

BUILDING SOCIAL AND ECOLOGICAL AWARENESS OF SMP NEGERI 4 TENGGARONG STUDENTS THROUGH PPKN LEARNING IN THE CONTEXT OF THE IMPACT OF COAL MINING IN TENGGARONG

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ABSTRACT

This study aims to find out the strategies and roles of teachers in increasing students' awareness and responsiveness to the socio-ecological impact of coal mining activities at Tenggarong Junior High School, East Kalimantan. This study uses a descriptive qualitative approach with research subjects consisting of deputy principals, social studies and citizenship teachers, and students. Data is collected through observation, interviews, and documentation, then analyzed through the process of subtraction, presentation, and drawing conclusions. The results of the study show that student awareness is still relatively low due to the lack of environmental education in the curriculum and the lack of information from external sources. Strategies implemented by teachers in learning such as the use of local case studies, focus group discussions, collaborative projects, and Problem-Based Learning (PBL) approaches have proven effective in increasing student awareness and responsiveness. The increase can be seen from the results of the pre-test and post-test as well as the quality of project work such as mind mapping. This research emphasizes the importance of integrating ecological social education in the learning process to form a critical, environmentally conscious, and socially responsible generation.

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INTRODUCTION

Civic Education (PKn) is a crucial element in the national education system that applies a strategic approach to develop honest, critical, and steadfast citizens. In an increasingly complex world, both locally and globally,

especially related to environmental degradation and social unrest due to mining activities, civil society has significant potential as a tool to help people develop social and ecological awareness. This is quite relevant in Tenggarong, East Kalimantan, which is a coal production industry with significant environmental and social impacts. Mining activities not only contribute to the economy, but also lead to ecological degradation, social conflict, and declining environmental literacy among students.

In this context, education maintains its strategic approach by adopting contextual learning—teachers can use local issues such as mining as relevant teaching materials. This effort aims to increase students' awareness and sensitivity to social and environmental issues that they experience daily. However, the reality field shows that PKn education in schools is still very theoretical and has not been able to adequately answer the problems faced by students, even though a healthy and safe environment is a basic right of the nation.

Contextual, problem-based, and collaborative project learning can increase participation, teach critical thinking, and develop students' attitudes and tangible actions as agents of change. Teachers act as facilitators who help students comply with social and ecological norms and respect citizenship in their surrounding environment. Therefore, PKn not only focuses on conceptual understanding, but also fosters a sense of responsibility and commitment of citizens to social progress, environmental sustainability, and the principles of Pancasila, especially fair and civilized human rights and social progress for all Indonesian citizens.

The urgency of this research stems from the need to develop students' critical thinking skills regarding their right to a healthy environment and their social responsibilities as citizens. This research contributes to the development of transformative and applicable civic learning models, as well as enriching the contextual education literature in the extractive industry. The urgency of the problem is that Civic Education contributes to shaping students' social and ecological awareness of the impact of coal mining activities; PKn teachers' strategies in integrating local social and ecological issues into learning at Tenggarong Junior High School; Challenges and solutions in the implementation of local issue-based PKn learning in areas affected by mining. This article aims to analyze the role and contribution of Civic Education in shaping students' social and ecological awareness of the impacts of coal mining; Describe the PKn learning strategy that is contextual and responsive to local issues at SMP Negeri 4 Tenggarong; Identify obstacles and solutions in the implementation of PKn as a means of critical education in areas affected by natural resource exploitation.

RESEARCH METHOD

This study uses a descriptive qualitative approach. The location of the research is SMP Negeri 4 Tenggarong, East Kalimantan, and will be held in March-May 2025. The informants consisted of the principal, 2 teachers and 10 students consisting of 5 boys and 5 girls in Class VIII. Data collection techniques include observation, in-depth interviews, and documentation. Data analysis is carried out through four stages: data collection, data reduction, data presentation, and conclusion drawing

RESULT AND DISCUSSION

The results of the study show that students' awareness of the socio-ecological impact of coal mining is still low. This is due to the lack of discussion of topics in the formal curriculum and the lack of experience of students who are directly involved in environmental issues. However, teachers play an important role in facilitating contextual learning through the use of educational materials and local case studies, teachers present real data and local cases related to mining in Tenggarong; Focus Group Discussion (FGD), students engage in group discussions to discuss and find solutions to environmental issues; Collaborative project (Mind Mapping), students create joint projects to formulate impacts and solutions from mining problems; and Problem-Based Learning (PBL) Model ([Zhong, H., & Chen, Y., 2023](#)), teachers direct students to think critically and solve problems based on real context

