

## Enhancing Students' Interpersonal Competence Through Outdoor Learning Space-Based Learning: A Case Study at SMAIT Balikpapan, Indonesia

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**Abstract.** Interpersonal competence is an essential skill that should be developed among students to prepare them for social life and future professional challenges. However, classroom instruction remains predominantly teacher-centered, providing limited opportunities for students to develop communication, collaboration, empathy, and conflict-resolution skills. This study aimed to describe the implementation of *Outdoor Learning Space* (OLS) in enhancing students' interpersonal competence at SMAIT Istiqamah Balikpapan Selatan. A qualitative approach with a case study design was employed. Data were collected through semi-structured interviews, non-participant observations, and document analysis involving the principal, vice principal for curriculum affairs, head of the asset department, teachers, the *Outdoor Character Building* (OCB) coordinator, and students. Data were analyzed using the interactive model of Miles, Huberman, and Saldaña through data condensation, data display, and conclusion drawing and verification. Trustworthiness was ensured through source and methodological triangulation. The findings revealed that OLS enhanced students' interpersonal competence through four interconnected components: experiential learning, collaborative discussion and group work, *Outdoor Character Building* (OCB) activities, and teachers' roles as facilitators. These components created authentic learning experiences that fostered communication, collaboration, empathy, leadership, and constructive conflict-resolution skills. The study concludes that OLS functions not merely as an outdoor learning environment but as a holistic learning ecosystem that simultaneously promotes academic achievement and students' interpersonal competence.

**Keywords:** Outdoor Learning Space, interpersonal competence, experiential learning, collaborative learning, character education.

### 1 Introduction

Education is not solely oriented toward students' academic achievement but also plays a fundamental role in developing the social competencies required for effective participation in society, including communication, collaboration, empathy, and the ability to establish positive interpersonal relationships [1], [2]. Accordingly, learning

should extend beyond the transmission of subject knowledge by providing meaningful experiences that foster self-awareness, social responsibility, and the capacity to interact constructively with others. This perspective is consistent with the broader goals of education, which emphasize the holistic development of students' character, attitudes, and competencies to prepare them for future challenges [3], [4].

Among these competencies, interpersonal competence is particularly important for senior high school students, who are experiencing a critical stage of identity formation, increasing social interaction, and preparation for higher education and future careers. At this stage, effective communication, teamwork, empathy, leadership, and constructive conflict resolution become essential competencies that require systematic development through purposeful learning experiences [5], [6]. Consistent with the Graduate Competency Standards, communication, collaboration, independence, and character development are regarded as key competencies that enable students to participate effectively in society. In this study, interpersonal competence is defined as an individual's ability to establish, maintain, and manage positive interpersonal relationships through communication, collaboration, empathy, leadership, and constructive conflict resolution. Unlike the broader constructs of social competence and soft skills, interpersonal competence specifically emphasizes the quality of direct interpersonal interaction and relationship management. Consequently, this construct is particularly relevant for examining learning environments that emphasize face-to-face collaboration and authentic social engagement [7], [8].

Despite these expectations, classroom instruction in many schools remains predominantly teacher-centered, limiting students' opportunities to communicate, negotiate, collaborate, assume leadership roles, and resolve conflicts through authentic interaction. Yet interpersonal competence develops primarily through direct social engagement rather than passive knowledge acquisition. Moreover, the increasing dominance of digital communication has reduced opportunities for face-to-face interaction, making the development of interpersonal communication skills an increasingly important educational concern. These conditions highlight the need for learning environments that intentionally promote meaningful social interaction [9], [10], [11].

One instructional approach with considerable potential to address this need is the Outdoor Learning Space (OLS). OLS refers to the intentional use of outdoor environments as learning spaces that provide contextualized, authentic, and experience-based learning opportunities. School facilities such as gardens, courtyards, gazebos, and other open spaces become learning resources where students actively observe, investigate, collaborate, and construct knowledge through direct experience. Previous studies consistently demonstrate that outdoor learning enhances student participation, engagement, conceptual understanding, and social competencies, particularly communication and collaboration. From the perspective of social constructivism, these outcomes occur because knowledge is constructed through interaction with others and the surrounding environment. Therefore, OLS should not be viewed merely as relocating instruction from classrooms to outdoor settings but as a pedagogical strategy that simultaneously supports knowledge construction and interpersonal development through authentic social interaction [12], [13].

