiences (Wajdi, 2022). Digital technology further enhances access and learning experience, allowing students to gain insights that are more relevant to real-world situations through

discussion forums and digital learning resources (Alfiah et al., 2025). Based on the researchers' observations, all components of CTL have been implemented effectively, especially through the integration of digital technology that supports active student involvement.

First, Constructivism

The constructivism approach to PAI learning at SMK Negeri 7 Surakarta is applied by providing questions that trigger in harmony according to students' experiences. This is intended to encourage them to think critically before getting an explanation from the teacher. As explained in the interview.

> *"Biasanya kita mulai dengan bertanya, misalnya 'Kenapa kita harus menjaga pergaulan? Apa akibatnya jika melanggar batas-batas yang ditentukan dalam Islam?' Saya ingin mereka berpikir dulu sebelum saya jelaskan."* (Interview with one of the PAI and Budi Pekerti teachers at SMK N 7 Surakarta)

In addition, the use of digital technology also supports constructivism-based learning. The use of interactive videos is one of the methods that makes students more interested and understands the concept of Islam better.

> *"Biasanya kita lebih ke digital, cari video pembelajaran atau sumber lain dari internet. Anak-anak lebih tertarik kalau ada videonya, apalagi kalau video itu mengingatkan mereka akan pentingnya ibadah."* (Interview with one of the PAI and Budi Pekerti teachers at SMK N 7 Surakarta)

With technology, students are able to learn independently, delve into Islamic material, and relate it to the context of their lives. The role of the teacher is more as a guide who provides direction so that students can understand concepts more clearly. This approach is in line with the theory of constructivism, which emphasizes that understanding is gained through direct experience and interaction with the environment (Wisudawati & Sulistyowati, 2022). When students learn in person in a supportive environment, they are more actively engaged, so their understanding is deepened and learning outcomes are more optimal (Lathifah et al., 2024).

Second, Inquiry

PAI learning at SMK Negeri 7 Surakarta encourages students to actively explore the material before getting an explanation from the teacher. They were given the opportunity to gather information from a variety of references, including print literature and online sources, before discussing in class. As expressed by a student:

> *"Ya, terkadang sebelum memulai pembelajaran kita diminta untuk mencari informasi tentang materi pembelajaran yang akan dibahas terlebih dahulu*

sebelum dijelaskan oleh guru, bisa buku atau Google biasanya." (Interview with one of the students at SMK N 7 Surakarta)

The results of the observations show that this method helps students become more independent and proactive in discussing. In accordance with the principle of inquiry in CTL, students not only passively receive material, but also participate in the process of discovery and analysis to develop their own understanding (Fakhriyah et al., 2021).

Figure 1. Students Seek Information from Various Sources, Such as Books and the Internet

Third, Questioning

In PAI learning at SMK Negeri 7 Surakarta, the strategy of asking questions is carried out with teachers providing opportunities for them to ask questions related to aspects that have not yet been understood, interaction in the educational environment occurs not only between students and teachers, but also among fellow students and other individuals around them. In the learning process, students not only rely on explanations from educators, but can also gain insights through discussions and sharing understanding with their peers especially with the help of digital media. As explained in the interview:

"Biasanya, saya memberi materi dulu, lalu diskusi. Setelah itu, anak-anak akan mendengarkan dan aktif bertanya. Mereka juga sering mencari informasi tambahan melalui Google atau sumber lain untuk memperdalam pemahaman mereka" (Interview with one of the PAI and Budi Pekerti teachers at SMK N 7 Surakarta)

With digital technology, students are more independent in exploring the material. They can look for additional references that support their understanding and ask more in-depth questions during discussions. This approach is in line with Pangemanan's view, which emphasizes that asking questions is the main method In order to understand the material better and develop critical thinking skills, students need to engage in interactive learning. Through discussion and concept

exploration activities, they can be more active in developing understanding and connecting information more deeply. and be able to build a deeper understanding of the material studied (Pangemanan, 2020).

