Understanding Adiwiyata School Artifacts in Cultivating Students' Characters At *Madrasah Ibtidaiyah*

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ABSTRACT

This research aims to achieve two objectives: First, to describe the types of cultural artifacts found in an adiwiyata school named MI Perwanida in Blitar, East Java. Second, to analyse the subjective interpretations of these cultural artifacts within the school context. Employing a qualitative design with a phenomenological approach, this study investigates the meaning attributed to adiwiyata artifacts in MI Perwanida. The research encompasses various artifacts within the school and the participants' view about it, including the school principals, vice principals, teachers, students, school associations and other stakeholders. Data collection methods involve in-depth interviews, observations and documentation. Data validity is ensured through triangulation. The analysis was conducted through phases of: data presentation, data reduction and conclusion drawing. This study's findings indicate that artifacts, including written and physical objects such as photos, posters, classroom interiors, plants, bio pores, waste bins, and waste management tools, are based on religious and social values. These artifacts are construed as evocative forces, encouraging independent adoption of cleanliness habits at home and school, as well as beautification efforts. Additionally, they are seen as suggestive forces, motivating students to adopt clean behaviours, cultivate a liking for and care for plants, and develop environmental awareness. The formation of this culture reinforces Homans' theory that program realization can be analysed through activities, interactions, and emotions. The implications of this study suggest that student character formation can be intensively and consistently conducted through the implementation of an adiwiyata school. Collaboration among school stakeholders, from planning to program implementation and evaluation, is essential.

ABSTRAK

Penelitian ini bertujuan; Pertama, mendeskripsikan jenis-jenis artefak budaya sekolah adiwiyata. Kedua, menganalisis pemaknaan subyek terhadap artefak budaya sekolah adiwiyata. Penelitian ini bertujuan untuk mengungkap pemaknaan artifak budaya pada sekolah adiwiyata dengan menggunakan desain kualitatif dengan menggunakan pendekatan fenomenologi. Objek penelitian mencakup artefak-artefak budaya sekolah adiwiyata, sedangkan subyek/ partisipan penelitiannya adalah kepala sekolah, wakil kepala sekolah, guru, murid, paguyuban sekolah dan stakeholders sekolah. Data dikumpulkan menggunakan teknik wawancara mendalam, observasi, dan dokumentasi. Keabsahan data diuji melalui triangulasi. Selanjutnya dianalisis secara bertahap, yaitu; dimulai dari paparan data, reduksi data, dan pengambilan kesimpulan. Penelitian ini menemukan bahwa artifak dalam bentuk benda-benda tertulis dan fisik, seperti foto, poster, interior kelas, tanaman, biopori, tempat sampah, dan alat pengelolaan sampah, didasarkan pada nilai-nilai agama dan sosial. Artifak ini dimaknai sebagai daya dorong (evocative) yang membiasakan dan mendorong sikap bersih di rumah dan sekolah, serta sebagai daya saran (suggestive) yang mendorong perilaku bersih, kepedulian terhadap lingkungan, dan perawatan tanaman. Pembentukan budaya bersih ini mendukung teori Homans tentang analisis program melalui kegiatan, interaksi, dan perasaan. Implikasi penelitian ini menunjukkan pentingnya pembentukan karakter melalui program sekolah adiwiyata dengan kolaborasi yang intensif dari berbagai pihak.

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Introduction

One of the goals of education is to cultivate students with good characters and a sense of responsibility (Arrovia & Yuliati, 2021). Good character is evidenced by thought patterns, attitudes and behaviors aligned with religious and societal values (Nursiwan & Hanri, 2023). Among the signs of good character are understanding goodness, having an affinity for virtuous actions and consistently exhibiting positive behavior (Meilani et al., 2023). However, possessing knowledge of what is good without translating it into daily conduct does not suffice for genuine character development. Therefore, true character emerges when individuals comprehend and internalize social and religious values, actively adapting and practicing them in their everyday lives.