Evaluation through pre-test and post-test showed an increase in student understanding from the score range of 60-70 to 70-80. Collaborative project work such as mind mapping also shows an improvement in the quality of students' reflections on socio-ecological issues. Teachers' strategies in presenting local issues of coal mining are able

to increase students' awareness and responsive attitudes to social and ecological impacts. Problem-based and collaborative learning models are effective in encouraging students to think critically and responsibly towards the environment. This research underlines the importance of integrating environmental issues in PPKn learning as an effort to shape the character of Pancasila students with an ecological spirit

The Contribution of Civic Education in Shaping Students' Social and Ecological Awareness of the Impact of Coal Mining Activities

Coal mining activities in East Kalimantan, including in Tenggarong, have had a wide impact on the environment and social society, such as water and air pollution, deforestation, agrarian conflicts, and a decline in the quality of life of residents. This condition not only affects ecological and economic aspects, but also has an impact on the social life and education of the younger generation. Students, especially in Tenggarong, live in the midst of this situation, but often do not have critical awareness of these issues, either due to lack of access to information or lack of optimal integration of environmental education in the learning process in schools.

See the image below, which shows that in Tenggarong there are open mine pits and vacant land, as well as mine acid waste ponds that are potentially dangerous to residents (see image). Water pollution from tailings and sewage pollutes the surrounding river flows (figures two and three). Subsequent impacts include severe erosion and landscape changes. Figure 1: Mining conditions in Tenggarong



Table 1: Summary data on the environmental impact of coal mining in East Kalimantan:

Aspects	Impact	Data/Information
Deforestation	Conversion of forest into mining land	East Kalimantan lost 44,483 ha forest at 2024 niaga.asia+5nomorsatukaltim.disway.id+5regional.kompas.com+5
Mine Pit	Former mine quays, dangerous to society and ecosystem	150 mine waste pits > 50 m deep; Killing children
Air Pollution	Mine acid waste damages rivers and small rivers that are the source of water for residents	River Polluted make the soil/crops unproductive
Air & Dust Pollution	Mine dust interferes with health Breathing of the surrounding community	Dust spreads up to > 529 m from the site mine
Flooding & Erosion	Soil erosion, reduced water diffusion, leading to flooding	Cost flood at Samarinda reach IDR 712 billion (2008–2013)
Ecosystem Damage	Habitat loss of endemic species and biodiversity	Real impact on orangutans, sun bears, proboscis monkeys

Primary Data Sources to be processed 2025

Ecology. PKn has the potential as a value education as well as action education to shape students' character as citizens who are sensitive to environmental issues and play an active role in finding solutions ([Zhong, H., & Chen, Y. 2023](#)). This contribution can be seen in three main aspects, namely Cognitive: providing an understanding of environmental rights, citizens' obligations, and the negative impacts of the exploitation of natural resources. Affective, Fostering empathy for the affected community and concern for nature. Psychomotor, motivating students to engage in real activities, such as environmental campaigns or school policy advocacy. Civic Education (PKn) basically aims not only to produce law-abiding citizens and memorize norms, but also to form individuals who have social awareness, ecological responsibility, and critical abilities to the surrounding reality. In areas such as Tenggarong, East Kalimantan, which is an area with massive coal mining activities, the role of PKn is becoming increasingly important and strategic. These extractive industrial activities have caused environmental damage, pollution, and social inequality that have a direct impact on people's lives, including students

In this context, PKn plays a transformative role as an educational transformative agent that can answer real problems in the field. When PKn teachers are able to integrate local social and ecological issues into the learning process, learning becomes more contextual and meaningful. Students not only learn about the concepts of democracy, social justice, or human rights on an abstract level, but they are invited to analyze and engage in issues that they witness and feel every day.