Although outdoor learning has been extensively investigated in relation to academic achievement, learning motivation, environmental awareness, critical thinking, and character development, relatively few studies have explained the pedagogical mechanisms through which Outdoor Learning Space fosters interpersonal competence. Existing research generally reports positive outcomes without examining how specific instructional components interact to create meaningful opportunities for communication, collaboration, leadership, empathy, and conflict resolution. Consequently, the literature provides only limited understanding of the processes through which interpersonal competence develops within outdoor learning environments [14], [15].

This study addresses that gap by conceptualizing Outdoor Learning Space as a holistic pedagogical ecosystem rather than merely an alternative physical learning environment. Specifically, the study examines how experiential learning, collaborative discussions and group work, Outdoor Character Building (OCB) activities, and teachers' facilitative roles operate as interconnected pedagogical components that collectively support the development of interpersonal competence [16]. Rather than asking whether outdoor learning improves interpersonal competence, this study explains how these instructional components create authentic opportunities for students to communicate effectively, collaborate with peers, exercise leadership, demonstrate empathy, and resolve interpersonal conflicts.

SMAIT Istiqamah Balikpapan Selatan provides an appropriate context for this investigation because it has systematically integrated the Taman Edukasi Alam (TEA) and Outdoor Character Building (OCB) programs into its instructional practices. Unlike many outdoor learning initiatives that primarily emphasize environmental exploration or academic enrichment, the school's implementation combines structured experiential learning, collaborative pedagogy, character education, and continuous teacher facilitation within a unified instructional framework. This distinctive implementation offers an opportunity to develop a deeper understanding of the pedagogical processes through which Outdoor Learning Space cultivates students' interpersonal competence.

Based on these considerations, this study aims to describe how Outdoor Learning Space is implemented to foster students' interpersonal competence at SMAIT Istiqamah Balikpapan Selatan. Specifically, the study investigates how experiential learning, collaborative discussions and group work, Outdoor Character Building activities, and teachers' facilitative roles interact to develop students' communication, collaboration, empathy, leadership, and conflict-resolution skills. By explaining these interrelationships, the study contributes a conceptual understanding of Outdoor Learning Space as a holistic pedagogical ecosystem and extends the literature beyond documenting the social benefits of outdoor learning toward explaining the mechanisms underlying interpersonal competence development.

## **2 Method**

This study employed a qualitative approach using a case study design. A qualitative approach was selected because the study sought to gain an in-depth understanding of the implementation of Outdoor Learning Space (OLS) in enhancing students' interper-

sonal competence within the school's natural educational setting. The case study design was considered appropriate because the research focused on a single case with distinctive characteristics, namely the integration of the Taman Edukasi Alam (TEA) and Outdoor Character Building (OCB) programs into the learning process at SMAIT Istiqamah Balikpapan Selatan. This approach enabled the researchers to obtain a comprehensive understanding of the learning experiences, social interactions, and instructional practices occurring in the field [17].

## **2.1 Research Setting**

The study was conducted at SMAIT Istiqamah Balikpapan Selatan, Balikpapan City, East Kalimantan, Indonesia, from July to August 2026. The research site was purposively selected because the school has well-established outdoor learning facilities and has integrated the TEA and OCB programs into its character education and instructional practices.

## **2.2 Participants**

Participants were selected using purposive sampling based on their involvement in the planning, implementation, and utilization of the Outdoor Learning Space. The participants included the principal, the vice principal for curriculum affairs, the head of the asset department, teachers, the Outdoor Character Building (OCB) coordinator, and students. The diversity of participants enabled the researchers to obtain comprehensive perspectives on the implementation of OLS-based learning.

## **2.3 Data Sources**

The study utilized both primary and secondary data. Primary data were obtained through in-depth interviews and direct observations of OLS-based learning activities. Secondary data consisted of institutional documents, including the School Work Plan (Rencana Kerja Sekolah [RKS]), the School Activity and Budget Plan (Rencana Kegiatan dan Anggaran Sekolah [RKAS]), instructional modules, OCB implementation guidelines, evaluation reports, photographic documentation, and other documents relevant to the implementation of Outdoor Learning Space.