Individuals who possess the ability to adapt to social and religious values they believe in are considered to exhibit responsible character traits (Munardji et al., 2020). This sense of responsibility is underpinned by a willingness to align oneself with the environmental needs based on knowledge and understanding of a given context. Responsible behavior is a function of an individual's attitude in responding to their surroundings. Fundamentally, an individual's behavior comprises three interconnected components: cognitive, affective and behavioral tendencies (Masturin et al., 2022), (Chande, 2023), (Kholis et al., 2019). All thoughts, attitudes and actions directed towards supporting prior decisions contribute to one's character of responsibility. Self-adjustment, as a process of individual response, encompasses both behavioral and mental aspects in addressing internal needs, emotional tension, frustration, conflicts, and maintaining a balance between meeting those needs and societal norms.

The cultivation of strong characters and a sense of responsibility is essential for schools to expedite the achievement of their goals. Beyond the academic objectives (curricular goals), each educational institution has aims that require collaborative efforts from all school stakeholders: school leaders, teachers, students, parents, and others (Rasmitadila et al., 2020). At the student level, it is crucial to first develop knowledge and understanding of school programs and activities. This foundation enables students to embrace these initiatives positively and willingly take responsibility alongside the school in realizing the intended programs. Effective collaboration between schools, communities, and parents is necessary to nurture students' character while simultaneously achieving the school's broader objectives (García Torres, 2019). Ultimately, the essence of a school's purpose lies in fulfilling the desires, hopes, and aspirations of both students and their parents or guardians.

The conscientious efforts of all school stakeholders play a pivotal role in realizing the character traits outlined above. This endeavor, referred to as "*hikmat*," involves wholehearted commitment from everyone involved to achieve the school's objectives and ensure students' success. The achievement of students' educational goals is intricately linked to collaborative synergy among the school, parents, and other stakeholders (Syamsul et al., 2023). At the school level, the cultivation of an *adiwiyata* school culture is paramount. This cultural development begins with the establishment of both written and unwritten rules, habitual practices and ongoing monitoring and evaluation (Poom-Valickis et al., 2022). Within the classroom, themes related to the *adiwiyata* culture are seamlessly integrated with established learning themes. Meanwhile, at the stakeholder level, consistent reinforcement of attitudes and behaviors that align with the *adiwiyata* school culture contributes to the formation of positive character traits. By fostering synergy across these three levels within the school unit, the development of knowledge patterns, attitudes and behaviors characterized by integrity and responsibility can be achieved.

The school under study, MI Perwanida in Blitar, East Java, carries out *adiwiyata* school program and demonstrates a strong commitment to establishing an institution that is professional, Islamic and environmentally conscious. These three core objectives of the school can be further elaborated into several primary sub-goals: fostering students who are faithful, pious, knowledgeable, skilled and capable of applying their learning in community life (Bredemeier & Shields, 2019). Integrating environmental awareness into daily life is consistently grounded in an understanding of Islamic values and societal norms. Both sources of these values serve as the foundation for establishing norms that govern attitudes and everyday behavior within a community (Fahmi et al., 2020). The values inherent in Islamic teachings are comprehensive and universal, thus continually relevant in dynamically shaping modern society (Islamy et al., 2022). The binding norms and regulations for all stakeholders at MI Perwanida, for instance, are rooted in the teachings of Islam found in the Quran and Hadith.

The phenomenon of school culture development in shaping students' character based on *adiwiyata* school approach is analyzed using social exchange theory. This theory, particularly developed by Homans while observing small groups, connects three key concepts: activity, interaction, and emotion (Homans, 1958). *Activity* refers to observable behaviors that are highly concrete and tangible (Ogbonna & Mbah, 2022). *Interaction* encompasses any stimuli that mutually stimulate the emergence of other activities (Anthony et al., 2023). *Emotion*, on the other hand, represents the subjective state of an individual, motivating them to engage in activities aligned with their personal or communal expectations. Essentially, an individual's behavior within a community follows their cognitive inclinations, which correspond to the subjective expectations of their group (Ng, 2022). These activities, in turn, serve as the consequences that allow individuals to be accepted or potentially contribute to shared community goals.

The observable behaviors exhibited by all school stakeholders are easily discernible. These activities involve emotions that contribute to fostering group cohesion and strong bonds within the school community (Zaichenko et al., 2020), (Finnegan, 2023). These activities involve a range of initiatives, including the socialization of the school's vision and mission, the cultivation of cohesion among teachers and external stakeholders, the planning of *adiwiyata*-based learning, and student and parental participation in supporting the realization of *adiwiyata* school. Collectively, these activities serve as interaction factors, aligning with Homans' conceptualization (Krämer et al., 2012). Furthermore, this school culture is analyzed by integrating behavioral theory. Such a theory posits that behavioral change is closely linked to beliefs in norms (both religious and social values), subjective feelings, attitudes, and actions (Ajzen, 2020).