Learning strategies such as problem-based learning (PBL), local case studies, advocacy projects, reflective discussions, and digital campaigns not only improve students' critical thinking skills, but also form an empathetic and participatory attitude. Students are invited to understand that protecting the environment and fighting for social justice are part of healthy civic practices. What's more, they are formed to become ecological citizens responsible for the preservation of nature as part of their collective and constitutional responsibilities ([Živković, N., 2015.](#))

However, the implementation of PKn based on local issues is not easy. Some of the main challenges faced include: the national curriculum which is still dominant is normative; teachers who do not have adequate competence in environmental education and critical approaches; limited local learning media and resources; as well as social resistance or pressure from interested parties to the discussion of mining issues. This requires innovative and

systematic solutions.

Strengthening the locality-based curriculum and sustainability through the Pancasila Student Profile Strengthening Project (P5) can be an important entrance. Continuous teacher training in ecopedagogical approaches and critical citizenship needs to be done to improve the quality of learning. In addition, the development of community-based teaching media and active collaboration with environmental NGOs, community leaders, and local governments are key elements in realizing social-ecological justice-oriented learning.

From all this, it can be concluded that PKn not only has an educational function, but also an empowerment and liberation function. When PKn is developed contextually by raising the issue of coal mining, it turns into an educational movement that encourages the birth of a young generation who are not apathetic, but aware, caring, and ready to play a role in building a just, civilized, and sustainable society.

Mapping of the six main challenges faced by teachers and schools in implementing community learning that raises local social and ecological issues, especially in areas such as Tenggara which are affected by coal mining activities. Each challenge is described with its impact on the learning process, and followed by a strategic solution that can be implemented at both the classroom and institutional levels. The curriculum that is still centralized and rigid makes it difficult for teachers to connect PKn materials with local issues. As a result, learning becomes abstract and detached from the student's reality. The solution is to maximize space in the Independent Curriculum, especially through the Pancasila Student Profile Strengthening Project (P5) and local content. Teachers who do not have an understanding or training related to mining and environmental issues tend to deliver material conventionally.

Training and workshops on ecopedagogy, critical citizenship, and relevant local case studies are required. The lack of contextual learning resources makes it difficult for students to understand the impact of mining in the context of citizens. The solution is to develop community-based teaching materials such as citizen documentation, infographics, and field studies. In some cases, discussions about mining are considered sensitive. Teachers and students can be afraid to touch on issues that are considered "political". The strategy is to use an educational approach that focuses on constitutional values, citizens' rights, and public policy in an objective and solution-oriented manner. The isolation of schools from society makes learning out of touch with real experiences. The solution is to build active collaboration with indigenous leaders, environmental activists, local media, and village governments. The structure of lesson hours and curriculum pressures make it difficult for teachers to implement a project model or cross-disciplinary learning. The solution is the integration of PKn with other subjects (for example, science or social studies), as well as the optimization of extracurricular activities. Critical Citizenship encourages students to think critically about social inequality and take on the role of an active citizen. Ecopedagogy places environmental issues as an important part of civic responsibility and the value of life. Emancipatory Education (Freire, P., 2021) provides a learning legitimacy that liberates students

The success of local issue-based PKn learning is highly determined by the courage and creativity of teachers, as well as the support of school policies and a social environment conducive to critical and transformative education. Citizenship Education can be implemented contextually through the use of local case studies: for example, discussing a used mine pit in a nearby village as a violation of the right to a healthy environment. Problem-Based Learning, students are invited to find solutions to water pollution or social conflicts due to mining. Creation of posters, videos, or petitions highlighting ecological and social issues around the school. Cultivate the ability to debate based on facts and values and Collaborate with social studies or science teachers to relate environmental data to civic values.

Tabel 2: Hasil yang Diharapkan

Aspek	Perubahan yang Diharapkan
Kognitif	Siswa memahami hak atas lingkungan hidup, dampak sosial-ekologis pertambangan, dan peran hukum dan kebijakan.
Afektif	Siswa menunjukkan empati terhadap korban kerusakan lingkungan dan semangat menjaga bumi sebagai tanggung jawab.
Psikomotorik	Siswa terlibat dalam aksi nyata: kampanye, penanaman pohon, proyek edukatif, advokasi kebijakan sekolah.