Fourth, Learning Community

Community-based learning is applied in PAI subjects at SMK Negeri 7 Surakarta by grouping students into teams randomly. In this group, students who understand the material better help their friends who are still having difficulties. Additionally, the use of digital media such as Canva helps students present material in a more engaging and easy-to-understand way. As explained in the interview:

> *"Nah, di situ anak-anak diminta untuk bentuk satu kelompok isinya lima, lima, lima, lima, lima. Kita yang random acak ke mereka untuk presentasi. Kenapa di materi larangan berzina ini kita gunakan untuk presentasi? Karena menarik. Nanti anak-anak bisa menggunakan Canva. Jadi setiap anak itu sudah memiliki aplikasi namanya Canva. Canva itu digunakan untuk PPT, mereka membuat PPT itu. Kemudian ketika sudah selesai membuat materinya, dikasih gambar-gambar agar lebih menarik."* (Interview with one of the PAI and Budi Pekerti teachers at SMK N 7 Surakarta)

Based on observations, this method improves teamwork, encourages students to participate more actively, and hones their communication skills in delivering material. Students feel happier when they move assignments with groups. As explained by one of the Shiva:

> *"Ketika mengerjakan tugas dengan berkelompok saya merasa senang karena tugasnya terasa lebih mudah ketika dilakukan secara berkelompok."* (Interview with one of the students at SMK N 7 Surakarta)

This approach is in line with the concept of learning community, which emphasizes that the optimal learning process takes place in a collaborative environment, where students share knowledge with each other and support each other's understanding (Proud et al., 2024). Students in this model understand the material faster and are expected to help their friends who still need guidance, so that learning becomes more meaningful and comprehensive. Therefore, methods and technologies that support knowledge sharing in learning communities play an important role in strengthening this process (Zamiri & Esmaeili, 2024).

Figure 2. Group Discussion on PAI Learning and Ethics at SMK N 7 Surakarta

Fifth, Modeling

In PAI learning at SMK Negeri 7 Surakarta, teachers play the role of role models by providing real examples that can be followed by students. As explained in the interview:

"Setelah absen, kita ajak siswa untuk shalat dhuha bersama di masjid. Guru agama biasanya menjadi imam, sholat dhuka itu kan bukunya, sifatnya adalah menfarid, kan begitu, Kok dibuat jama'ah? Untuk pembelajaran boleh dilakukan dengan berjama'ah Dilakukan bersama-sama, jadi berjama'ah Untuk pembelajarannya boleh. sehingga ada kedekatan emosional antara guru dan siswa. Untuk apa sholat dhuhanya? Nafilah, untuk nambahin sholat waduhnya yang ketika bolong-bolong" (Interview with one of the PAI and Budi Pekerti teachers at SMK N 7 Surakarta)

In addition to being an example in worship, teachers also use visual media such as audiovisual to increase the absorption of material by students. The use of this video aims to make students more interested in the material and can take lessons from the shows they watch.

"Biasanya, saya menggunakan video agar anak-anak lebih tertarik dengan materi. Misalnya, ketika membahas tentang menjaga lisan dan menutup aurat, saya putarkan video yang relevan dan meminta mereka untuk mengambil kesimpulan dari tayangan tersebut" (Interview with one of the PAI and Budi Pekerti teachers at SMK N 7 Surakarta)

In this method, teachers are not only in charge of delivering material, but also play a role model in carrying out worship and shaping the character of students. By displaying observable and imitable behaviors, teachers help students understand the values being taught more effectively. This approach is in line with Ulandari's idea, which emphasizes that when teachers directly show examples in

learning, students will more easily absorb and internalize the concepts taught. (Ulandari et al., 2021). In addition, the application of digital technology in Islamic Education in the digital era has the potential to improve the quality of learning and student learning interest. However, schools need to supervise and regulate the use of technology so that the negative impact can be minimized (Mas'ula & Muzakki Hakim, 2023).

Figure 3. Students Watch Interactive Videos Through Their Respective Gadgets

Sixth, Reflection

Based on the observation results, reflection is an important part of PAI learning at SMK Negeri 7 Surakarta. Towards the end of the lesson, the teacher gives the students time to reflect on the material that has been learned, such as understanding the message in a verse or the importance of maintaining consistency in worship. This reflection activity can be done through various methods, such as group discussions or interactive sessions, so that students can relate their understanding to real situations in their daily lives. As explained by an educator:

> *"Jadi kita setiap penutup nanti kita membaca doa Kafaratul Majlis, Kita berikan refleksi terlebih dahulu. Bagaimana anak-anak untuk hari ini dapat pelajaran dari Pak Taufik Apa aja tadi? Di surat al-Imran ya berapa tadi? Surat 90 Terus kemudian tadi sudah baca habis Tugasnya adalah menghafal ya refleksi. Selain surat al-Imran yang 190 Tadi tugas pembelajarannya berapa? Jadi selesai pembelajaran harus ada refleksi Biar kita tahu bisa mengukur anak-anak itu Seberapa jauh dia menerima transfer ilmu dari kita yang hari ini."* (Interview with one of the PAI and Budi Pekerti teachers at SMK N 7 Surakarta)

The results of observations show that reflection does not only function as an evaluation tool, but also plays a role in shaping students' character. Teachers not only ensure academic understanding, but also encourage students to take wisdom from the material and apply it in their daily lives. One of the strategies

applied is to ask students to conclude lessons from the learning media used, such as videos.