Previous studies have portrayed *adiwiyata* schools from various perspectives, such as from the angle of school management (Metroyadi & Fauzi, 2021), (Buckner et al., 2018), (López-Alcarria et al., 2021), (Lowe et al., 2023) and (Mahendrartha et al., 2020). Meanwhile, other studies have examined school culture within the context of *adiwiyata* schools (Anggraini et al., 2022), (Safrizal et al., 2022), and (Syah et al., 2021). However, there remains a limited body of research specifically addressing the *adiwiyata* school culture and its impact on character formation among students (Silvia & Tirtoni, 2023), (Mu'ammar & Badri, 2022). This study diverges from previous research. Its focus lies in deeply exploring the efforts to shape and develop character in students through the *adiwiyata* school culture. Rather than being an end goal, the *adiwiyata* school culture serves as an instrument or approach to instill positive attitudes and behaviors in both students and other school stakeholders.

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From the various studies mentioned above, there exists a gap that has received insufficient attention: how cultural artifacts are interpreted within *adiwiyata* schools. For this purpose, authors are drawn to investigate two primary research foci: (1) The types of cultural artifacts, centering on understanding the various types of cultural artifacts present in *adiwiyata* school at MI Perwanida and their role in nurturing students' character, (2) Participants' interpretations of cultural artifacts, examining how individuals perceive and attribute meaning to the cultural artifacts within *adiwiyata* schools, ultimately contributing to character development. Aligned with the objectives of this research, the study aims to accomplish the following: (a) To analyze and categorize *adiwiyata* school artifacts, which involves analyzing and categorizing the diverse artifacts found in *adiwiyata* schools, with a specific emphasis on their impact on students' personality development, (b) To explore participants' interpretation of cultural artifacts related to the processes involved in developing the *adiwiyata* school culture. This includes understanding how cultural activities are implemented, as well as how students' characters evolve through the school practices. The fundamental concept underlying *adiwiyata* schools revolves around fostering an appreciation for environmental cleanliness and beauty within the school premises. These schools utilize the physical environment as a medium for learning, while also promoting behavioral changes rooted in environmental care.

This research aims to explore the various types of cultural artifacts within *adiwiyata* schools, specifically their role in fostering students' desired character traits as envisioned by the school, parents, and the broader community. Additionally, the study seeks to uncover diverse interpretations of these artifacts in shaping students' character. The findings from this research hold the potential to evoke and suggest strategies for all school stakeholders in realizing character development. Building upon previous research, which emphasizes the need for collaboration among school stakeholders to achieve educational goals (Munardji et al., 2020), (Kholis, 2022). This study recognizes that schools cannot work in isolation to nurture and develop students' character. Various approaches are employed by schools to cultivate character, including programs like *adiwiyata* schools, which include the characters of responsibility, discipline, and adherence to religious and societal values and ethics.

Methods

This research adopts a qualitative approach, specifically utilizing phenomenology as its framework. The study was conducted from July to December 2019 at MI Perwanida in Blitar, East Java. The selection of this school was based on several considerations: it had achieved the status of a nationally recognized as independent *adiwiyata* school in 2018, and its stakeholders demonstrated active participation. Additionally, the school prioritized environmental-based learning, utilizing both the physical and social aspects of the school environment as tools for education. The participants of this research include various stakeholders: the school principal, vice principal, teachers, students, school committee members and class associations. A total of 15 individuals were selected as subjects based on specific criteria: their understanding of the context, direct involvement, and active participation in the educational process. The research objects comprise *adiwiyata* school artifacts (both written and unwritten), which hold meaning capable of enhancing knowledge, inspiring, and fostering an appreciation for clean and beautiful *adiwiyata* schools.