Sumber Data Primer diolah Tahun 2025

Case Study: Direct Impact in Tenggarong For example, a mine pit left open in a residential area has claimed lives in East Kalimantan. By raising this in civics learning, students can analyze cases from the perspectives of human rights, environmental law, and state responsibility. Make school action plans, such as compiling recommendations to local governments. Develop an understanding that ecological justice is part of social justice and the [mandate of the constitution \(Article 28H of the 1945 Constitution and Law No. 32 of 2009 concerning Environmental Protection and Management\)](#). Civic Education contributes greatly to shaping students' social and ecological awareness, especially in areas directly affected by the exploitation of natural resources such as coal mining ([Suryaningsi, Azis, et al., 2024](#)). Through the integration of critical citizenship theory, ecopedagogy, and contextual learning, students can be developed into citizens who are not only legally and politically intelligent, but also concerned and responsible for the environment. PKn is no longer just a memorization of norms, but a living space to form agents of change who are aware of the importance of ecological and social justice in the life of the nation.

PKn teachers' strategies in integrating local social and ecological issues into learning at Tenggarong Junior High School

Tenggarong as part of East Kalimantan is an area with a high intensity of coal mining activities. These activities not only have an impact on environmental damage such as deforestation, water pollution, and the emergence of mine pits, but also trigger social problems such as land conflicts, evictions, and loss of community access to natural resources. In this context, PKn teachers at Tenggarong Junior High School have the opportunity and challenge to connect these issues with learning. The goal is for students to understand citizenship not only normatively, but also contextually and critically they are able to relate the concepts of rights, obligations, democracy, and social justice to real issues in their environment.

The following is a table of strategies used by PKn teachers and their relationship to learning theory and expected outcomes:

Tabel 3: strategi yang digunakan guru PKn

Strategi Guru PKn	Deskripsi Implementasi	Analisis Teori Pendukung	Hasil yang Diharapkan
Problem-Based Learning (PBL)	Siswa diberi studi kasus tambang batubara: pencemaran sungai, lubang tambang, konflik sosial.	Teori Konstruktivisme (Piaget & Vygotsky); Teori Emansipatoris (Freire)	Siswa menganalisis masalah lokal, berpikir kritis, dan menawarkan solusi berbasis nilai-nilai kewarganegaraan.
Studi Kasus dan Diskusi Kritis	Guru menyajikan data kerusakan lingkungan atau konflik warga dengan perusahaan tambang untuk dianalisis.	Teori Kewarganegaraan Kritis (Banks, Westheimer & Kahne); Teori Nilai Sosial (Kluckhohn)	Siswa terlibat aktif dalam debat, memperkuat kemampuan berpikir reflektif dan mengambil posisi berdasarkan nilai.
Proyek Advokasi dan Kampanye Sosial	Siswa membuat poster, video, petisi, atau kegiatan kampanye lingkungan di sekolah atau komunitas.	Teori Experiential Learning (Kolb); Teori Ekopedagogi (Gadotti)	Siswa belajar melalui pengalaman langsung dan membentuk sikap aktif sebagai warga negara yang peduli lingkungan.
Integrasi dengan Muatan Pancasila dan HAM	Isu lingkungan dikaitkan dengan sila ke-2 dan ke-5 serta Pasal 28H UUD 1945 tentang hak atas lingkungan.	Teori Pendidikan Nilai (Thomas Lickona); Teori Integratif PKn	Siswa menyadari bahwa persoalan lingkungan adalah bagian dari perjuangan menegakkan keadilan dan hak asasi.
Refleksi dan Penulisan Esai/Artikel Siswa	Siswa menulis esai atau laporan reflektif tentang kondisi lingkungan di sekitar mereka.	Teori Pendidikan Reflektif (Dewey); Teori Pembelajaran Humanistik (Rogers)	Siswa membangun kesadaran pribadi melalui ekspresi tertulis dan menjadi agen perubahan dari dirinya sendiri.

Sumber Data Primer diolah Tahun 2025

The strategies carried out by PKn teachers are in accordance with the theory of Constructivism developed by Piaget and Vygotsky emphasizing that the learning process is an activity to build meaning from real experiences. In this context, PKn teachers are expected not only to transfer knowledge, but also to be able to present local situations such as social conflicts, environmental pollution, and injustice due to mining activities as a learning stimulus. Thus, students will build an understanding of the concrete realities they face on a daily basis.