> *"Saya pasti menyampaikan ke anak itu, ambil kesimpulannya, menikmatinya. Apa manfaat dari video itu setelah kamu melihatnya? Apa manfaat atau hikmahnya? Jadi nanti bisa diterapkan seharusnya."* (Interview with one of the PAI and Budi Pekerti teachers at SMK N 7 Surakarta)

This approach is in line with the concept of reflection in learning, which includes the process of reviewing, organizing, analyzing, clarifying, and evaluating what has been learned (Suciani et al., 2023). With good reflection, students are able to absorb and master the material more comprehensively and relate it to their personal experiences, so that learning becomes more meaningful (Pratama, 2023).

Seventh, Authentic Assessment

In PAI learning at SMKN 7 Surakarta, assessments focus more on skills and processes than just theory. Teachers assess students based on their daily tasks, attendance, and ability to work together. In addition, ethical aspects in working on projects, polite attitudes during presentations, and involvement in collaborative projects are also important parts of the assessment process. One form of this assessment is explained by the teacher as follows:

> *"Untuk penilainya, kita kan ada nilai sikap, ada kolaborasi, kolaborasi kerjasama mereka. Ada kolaborasi, terus kemudian ada nilai sikap, kerjasama antar tim, terus kemudian pengetahuan mereka. Ada pertama sikapnya, terus kemudian kolaborasinya. Kolaborasi berarti mereka kerja secara tim. Nilai sikap, kolaborasi, dan nilai presentasi. Itu kalau saat presentasi, tapi kalau nilai diraport, kita akan menggunakan nilai pengetahuan dan nilai keterampilan. Ada pengetahuan dan keterampilan. Keterampilan itu 60 persen, pengetahuannya itu hanya 40 persen"* (Interview with one of the PAI and Budi Pekerti teachers at SMK N 7 Surakarta)

The final assessment in learning is done through a work degree, where students display the results of their project in an exhibition. In the process, they use digital media to process materials, design displays, and arrange presentations to make them more interesting and informative.

> *"Proyek itu persiapan prosesnya, anak-anak menyiapkan selama dua minggu proyeknya dari jurusan masing-masing. Nanti ada yang pameran, ada yang presentasi. Biasanya, dalam pembuatannya mereka menggunakan media digital seperti desain grafis atau aplikasi presentasi. Selama proses persiapan gelar karya didampingi oleh guru untuk menilai bagaimana prosesnya dari masing-masing individu."* (Interview with one of the PAI and Ethics teachers at SMK N Surakarta)

This method is aligned with the principles of contextual learning and teaching (CTL), which emphasizes that authentic assessments should focus more on practical skills than just theory. The assessment not only focuses on understanding students' theories, but also observes the extent to which they can practice the knowledge they have learned in their daily lives (Melani, 2024). This approach includes holistic evaluation, which is an assessment method that reflects various types of intelligence, such as art projects, oral presentations, or portfolios that display various forms of expression of students' abilities (Wijaya et al., 2023).

Table 2. CTL Implementation and Digital Technology Integration

Aspects	Implementation of CTL in PAI Learning	Digital Technology Integration
Constructivism	Teachers provide triggering questions relevant to students' experiences to build self-understanding. Teachers play the role of companions in the learning process.	The use of online learning platforms and interactive videos for the exploration of Islamic concepts independently.
Inquiry	Students are invited to find information related to learning materials and then explore how to apply them in daily life.	The use of the internet for information search, in order to expand students' horizons.
Questioning	Students are encouraged to actively ask questions and discuss aspects that are not understood with teachers and peers.	Digital platforms are used for questions and answers, allowing students to exchange information online.
Learning Community	Students are grouped heterogeneously to guide each other in understanding the material.	Digital presentation creation and use of multimedia in group discussions.
Modeling	The teacher gave examples of worship practices such as dhuha prayer and tartil Al-Qur'an.	Utilization of learning videos about Islamic morals and worship procedures.
Reflection	Students are invited to reflect on the lessons they have learned and their relevance to daily life.	Drawing conclusions from video watching as a self-evaluation tool for learning reflection.
Authentic Assessment	Assessment based on daily tasks, attendance, ethics, and involvement in collaborative projects.	Digital technology is used in the exhibition of works as part of the assessment.