Table 1. Research participants and research objects

Participant's role	Gender	Criteria	Objects
School principal	Male	Understanding, directly involved and observing	Artefacts in Adiwiyata schools, both written and unwritten.
Vice principal of academic and teaching	Female	Understanding, directly involved and observing	
Class 1 teacher	Female	Understanding, directly involved and observing, teaching	Articulating meaning, adding to knowledge, inspiring and motivation students for their characters.
Class 2 teacher	Male	Understanding, directly involved and observing, teaching	
Class 3 teacher	Male	Understanding, directly involved and observing, teaching	
Class 4 teacher	Male	Understanding, directly involved and observing, teaching	
Class 5 teacher	Female	Understanding, directly involved and observing, teaching	
Class 6 teacher	Female	Understanding, directly involved and observing, teaching	
School committee member	Male	Understanding, directly involved, accompanying students at home	
Class associations	Female	Understanding, directly involved, accompanying students at home	
Students (5)	Male & Female	Understanding, directly involved and observing, teaching	

The data in table 1, this study was collected using in-depth interviews, documentation and observation techniques. In-depth interviews were conducted as the primary data collection technique, while observation and documentation served as secondary data. Interviews were related to how and what participants thought about cultural artifacts, including: the types of *adiwiyata* artifacts at MI Perwanida, Blitar, East Java and participants' interpretation of various eco-school artifacts.

The validity of the data in this study is determined by the factors of truth value, implementation, consistency and neutrality. The determination of data credibility is done using several techniques, including considering the adequacy of data collection time, which comprised three months, cross-checking with various data collection techniques and requesting peer review. The data validity procedure is intended to ensure that the research method or procedure carried out can be implemented elsewhere. Therefore, this method is subsequently tested in another place that has similar characteristics, namely at MIN Tegalasri, Wlingi, Blitar (national *adiwiyata* school). Meanwhile, to fulfill the principles of dependability and confirmability, in addition to requesting peer review, the researchers also read and reread several times all the research findings and data analysis results.

Data analysis was conducted in a tiered and interconnected manner across several stages, namely: data presentation, data reduction, verification and conclusion drawing. All data obtained from in-depth interviews, observations and documentation, were described, and subsequently categorized according to the study objects and indicators. For data that is less or not relevant, reduction is carried out. Data that needs additional and further verification are cross-checked with data obtained by different data collection methods. Finally, all the collected data is then used to draw temporary conclusions until a final conclusion is produced.

Results and Discussion

Results

This research is focused on two important aspects. *First*, revealing the forms of *adiwiyata* school cultural artifacts at MI Perwanida. *Second*, describing and analyzing the participants' interpretation of adiwiyata cultural artifacts in shaping students' characters at MI Perwanida. Students' characters are a combination of adequate knowledge, attitudes and behaviors, based on religious and social community values. Good character components emphasize three things: moral knowing, moral feeling and moral action (Lickona, 1997). Moral knowing is the provision of understanding in the students, for example, about what is good, why one should do good and what are the benefits of doing good. Moral feeling is the emotional aspect that must be instilled and felt by students to become students with characters, for example, doing good for oneself, family, friends, social environment and natural environment of the school and home. Moral action is an act or action resulting from the other two components, and is performed repeatedly until it becomes a daily habit.

The types of adiwiyata school cultural artifacts in MI Perwanida, Blitar

From the interview with the principal, the artifacts at of *adiwiyata* school of MI Perwanida can be categorized into two tupes, as she explained:

"*Artefak yang dibuat untuk mendukung berkembangnya budaya sekolah adiwiyata dapat dikategorikan menjadi dua bentuk, yaitu; tertulis dan benda-benda. Artefak tulis dibedakan menjadi dua, yaitu; berupa regulasi (dokumen) dan berupa poster-poster*". (Interview with Arifa, 2019)

Translation: Artifacts in our schools that support the development of adiwiyata school culture can be categorized into written and object artifacts. The written artifacts are for instance, regulation and posters.

The *adiwiyata* school program serves as a tool to achieve the school's goal, which is a change in students' character and behavior. Behavioral change begins with knowledge. Knowledge in school is obtained from lessons in class and built culture at school. This knowledge gained by students and other stakeholders, is expected to change attitudes. A positive attitude can lead to the good acceptance of the *adiwiyata* school program, while. a negative attitude will result the otherwise. Therefore, knowledge intervention is carried out in class, integrated with lessons and general socialization.