## **2.4 Data Collection**

Data were collected through semi-structured interviews, non-participant observations, and document analysis. Semi-structured interviews explored participants' experiences and perceptions regarding the implementation of OLS-based learning. Non-participant observations focused on outdoor learning activities, students' interactions, patterns of group communication, teachers' facilitative roles, and the utilization of the outdoor environment as a learning resource. Document analysis was conducted to complement and verify the evidence obtained from interviews and observations.

The interview protocol, observation guidelines, and document analysis were developed based on the operational dimensions of interpersonal competence identified in the conceptual framework, namely communication, collaboration, empathy, leadership, and conflict resolution. These dimensions guided both data collection and thematic analysis by providing consistent analytical categories for examining students' interpersonal interactions during OLS-based learning activities.

## **2.5 Data Analysis**

The data were analyzed using the interactive model developed by Miles, Huberman, and Saldaña, which consists of data condensation, data display, and conclusion drawing and verification. During the data condensation stage, relevant information was selected, organized, and simplified according to the research objectives. Subsequently, the data were presented through narrative descriptions and thematic matrices to facilitate the identification of patterns and relationships among the findings. Finally, conclusions were continuously drawn and verified by comparing evidence across multiple data sources until consistent themes emerged.

## **2.6 Trustworthiness**

The trustworthiness of the findings was ensured through source triangulation, methodological triangulation, prolonged engagement, and continuous verification throughout the research process. Source triangulation involved comparing perspectives obtained from the principal, vice principal, teachers, the Outdoor Character Building (OCB) coordinator, and students who participated in OLS-based learning. Methodological triangulation was conducted by cross-checking interview data with non-participant observations and institutional documents, including lesson plans, OCB implementation guidelines, evaluation reports, and photographic documentation.

To minimize potential confirmation bias and socially desirable responses, the researchers did not rely solely on participants' self-reported perceptions. Statements obtained during interviews were systematically compared with observed classroom interactions and documentary evidence to identify consistency or discrepancies across data sources. During interviews, participants were encouraged to describe both the strengths and challenges of OLS implementation, while probing questions were used to clarify ambiguous responses and explore alternative explanations. Furthermore, the involvement of participants with different institutional roles enabled the researchers to compare multiple perspectives rather than relying on a single stakeholder group. Nevertheless, because all participants were directly involved in the implementation of OLS, the possibility of socially desirable responses cannot be completely eliminated and should therefore be considered when interpreting the findings.

3 Results and Discussion

3.1 Results

The findings indicate that the implementation of Outdoor Learning Space (OLS)-based learning at SMAIT Istiqamah Balikpapan Selatan was carried out through learning activities that connected students with authentic experiences, collaborative group work, character-building activities, and continuous teacher facilitation. These learning activities were implemented within a well-established OLS management system encompassing planning, organization, implementation, and monitoring. However, from the students' perspective, the most salient aspect of OLS was the direct engagement in outdoor learning experiences.

The implementation of OLS-based learning can be summarized into four major themes: experiential learning, group discussion and collaborative learning, Outdoor Character Building (OCB) activities, and the teacher's role as a facilitator. A summary of these findings is presented in Table 1.

Table 1. Summary of the Implementation of Outdoor Learning Space (OLS)-Based Learning

| Implementa-<br>tion Theme                                | Implementation Practices                                                                                                                                                              | Contribution to Interpersonal<br>Competence                                                                                               |
|----------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------|
| Experiential<br>learning                                 | Students learned through observa-<br>tion, hands-on practice, environmen-<br>tal exploration, and problem-solving<br>activities conducted in the OLS and<br>Taman Edukasi Alam (TEA). | Encouraged students to ask<br>questions, express ideas con-<br>fidently, and connect real-life<br>experiences with classroom<br>concepts. |
| Group discus-<br>sion and col-<br>laborative<br>learning | Students worked in groups to discuss<br>tasks, share responsibilities, organize<br>observations, and present their find-<br>ings.                                                     | Strengthened communica-<br>tion, teamwork, responsibil-<br>ity, leadership, and respect for<br>diverse perspectives.                      |
| Outdoor Char-<br>acter Building<br>(OCB) activi-<br>ties | OCB activities involved outdoor<br>challenges requiring cooperation,<br>mutual trust, discipline, and reflective<br>learning.                                                         | Fostered empathy, social<br>awareness, mutual support,<br>and constructive conflict res-<br>olution.                                      |
| Teacher as fa-<br>cilitator                              | Teachers designed learning activities,<br>provided guidance, monitored stu-<br>dents' interactions, encouraged re-<br>flection, and mediated minor con-<br>flicts.                    | Ensured that students' interac-<br>tions remained aligned with<br>both learning objectives and<br>interpersonal development.              |