At SMKN 7 Surakarta, the learning of Islamic Religious Education (PAI) and Ethics applies the contextual learning model (CTL) effectively. All aspects of this approach are used to deepen students' understanding. In the process, teachers not

only convey material theoretically, but also connect it with students' real experiences and integrate digital technology as a learning medium. Project-based methods applied in PAI and Ethics learning have shown effectiveness in increasing student engagement, creating a more dynamic learning experience, and honing critical and creative thinking skills. With this approach, students become more active in understanding religious concepts and are able to apply them in daily life (Samsudin et al., 2023).

Challenges and Solutions for the Implementation of the CTL Model at SMKN 7 Surakarta

The application of Contextual Teaching and Learning (CTL) in PAI and Ethics subjects at SMKN 7 Surakarta faces various challenges, especially in character building, proficiency in reciting the Qur'an, and students' interest in learning. The following is a description of the challenges and related solutions:

First, Student Character Formation

The main challenge in character formation is the low habituation of religious values, such as not praying, speaking rudely, and lack of manners. This is influenced by the lack of support from parents.

> *"SDM-nya sebenarnya cukup, cuma karakter religinya yang kurang Mereka susah sekali diajak untuk sholat tepat waktu Itu susah banget, bahkan sering meninggalkan Ketika dicari, solusinya kenapa? Dari 1600 itu, yang sholat kalau saya amati 22 tahun saya mengajar itu Di SMK negeri itu juga Yang sholat itu hanya sekitar 300-400 Terus kemudian sisanya, yang 1200 itu kemana? Karena rata-rata itu anak-anak berangkatnya itu dari keluarga yang tidak religi. Terus kemudian sekolahnya memilih sekolah negeri, tidak di sekolah yang bernafaskan Islam, sehingga kita bisa memaklumi."* (Interview with one of the PAI and Budi Pekerti teachers at SMK N 7 Surakarta)

To overcome this problem, teachers also set an example in behavior and ethics, as well as maintain active communication with parents to increase awareness of the importance of religious values at home.

> *"Lalu bagaimana? Harus kita kolaborasi dengan orang tuanya Untuk namanya grup orang tua Kalau saya kan ada grup orang tua Sehingga komunikasi, minta tolong Walaupun kita sebagai pendidik itu hanya bentuknya motivas Langkah-langkah ini diharapkan mampu menghasilkan atmosfer. pembelajaran yang mendukung pembentukan karakter religius siswa."* (Interview with one of the PAI and Budi Pekerti teachers at SMK N 7 Surakarta)

In addition to the Religious Tuesday and Friday programs with tadarus activities and congregational dhuha prayers. This habit, plus an open and effective relationship with parents can have a good impact on students. As explained by a Student:

"Ya, saya mendapatkan ilmu dan saya menerapkan ilmu tersebut sambil memperbaiki diri saya" (Interview with one of the students at SMK N 7 Surakarta)

Habituation and a harmonious relationship between teachers and parents can also help students to be better. Because family, school and environment are three factors that can affect students' character (Hikmawati et al., 2022).

Second, the ability to recite the Qur'an

The ability to recite the Qur'an well is one of the important factors that affect students' academic performance in PAI subjects. However, in reality, the ability to recite the Qur'an of students at SMKN 7 Surakarta is still relatively low. According to one of the PAI teachers at SMKN 7 Surakarta, the process of identifying students who have been able and who are still in the process of learning to recite the Qur'an is carried out regularly.

"Saya selalu mengidentifikasi yang bisa baca Al-Qur'an dan yang tidak. Dari 36 siswa, paling maksimal hanya 6-8 siswa per kelas yang bisa membaca Al-Qur'an dengan baik. Jika dikalikan dengan jumlah kelas yang ada, dari sekitar 1.600 siswa, jumlah yang bisa membaca Al-Qur'an masih sangat terbatas." (Interview with one of the PAI and Budi Pekerti teachers at SMK N 7 Surakarta)

To overcome this obstacle, teachers implement a learning community system, in which students who are more proficient in reciting the Qur'an are appointed as tutors for their peers.