According to the principal, Nikmad Arifa, the attitudes and behaviors that shape into students' and teachers' habits at school, start from the knowledge obtained in class. In every subject discussion, many themes are inserted to discuss the importance of caring for plants and the natural environment. The vice principal explained as follows.

"*Setiap bagian isi mata pelajaran memuat tema-tema yang mendukung terbentuknya pengetahuan, sikap, dan perilaku anak yang sesuai tujuan sekolah adiwiyata. Tema-tema pembelajaran sekolah adiwiyata dihasilkan dari workshop pemetaan tema mata pelajaran yang diadakan diawal semester ganjil. Workshop diikuti oleh semua guru-guru di MI Perwanida*". (Interview with Khotimah, 2019)

Translation: Every part of the school subject contains themes that support the formation of knowledge, attitudes and behaviors of children that align with the objectives of the *adiwiyata* school. The themes of *adiwiyata* school learning are generated from a workshop mapping the themes of subjects held at the beginning of the odd semester. The workshop is attended by all teachers at MI Perwanida."

At the beginning of each year, MI Perwanida holds a curriculum workshop which discusses the mapping of learning themes that integrate the adiwiyata school program. The results of the workshop are then included in the annual program and semester program based on the logical sequence of science, following the principle of expanding and deepening according to the level of development of students' thinking.

According to the vice principal, Khusnul Khotimah as follows.

Kegiatan penyusunan tema-tema pembelajaran disesuaikan dengan tema-tema yang dipelajari oleh masing-masing mata pelajaran, tentu penyusunan tema-tema tersebut didasarkan pada tujuan sekolah. (Interview with Khotimah, 2019)

Translation: The preparation of learning themes is adjusted to the themes studied by each subject, of course, the preparation of these themes is based on the school's objectives.

Muchlisin (teacher of Akidah Akhlak subject) explained to the researcher about the details of the mapping of learning friends as follows.

Tema-tema yang sudah dituangkan dalam program pembelajaran tahunan dan program pembelajaran semester, selanjutnya dikembangkan kedalam rencana pelaksanaan pembelajaran. Tema-tema yang sudah dibakukan sesuai hasil workshop, oleh masing-masing guru dielaborasi kedalam; kompetensi inti, kompetensi dasar dan indikator pencapaian kompetensi, dan tujuan pembelajaran sebagaimana tertuang dalam rencana pelaksanaan pembelajaran. Materi pembelajaran, metode pembelajaran, media dan bahan, serta sumber belajar disesuaikan dengan teman-tema yang ditetapkan. (Interview with Muchlisin, 2019)

Translation: The themes outlined in the annual learning program and semester learning program are then developed into a learning implementation plan. The themes that have been standardized according to workshop, are elaborated by the teachers into core competencies, basic competencies and indicators of competency achievement, and learning objectives as set out in the learning implementation plan. Learning materials, learning methods, media and materials, and learning resources are adjusted to the established themes.

Based on the researcher's observation, the learning materials compiled by the teachers are sourced from various books. The preparation of learning materials is done in groups, by classroom teachers and study group groups. Each group discusses the scope, depth, and breadth of the material to be taught to students at each grade level. According to the vice principal that all written artifacts as mentioned above are references for activities, both individual school stakeholders or groups. The making of rules and posters

is based on religious values and norms and local community norms. Here is what the vice principal explained:

> *Kebanyakan poster yang dibuat oleh kelompok kerja merupakan intisari dari ajaran agama Islam. Selain juga merupakan pandangan ideal dari kesepakatan kelompok kerja berdasarkan norma-norma yang dipelajari dan dipahami sebagai kebenaran* (Interview with Khotimah, 2019).

> Translation: Most of the posters made by the working group are the essence of Islamic teachings. Besides also being an ideal view of the working group agreement based on the norms learned and understood as truth.

The rules made as a device for the culture of the Adiwiyata school are compiled at leadership meetings that present school stakeholders. As explained by Khotimah (vice principal).

> *Aturan-aturan ada yang tertulis dan non-tertulis. Aturan tertulis berupa kode etik sekolah dan silabi kurikulum pembelajaran. Kode etik sekolah mencakup nilai-nilai dan norma yang hendak dibudayakan dalam kehidupan keseharian stakeholders sekolah. Kode etik sekolah dikembangkan berdasarkan ajaran-ajaran agama Islam dan sosial tentang kelangsungan ekosistem lingkungan makhluk, hubungan antara manusia dengan alam sekitar, hubungan manusia dengan Allah swt dan sesama manusia.* (Interview with Khotimah, 2019).