Figure 1 illustrates the conceptual framework derived from the qualitative data analysis using the ATLAS.ti coding process. The conceptual map demonstrates the relationships among the four major implementation themes and their contribution to the development of students' interpersonal competence.

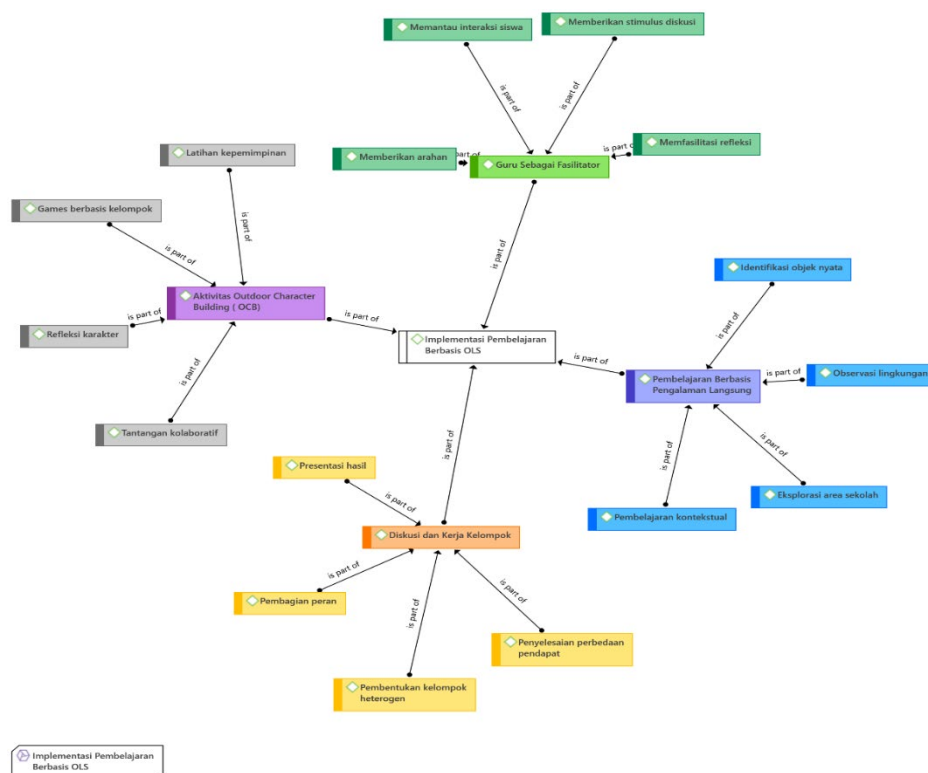


**Fig 1.** Conceptual Framework of the Implementation of Outdoor Learning Space (OLS)-Based Learning (ATLAS.ti Visualization)

## Experiential Learning

The findings indicate that the implementation of *Outdoor Learning Space* (OLS) at SMAIT Istiqamah Balikpapan Selatan emphasizes experiential learning by utilizing the school environment as an authentic learning resource. Rather than relying solely on classroom instruction, students engage in direct observation, exploration, and practical activities. For example, economics students observe real transaction activities to understand market equilibrium, while geography students identify rock types in the surrounding environment. Similarly, biology learning involves observing biodiversity and discussing findings through structured worksheets.

Both teachers and students reported that outdoor learning creates a more engaging and interactive learning atmosphere. Classroom observations also showed that students participated more actively in asking questions, discussing ideas, and connecting their experiences with academic concepts. These findings demonstrate that OLS provides meaningful learning experiences by encouraging students to construct knowledge through direct interaction with their environment.