"Kami mengadakan tutorial membaca Iqro, di mana yang bisa membaca Al-Qur'an akan menjadi tutor bagi yang belum bisa. Ini bertujuan agar mereka bisa saling membantu dan proses belajar menjadi lebih efektif." (Interview with one of the PAI and Budi Pekerti teachers at SMK N 7 Surakarta)

On the other hand, teachers also provide extra time for students who still experience obstacles in reading the Qur'an. In this activity, the teacher emphasized the importance of mutual respect between fellow students, which not only helps improve reading skills, but also fosters ethics and a sense of community in the learning environment. As explained by Ichsanto & Wahyuningsih, the ability to recite the Qur'an can motivate students to delve deeper into its content (Ichsanto & Wahyuningsih, 2021). This can ultimately improve their understanding of PAI material, thereby contributing to their academic achievement.

Third, Lack of Interest in Learning Students

Students' interest in learning PAI subjects at SMKN 7 Surakarta is still diverse. Some students feel that religious material is less relevant to their lives,

while one-way lecture methods sometimes make them less enthusiastic about the lessons. According to one of the PAI teachers at SMKN 7 Surakarta, the main challenge in teaching PAI is to attract students who tend to be less interested in religious learning.

> *"Kalau metodenya hanya ceramah saja, mereka cepat bosan. Makanya, kita harus berinovasi dalam mengajar agar mereka tetap tertarik,"* (Interview with one of the PAI and Budi Pekerti teachers at SMK N 7 Surakarta)

To overcome this, teachers apply a more interactive learning approach and utilize digital media, such as learning videos, to make the material more interesting and easy to understand. However, there are obstacles in the limitations of facilities.

> *"Di beberapa kelas, kita terkendala jumlah proyektor yang masih terbatas, jadi solusinya kita izinkan siswa menggunakan gadget mereka sendiri untuk mengakses materi secara mandiri."* (Interview with one of the PAI and Budi Pekerti teachers at SMK N 7 Surakarta)

In addition, teachers also build a more interactive and memorable learning environment through more active interaction and the insertion of ice-breaking in learning.

> *Saya sering memasukkan ice-breaking atau diskusi kelompok agar kelas lebih hidup. Kalau mereka nyaman, mereka jadi lebih aktif bertanya dan berdiskusi,"* (Interview with one of the PAI and Budi Pekerti teachers at SMK N 7 Surakarta)

With this approach, students become more engaged, comfortable, and motivated in taking PAI lessons. Students' interest in learning in PAI subjects is influenced by a variety of factors, including teaching methods, communication, parental support, and the school environment. Interactive and engaging teaching methods, such as discussions and hands-on practice, have been proven to help arouse students' enthusiasm in the PAI learning process (Akhyar et al., 2024). Therefore, the application of more interactive methods and the use of technology in PAI learning, as carried out at SMKN 7 Surakarta, is in line with the latest theory regarding increasing students' interest in learning.

Table 3. Challenges and Solutions

Challenge	Solutions Implemented
Low religious character of students (Lack of prayer habits, rude speech, lack of manners)	1. Religious Tuesday and Religious Friday Program (*tadarus* and Dhuha Prayer in congregation). 2. Teachers set an example in behavior and ethics. 3. Active communication with parents to instill religious values at home.

Challenge	Solutions Implemented
Proficiency in reciting the Qur'an is still low	1. Using a learning community system, where students who are proficient in reciting the Qur'an become tutors for their friends. 2. The teacher provides extra duration for students who have difficulty reading. 3. The teacher emphasized mutual respect between students in the learning process.
Lack of interest in learning students (Students find religious material less relevant, lecture methods boring)	1. Utilize digital media, such as interactive videos, to grab students' attention. 2. Ice-breaking in the middle of learning to make the atmosphere more fun.

By integrating character building, improving proficiency in reciting the Qur'an, and internalizing the principles of manners in Contextual Teaching and Learning-based learning, teachers at SMKN 7 Surakarta have succeeded in creating relevant, effective, and positive impact learning. The use of digital technology in this approach further increases student involvement in learning through an approach that is more active, relevant, and tailored to their conditions and needs. The project-based learning approach in PAI has been shown to increase students' active participation, create a more engaging learning environment, and stimulate their creativity and critical thinking skills (Inayati et al., 2025). The creative programs implemented not only hone students' skills, but also shape them into individuals. that are religious and ethical.