In Paulo Freire's theory of Emancipatory Education, teachers are invited to view education as a process of liberation, not as a tool to tame. In PKn learning, this approach provides space for students to voice social and ecological injustices that occur in their environment, as well as become active subjects in the process of change. The teacher acts as a facilitator of a dialogue that encourages students' critical awareness. Taking the Ecopedagogical approach as formulated by Gadotti, he emphasizes that education must be integrated with ecological awareness and social responsibility. In this case, it is not enough for PKn teachers to only teach normative values such as democracy and justice in the abstract, but also to build students' empathy for environmental damage, the suffering of communities affected by mines, and the importance of preserving collective life as a whole (Vareda, J. P., Botelho, C., et al., 2019).

According to the theory of Critical Citizenship, expanding the scope of civil society education from simply memorizing laws and regulations to empowering students to be able to understand, criticize, and solve community problems actively. With this approach, students are trained to become reflective, analytical, and participatory citizens in dealing with issues such as the exploitation of natural resources and their impact on society. Meanwhile, according to the theory of Experiential Learning by David Kolb, it is emphasized that hands-on experience is the main cornerstone of meaningful learning. Therefore, PKn teachers are encouraged to design learning activities that can be

applied such as environmental advocacy projects, social awareness campaigns, or field trips to affected areas. Through these real-life experiences, students not only remember concepts, but also internalize values and form an active attitude as citizens.

Overall, this theory provides a strong foothold for teachers in designing PKn learning that is not only based on the formal curriculum, but also based on the real lives of students. In the context of areas affected by mining such as Tenggara, this approach is able to make PKn an educational space that liberates, enlightens, and moves. The results of observations and interviews show that some PKn teachers at Tenggara Junior High School have associated the topic of "rights and obligations of citizens" with the right to a healthy environment. Hold a class discussion about the dangers of mine pits in the surrounding area. Encourage students to make a campaign poster with the theme "Save Our Environment" as the final project. Involve students in green school programs, including greening activities in the school environment.

Tabel 4: Dampak Strategi terhadap Siswa

Dimensi	Perubahan yang Terjadi
Kognitif	Siswa memahami keterkaitan antara hak asasi, kewarganegaraan, dan lingkungan hidup secara mendalam.
Afektif	Munculnya rasa empati, kepekaan sosial, dan kepedulian terhadap kondisi warga terdampak tambang.
Psikomotorik	Siswa terlibat dalam aksi nyata seperti kampanye, penanaman pohon, dan advokasi berbasis media sosial.

Sumber Data Primer diolah Tahun 2025

Table 3 above illustrates the three main dimensions of cognitive, affective, and psychomotor student development as a result of the integration of contextual and participatory PKn learning strategies. The strategies in question include the use of local coal mining issues in learning, problem-based learning (PBL) approaches, advocacy projects, and reflective activities that place students as active subjects. In the cognitive dimension, learning based on local issues successfully encourages students to understand the relationship between human rights, citizenship, and environmental issues more deeply. They not only memorize the concept of citizens' rights and obligations, but are also able to relate them to the socio-ecological realities that exist around them, such as environmental pollution due to mining, land conflicts, and violations of the right to a healthy environment. This understanding shows an increase in students' critical reasoning ability towards public phenomena.

Furthermore, in the affective dimension, according to (Wood, D. T., 1993), learning that causes real problems around students fosters a higher sense of empathy and concern. Students show sensitivity to the plight of residents affected by mining, awareness of the importance of social justice, and a spirit of solidarity to be involved in change. This can be seen from students' responses in discussions, reflective essays, and the way they respond to social problems in the school environment and their communities. In the psychomotor dimension, participatory strategies encourage students to engage in a variety of tangible actions. They not only think and feel, but also act. Activities such as environmental awareness campaigns, tree planting, petition signature collection, production of educational content on social media, and small advocacy at the school level are concrete forms of student involvement in voicing and addressing socio-ecological issues around them.

Overall, this table shows that PKn learning designed with a local issue-based approach not only impacts students' academic aspects, but is also able to form complete civic character: critical thinking, caring for others, and being active in social life. These three dimensions prove that contextual citizenship education can be a transformative means in building a civilized and responsible young generation. The strategies of PKn teachers in integrating local social and ecological issues into learning play a very important role in shaping students' socio-ecological awareness.