### **Group Discussion and Collaborative Learning**

Group discussion and collaborative learning emerged as key components of OLS implementation. Learning activities were organized through heterogeneous groups formed based on diagnostic assessments rather than friendship, allowing students to interact with peers of different abilities and learning characteristics. Within each group, students assumed specific roles, such as group leader, observer, recorder, or presenter, to encourage active participation.

Students reported that collaborative learning enabled them to share responsibilities, exchange ideas, and solve problems collectively. Classroom observations confirmed that group discussions served not only as an instructional strategy but also as an effective means of developing communication skills, teamwork, mutual respect, and shared decision-making. Through repeated interactions, students gradually strengthened their interpersonal competence in a collaborative learning environment.

### **Outdoor Character Building Activities**

The implementation of OLS was further strengthened through the *Outdoor Character Building* (OCB) program. Activities were conducted in various outdoor settings, including school fields, gazebos, and open spaces, using collaborative games and challenge-based tasks designed to develop responsibility, teamwork, problem-solving, and decision-making skills.

Participants were intentionally assigned to diverse groups, including students who rarely interacted or had previously experienced interpersonal difficulties. These activities encouraged students to communicate effectively, build trust, support one another, and resolve conflicts constructively. The findings indicate that OCB provides authentic social experiences that contribute to the development of empathy, social responsibility, and interpersonal competence.

### **Teachers as Facilitators**

Teachers played a central role in facilitating OLS-based learning. Before each activity, they explained the learning objectives, procedures, and expected behavioral norms. During outdoor learning activities, teachers monitored group dynamics, encouraged less active students, guided discussions, and provided support when necessary rather than dominating the learning process.

At the end of each activity, teachers facilitated reflective discussions to help students connect their outdoor experiences with both academic content and interpersonal development. This reflective process enabled students to recognize the value of communication, collaboration, empathy, and conflict resolution throughout the learning experience. Overall, the findings highlight the important role of teachers in creating supportive learning environments that promote both academic achievement and students' interpersonal development.

While OCB activities were implemented within the Outdoor Learning Space, participants consistently described OCB as a structured instructional program that intentionally strengthened interpersonal and character-related competencies beyond the broader experiential learning opportunities naturally provided by the outdoor environment.

### 3.2 Discussion

The findings demonstrate that the implementation of Outdoor Learning Space (OLS) at SMAIT Istiqamah Balikpapan Selatan extends beyond the use of outdoor environments as alternative learning locations. Instead, OLS functions as a holistic learning ecosystem that promotes active, contextual, and socially meaningful learning experiences through the integration of four interrelated pedagogical components: experiential learning, collaborative learning, Outdoor Character Building (OCB) activities, and teachers' facilitative roles. Together, these components create authentic opportunities for students to develop communication, collaboration, empathy, leadership, and conflict-resolution skills, thereby fostering their interpersonal competence [18].

The first finding identifies experiential learning as the foundation of OLS implementation. Through environmental observation, field exploration, and direct interaction with authentic learning objects, students actively construct knowledge by connecting theoretical concepts with real-world experiences [19], [20], [21]. This finding is consistent with Experiential Learning Theory, which explains that meaningful learning emerges through concrete experience, reflective observation, conceptualization, and active experimentation. More importantly, these authentic learning experiences naturally encourage students to communicate, exchange ideas, solve problems collaboratively, and negotiate shared understanding while completing learning tasks. Consequently, experiential learning contributes not only to students' conceptual understanding but also to the development of interpersonal competence through meaningful social interaction [22], [23].

The second finding indicates that collaborative learning serves as the primary mechanism through which OLS promotes interpersonal competence. Heterogeneous group formation, collaborative problem-solving, task sharing, and group presentations encourage students to express opinions, appreciate diverse perspectives, negotiate decisions, and assume collective responsibility. This finding supports the social constructivist perspective that knowledge is constructed through interaction with others and collaborative learning processes [24], [25]. Within the OLS context, collaboration is not merely a supporting activity but an integral element of knowledge construction. Consequently, interpersonal competence develops alongside academic learning as students continuously communicate, cooperate, and negotiate throughout the learning process. Unlike previous studies that primarily emphasize the academic outcomes of outdoor learning, the present study demonstrates that improvements in interpersonal competence result from intentionally designed collaborative learning experiences rather than simply relocating instruction to outdoor settings [26], [27].