The results of this study are in line with the research of Misra & Zakiyah, which shows that CTL is able to optimize students' insight into religious materials, but there are still difficulties in internalizing religious values outside the classroom (Misra & Zakiyah, 2022). This is also supported by the research of Wonti Agustiningsih, Luthfiyah and Ruslan, who affirm that the effectiveness of CTL depends on the extent to which learning is associated with students' real experiences (Agustiningsih et al., 2024). However, this study differs in its context because it focuses on vocational schools (SMK), which have different characteristics and challenges compared to public schools. In addition, this study also provides a practical approach in overcoming students' low interest in learning and Qur'an reading skills, which have not been widely discussed in previous research.

Different from previous research, this study offers innovative solutions by developing more adaptive strategies to overcome obstacles in the implementation of CTL. One of the main contributions of this research is to integrate CTL with digital learning technology more broadly. The use of interactive digital media, learning videos, and online platforms has been shown to increase student engagement in learning, make the material more engaging, and strengthen the

connection between religious concepts and their daily lives. This technology integration provides an opportunity for students to learn Islamic values more dynamically and can be adjusted to their individual learning style preferences.

By combining CTL approaches, digital technology, and family involvement, this study provides a solution to the constraints found in previous research. This approach not only enriches the learning experience in the classroom, but also encourages the application of Islamic values in students' daily lives in a more natural and sustainable manner. Thus, this research contributes to designing a CTL-based learning strategy that is more adaptive and in accordance with the dynamics of today's education.

CONCLUSIONS AND SUGGESTIONS

This study explores how the CTL approach can be applied in the PAI and Ethics learning process at SMK Negeri 7 Surakarta has succeeded in improving students' understanding of teaching materials. CTL allows students to connect learning with real-life experiences, thereby increasing their engagement and motivation to learn. In addition, the integrated use of digital technology, such as interactive videos, and digital platforms, further enriches the learning experience and makes learning more interesting and related to students' daily lives. However, there are several obstacles in the implementation of this method, such as the low proficiency of students in reciting the Qur'an and lack of awareness of religious values in daily life. Another challenge is the limited enthusiasm of students in exploring religious lessons. To overcome these barriers, various strategies have been implemented, including worship habituation programs, project-based learning, and the formation of learning communities among students.

Overall, this study emphasizes that the application of the CTL method combined with digital technology and habituation strategies is able to create more meaningful, relevant, and effective learning in shaping the religious character of students in vocational schools. Future research should focus on a more comprehensive study of the long-term impact of the application of the CTL method on academic achievement and strengthening students' character. In addition, further exploration of the combination of the CTL method with other approaches that are more adaptive to technological developments and the dynamics of the modern world of education can also be an interesting research focus.

REFERENCE

Achjar, K. A. H., Rusliyadi, M., Zaenurrosyid, A., Rumata, N. A., Nirwana, I., & Abadi, A. (2023). *Metode penelitian kualitatif: Panduan praktis untuk analisis data kualitatif dan studi kasus*. Sonpedia Publishing Indonesia.

Agustiningsih, W., Luthfiyah, L., & Ruslan, R. (2024). Analisis Implementasi Model Contextual Teaching and Learning (CTL) pada Mata Pelajaran Pendidikan

Agama Islam. *Jurnal Pendidikan Dan Pembelajaran Indonesia (JPPI)*, *4*(1), 1–9. https://doi.org/10.53299/jppi.v4i1.406

Akhyar, M., Junaidi, J., Supriadi, S., Febriani, S., & Gusli, R. A. (2024). Implementasi kepemimpinan guru PAI dalam meningkatkan motivasi belajar siswa melalui pemanfaatan teknologi di era digital. *Al Qalam: Jurnal Ilmiah Keagamaan Dan Kemasyarakatan*, *18*(6), 4234–4248. https://doi.org/http://dx.doi.org/10.35931/aq.v18i6.3855

Alfiah, P., Rahma, A., & Mufidah, V. N. (2025). *Implementasi Teknologi Digital Dalam Pengelolaan Kelas Pada Pembelajaran Pendidikan Agama Islam*. *3*(4), 110–120. https://doi.org/https://doi.org/10.61104/ihsan.v3i1.488