By adopting key theories such as constructivism, emancipatory education, and ecopedagogy, teachers can present contextual, reflective, and transformative learning experiences. Community learning becomes more meaningful when students are invited to not only understand concepts, but also to be actively involved in the social and ecological life around them. This is an important foundation to form a generation of Pancasila students who are aware of the law, care about the environment, and are responsible as citizens.

Challenges and solutions in the implementation of local issue-based PKn learning in mining-affected areas

Areas such as Tenggarong in East Kalimantan are areas directly affected by coal mining activities. The exploitation of natural resources in this region poses various social and ecological problems, such as environmental damage, pollution, land conflicts, and loss of public access to public resources. PKn learning in this field has strategic potential to foster students' critical awareness and socio-ecological responsibility. However, in practice, the implementation of local issue-based learning faces various challenges that must be identified and solved systemically.

Tabel 4: Tantangan dan Solusi Strategis

No	Tantangan	Dampak terhadap Pembelajaran PKn	Solusi Strategis
1	Kurikulum nasional masih normatif dan kurang memberi ruang kontekstualisasi	Guru kesulitan mengaitkan materi PKn dengan isu lokal pertambangan	Mengoptimalkan Kurikulum Merdeka melalui <i>Projek Penguatan Profil Pelajar Pancasila (P5)</i> dan integrasi muatan lokal
2	Minimnya pemahaman guru terhadap isu sosial dan lingkungan	Materi menjadi kaku dan tidak relevan bagi kehidupan siswa	Pelatihan dan pendampingan guru terkait ekopedagogi, pembelajaran kontekstual, dan kewarganegaraan kritis
3	Keterbatasan media, bahan ajar, dan sumber belajar berbasis lokal	Pembelajaran menjadi tidak menarik dan tidak menyentuh pengalaman siswa	Pengembangan media pembelajaran berbasis komunitas lokal dan dokumentasi visual seperti studi kasus nyata
4	Stigma dan tekanan sosial dari pihak berkepentingan atas isu tambang	Guru dan siswa ragu membahas isu karena dianggap sensitif atau "politik"	Pendekatan hati-hati dengan fokus pada aspek pendidikan dan hak konstitusional warga; membangun jejaring advokasi
5	Kurangnya kemitraan antara sekolah dan masyarakat lokal	Sekolah terisolasi dari realitas lapangan	Membangun kolaborasi sekolah dengan tokoh masyarakat, LSM lingkungan, pemerintah daerah, dan media lokal
6	Kurangnya waktu dan fleksibilitas jam pelajaran untuk pembelajaran berbasis proyek	Guru kesulitan menjalankan PBL atau proyek advokasi	Integrasi pembelajaran lintas mata pelajaran (PKn-IPS-IPA) dan pemanfaatan kegiatan ekstrakurikuler

Sumber Data Primer diolah Tahun 2025

The implementation of local issue-based PKn learning in mining-affected areas such as Tenggarong faces various challenges ranging from curriculum structure, teacher limitations, to social pressure. However, these challenges can be overcome with approaches based on critical and contextual education theory, as well as systematic institutional support. Teacher strengthening strategies, cross-sector collaboration, and the use of local media can make PKn a transformative vehicle to form students who are socially and ecologically aware and empowered in fighting for justice in their environment.

CONCLUSION

Education Coal mining activities in East Kalimantan, including in Tenggarong, have had a wide impact on the environment and social society, such as water and air pollution, deforestation, agrarian conflicts, and a decline in the quality of life of residents. This condition not only affects ecological and economic aspects, but also has an impact on the social life and education of the younger generation. Students, especially at Tenggarong Junior High School, live in the midst of this situation, but often do not have a critical awareness of these issues, either due to the lack of access to information or the lack of optimal integration of environmental education in the learning process at school.

in ecopedagogy and critical citizenship, the development of local teaching media, as well as collaboration between schools, communities, and local governments. Overall, citizenship education can be a transformative vehicle to form a young generation that not only understands the concept of citizenship, but is also able to actualize it in real life as an agent of social and ecological change. This effort is essential in realizing a civilized, just, and sustainable democratic society. Thus, PKn that is integrated with local issues such as coal mining is not just a lesson in the classroom, but an educational movement that liberates and educates the life of the nation.

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