The third finding highlights the important contribution of the Outdoor Character Building (OCB) program in strengthening the effectiveness of OLS. Through collaborative games, leadership simulations, reflective discussions, and challenge-based activities, OCB intentionally cultivates responsibility, empathy, teamwork, leadership, and collective decision-making. An important conceptual distinction emerging from this study concerns the complementary roles of OLS and OCB. OLS provides the physical and pedagogical environment that enables authentic experiential learning and collaborative interaction, whereas OCB deliberately structures these interactions toward ex-

explicit character-development objectives. Rather than functioning independently, OCB operates as an instructional component within the broader OLS learning ecosystem. This finding suggests that improvements in students' interpersonal competence arise not solely from the availability of outdoor learning spaces but from the intentional integration of outdoor environments with structured pedagogical interventions that promote reflection, collaboration, and character development [28].

The fourth finding emphasizes the pivotal role of teachers as facilitators. Instead of functioning primarily as knowledge transmitters, teachers design authentic learning experiences, organize collaborative activities, monitor group interactions, provide continuous guidance, and facilitate reflective discussions. Through open-ended questioning, constructive feedback, and post-activity reflection, teachers help students recognize that outdoor learning involves not only academic achievement but also the development of communication, collaboration, empathy, leadership, and conflict-resolution skills. These findings indicate that the effectiveness of OLS depends as much on teachers' pedagogical competence as on the availability of outdoor learning environments [29], [30].

Collectively, these findings extend the existing literature by conceptualizing Outdoor Learning Space as a holistic pedagogical ecosystem rather than merely an alternative physical learning environment. Previous studies have generally documented the positive effects of outdoor learning on academic achievement, motivation, environmental awareness, and social development. In contrast, the present study explains the pedagogical processes through which interpersonal competence develops by demonstrating how experiential learning, collaborative learning, Outdoor Character Building, and teacher facilitation interact as complementary instructional components. Accordingly, the educational value of OLS lies not simply in conducting learning activities outdoors but in intentionally designing authentic learning experiences that integrate cognitive, social, and character development [31], [32].

The findings also have practical implications for schools seeking to strengthen students' interpersonal competence. Developing outdoor learning facilities alone is unlikely to produce meaningful educational outcomes unless those environments are supported by learner-centered instructional strategies, structured collaborative activities, reflective practice, and effective teacher facilitation. Schools should therefore view Outdoor Learning Space as an integrated pedagogical approach in which the physical environment, instructional design, character education, and teacher facilitation collectively shape meaningful learning experiences [33], [34].

This study should be interpreted within the context of its methodological limitations. As a qualitative single-case study conducted at SMAIT Istiqamah Balikpapan Selatan, the findings are intended to provide analytical rather than statistical generalization. The proposed conceptual framework may therefore be transferable to educational settings that implement comparable learner-centered and outdoor learning approaches, but its applicability should be considered in relation to differences in school culture, educational philosophy, available facilities, and students' socioeconomic backgrounds.

Future research is recommended to examine the transferability of this conceptual framework through multi-site case studies or comparative research involving schools with diverse educational contexts. Longitudinal and mixed-methods studies would also

provide deeper insights into the long-term development of students' interpersonal competence and the sustained impact of Outdoor Learning Space as a holistic pedagogical ecosystem.

## 4 Conclusion

This study demonstrates that Outdoor Learning Space (OLS) at SMAIT Istiqamah Balikpapan Selatan functions as a holistic pedagogical ecosystem rather than merely an outdoor learning environment. The findings indicate that students' interpersonal competence is developed through the integration of experiential learning, collaborative learning, Outdoor Character Building (OCB) activities, and teachers' facilitative roles. These interconnected components create authentic learning experiences that foster communication, collaboration, empathy, leadership, and conflict-resolution skills.

The study contributes to the literature by explaining how interpersonal competence is cultivated through intentionally designed outdoor learning experiences rather than through the outdoor setting alone. The findings suggest that the educational effectiveness of OLS depends on the integration of learner-centered instructional strategies, character-building activities, and effective teacher facilitation.

As this study employed a qualitative single-case design, the findings provide analytical rather than statistical generalization. Future research is recommended to examine the transferability of the proposed conceptual framework across different educational contexts through comparative, multi-site, or longitudinal studies.

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