Diana, A., Azani, M. Z., & M, M. (2024). the Concept and Context of Islamic Education Learning in the Digital Era: Relevance and Integrative Studies. *Profetika: Jurnal Studi Islam*, *25*(01), 33–44. https://doi.org/10.23917/profetika.v25i01.4239

Fakhriyah, F., Rusilowati, A., & Susilaningsih, E. (2021). Argument-Driven Inquiry Model : A Systematic Review To cite this article : Argument-Driven Inquiry Learning Model : A Systematic Review. *International Journal of Research in Education and Science (IJRES)*, *7*(3), 767–784. https://doi.org/https://doi.org/10.46328/ijres.2001

Hikam, F. F., & Karima, S. (2020). Pengaruh contextual teaching and learning (CTL) terhadap prestasi belajar siswa pada bidang studi PAI di SDIT Insantama Banjar. *Didaktika: Jurnal Kependidikan*, *9*(1), 48–59. https://doi.org/https://doi.org/10.58230/27454312.11

Hikmawati, H., Yahya, M., Elpisah, E., & Fahreza, M. (2022). Pengaruh lingkungan sekolah terhadap pembentukan karakter siswa sekolah dasar. *Jurnal Basicedu*, *6*(3), 4117–4124. https://doi.org/https://doi.org/10.31004/basicedu.v6i3.2717

Ichsanto, W., & Wahyuningsih, R. (2021). Kemampuan Membaca Alquran dan Menghormati Orang Tua dengan Prestasi Belajar PAI Siswa SMP Surakarta. *Cendekia: Jurnal Pendidikan Dan Pembelajaran*, *15*(1), 78–88. http://cendekia.soloclcs.org/index.php/cendekia/article/view/662

Inayati, N. L., & Ariona, V. D. (2023). Charting the Course of Active Learning Methods Research : A Comprehensive Bibliometric Analysis. *Didaktika: Jurnal Kependidikan*, *12*(4), 689–704. https://doi.org/https://doi.org/10.58230/27454312.282

Inayati, N. L., Pratiwi, H. T., Surakarta, M., Yani, J. A., & Java, C. (2025). Learning Islamic Education with the Project Based Learning (PjBL) Method Received : Revised : Accepted : *JIE (Journal of Islamic Education)*, *10*(1). https://doi.org/https://doi.org/10.52615/jie.v10i1.603

Kharisma, N. P., Abdul Karim Mantau, B., & K. Manoppo, Y. (2024). Strategi

Pembelajaran PAI dalam Membentuk Pola Pikir Digital, Computational Thinking, Berbasis Teknologi Informasi pada Pembelajaran PAI. *Pekerti: Journal Pendidikan Islam Dan Budi Pekerti*, *6*(1), 13–25. https://doi.org/10.58194/pekerti.v6i1.4451

Lathifah, A. S., Hardaningtyas, K., Pratama, Z. A., & Moewardi, I. (2024). Penerapan Teori Belajar Konstruktivisme dalam Meningkatkan Keaktifan dan Hasil Belajar Siswa. *DIAJAR: Jurnal Pendidikan Dan Pembelajaran*, *3*(1), 36–42. https://doi.org/https://doi.org/10.54259/diajar.v3i1.2233

Lestari, F. P., Ahmadi, F., & Rochmad, R. (2021). The Implementation of Mathematics Comic through Contextual Teaching and Learning to Improve Critical Thinking Ability and Character. *European Journal of Educational Research*, *10*(1), 497–508. https://doi.org/https://doi.org/10.12973/eu-jer.10.1.497

Mas'ula, W., & Muzakki Hakim, A. (2023). Islamic Education in the Era of Digitalization 5.0. *Proceeding of International Conference on Education, Society and Humanity*, *01*(01), 35–40.

Aprianti, Nurul Azmi. (2024). *Dinamika Desain Belajar Dan Pembelajaran*. Kaizen Media Publishing.

Misra, M., & Zakiyah, R. (2022). Model Contextual Teaching and Learning (CTL) Pada Pembelajaran Pendidikan Agama Islam di Sekolah. *Jurnal Pendidikan Dasar Dan Sosial Humaniora*, *1*(6), 1259–1270. https://doi.org/https://doi.org/10.53625/jpdsh.v1i6.1965

Mulyana, A., Vidiati, C., Danarahmanto, P. A., Agussalim, A., Apriani, W., Fiansi, F., Fitra, F., Aryawati, N. P. A., Ridha, N. A. N., & Milasari, L. A. (2024). *Metode penelitian kualitatif*. Penerbit Widina.

Nisa, R. (2024). Islamic Primary School Teachers' Perceptions on Digital Technology-Based Learning. *Cendekia*, 16(01), 162-171. https://doi.org/10.37850/cendekia.v16i01.654

Nisa, R., Hadi, S., & Pristiani, R. (2025). Global Learning Transformation in Primary Education: A Systematic Review of Digital Policy and Access Enhancement. *At-Thullab : Jurnal Pendidikan Guru Madrasah Ibtidaiyah*, 8(2), 194–216. https://doi.org/10.30736/atl.v8i2.2280

Palazzolo, D. J. (2023). Research Methods. *Experiencing Citizenship: Concepts and Models for Service-Learning in Political Science*, 109–118. https://doi.org/10.4324/9781003444718-9

Pangemanan, A. (2020). Application of Contextual Teaching and Learning Approach on Statistics Material against Student Results. *International Education Studies*, *13*(4), 1–7. https://eric.ed.gov/?id=EJ1249546. https://doi.org/10.5539/ies.v13n4p1

Pratama, A. R. (2023). Contextual teaching and learning (CTL) dalam pembelajaran PAI di SDN 02 Percontohan. *Alifbata: Jurnal Pendidikan Dasar*, *3*(2), 30–38. https://doi.org/https://doi.org/10.51700/alifbata.v3i2.515

Rifqi, S., Putra, J. M., Ahmad, A. T., Widayanthi, D. G. C., Abdullah, G., Sunardi, S., & Syathroh, I. L. (2024). *Pendidikan Yang Menginspirasi: Mengasah Potensi Individu*. Yayasan Literasi Sains Indonesia

Siahaan, Amiruddin. dkk. (2022). Merancang Organisasi Pembelajaran: Literature Review. *Benchmarking: Jurnal Manajemen Pendidikan Islam*, 6, (2). 1174–1187. https://doi.org/10.48094/raudhah.v8i3.678

Samsudin, A., Raharjo, T. J., & Widiasih. (2023). Effectiveness of Contextual Teaching Learning (CTL) and Problem Based Learning (PBL) Models in Class VI Science Subjects on Creativity and Learning Outcomes. *Jurnal Penelitian Pendidikan IPA*, *9*(11), 9324–9331. https://doi.org/10.29303/jppipa.v9i11.5290

Santoso, B., Triono, M., Abdurahman, M., & Shiddiq, A. (2024). *The Readiness of Islamic Religious Education Teachers to Enter The Era of Industrial Society 5 . 0. 5*(4), 624–636. https://doi.org/https://doi.org/10.31538/tijie.v5i4.1183

Saputra, H., Maulina, S., Mirunnisa, M., & Razi, Z. (2022). Pengaruh pembelajaran kontekstual terhadap pemahaman konsep geometri siswa. *Jurnal Sains Riset*, *12*(3), 719–724. https://doi.org/DOI. 10.47647/jsr.v10i12

Ulandari, A. S., Sanjaya, P., & Nirmayani, L. H. (2021). Penerapan Pendekatan Contextual Teaching And Learning (CTL) Berbantuan Media Information And Comunication Technology (ICT) Untuk Meningkatkan Aktivitas Dan Hasil Belajar Ipa. *Widyajaya: Jurnal Mahasiswa Prodi PGSD*, *1*(1). https://doi.org/https://doi.org/10.55115/wj.v1i1.1734

Wajdi, F. (2022). *Manajemen Pembelajaran Berbasis Kontekstual*. Yayasan Wiyata Bestari Samasta.

Wijaya, S. E., Sari, N., Sutarto, S., & Suryana, E. (2023). Teori Kecerdasan Ganda dalam Praktek Pembelajaran PAI. *Jurnal Al-Qiyam*, *4*(2), 97–109. https://doi.org/https://doi.org/10.33648/alqiyam.v4i2.436

Wisudawati, A. W., & Sulistyowati, E. (2022). *Metodologi pembelajaran IPA*. Bumi Aksara.

Zamiri, M., & Esmaeili, A. (2024). Methods and technologies for supporting knowledge sharing within learning communities: A systematic literature review. *Administrative Sciences*, *14*(1), 17. https://doi.org/https://doi.org/10.3390/admsci14010017