> Translation: The rules are written and unwritten. Written rules are in the form of school ethics codes and learning curriculum syllabi. The school ethics code includes values and norms that are to be cultured in the daily life of school stakeholders. The school ethics code is developed based on Islamic and social teachings about the sustainability of the ecosystem of creatures, the relationship between humans and the surrounding nature, the relationship between humans and Allah SWT and fellow humans.

Further, Khotimah explained that unwritten rules are habits that apply to anyone who is at school, the details are revealed as follows.

> *Peraturan ini meskipun tidak tertulis, tetapi sifatnya mengikat. Implementasinya setiap orang (guru, murid, dan stakeholders lainnya) bisa saling mengingatkan terhadap sikap dan perilaku sosial yang bertentangan dengan budaya sekolah adiwiyata, misalnya ada murid yang berani mengingatkan bapak polisi yang masuk ruang sekolah tidak melepas sepatunya.* (Interview with Khotimah, 2019)

> Translation: Although these rules are not written, they are binding. Its implementation allows everyone (teachers, students, and other stakeholders) to remind each other of attitudes and social behaviors that contradict the culture of the *adiwiyata* school, for example, there are students who dare to remind the police officer who enters the school room to take off his shoes.

From the researcher's observation, in several corners of the school and classes are placed some posters related to the themes of the *adiwiyata* school. The posters made by students are divided into two themes, namely go green posters and Islamic posters. The go green poster is a poster that gives messages about the importance of maintaining and supporting efforts to preserve the environment. While the poster with the Islamic theme provides messages of environmental sustainability based on hadiths and verses of the Qur'an or the opinions of Islamic figures. According to Rizka (6th grade student) that the posters were made in groups and cooperation between students, homeroom teachers and parents (working group), as explained as follows.

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Semua poster yang ditempelkan di tembok-tembok kelas dan sekolah merupakan hasil karya para murid. Ada yang dibuat langsung secara berkelompok, dan ada yang mengambil dari poster-poster di internet. Setiap kelompok kerja, pada masing-masing kelas diwajibkan membuat poster dengan isi pesan sesuai dengan kesepakatan anggota kelompok kerja. (Interview with Rizka, 2019).

Translation: All posters attached to the walls of classrooms and schools are the work of students. Some are made directly in groups, and some are taken from posters on the internet. Each working group, in each class is required to make a poster with a message content in accordance with the agreement of the working group members.

Another important artifact to reveal is the objects prepared by the school leadership. Based on the authors' observations, the objects or artifacts of the *adiwiyata* school are in the form of flower plants, green plants in front of classrooms and schools, bio pores, clean bathrooms and toilets, interior of classrooms and schools, a shady green school yard, and waste management with a pattern of reduce, reuse and recycle (3R). The principal, Nikmad Arifa, explained to the researcher about the purpose of making objects, not only as ornaments for the completeness of the *adiwiyata* school, but also as a part of maintaining cleanliness and greening, as explained as follows.

Benda-benda ini didesain untuk tidak hanya sebagai pelengkap yang menunjukkan sekolah adiwiyata. Tetapi, juga dimaksudkan untuk memberikan pesan kepada semua stakeholders untuk menjaga, merawat, dan mengembangkan lingkungan sekolah yang bersih dan indah. Menjaga keindahan dan kebersihan lingkungan sekolah merupakan tanggungjawab bersama. Mewujudkan sekolah adiwiyata juga merupakan bagian dari strategi menghadirkan sekolah yang peduli dalam mewujudkan murid-murid berkarakter (interview with Arifa, 2019)

Translation: These objects are designed not only as complements that showcase an *adiwiyata* school. Instead, they are also intended to send a message to all stakeholders to maintain, care for and develop a clean and beautiful school environment. Maintaining the beauty and cleanliness of the school environment is a shared responsibility. Realizing the *adiwiyata* school is also part of the strategy to present a school that cares in realizing students with character.

According to the principal, the working group is the most important structure in achieving the objectives of the *adiwiyata* school. The working group has integrated duties, responsibilities and authorities starting from planning, implementation, and evaluation aspects.

Masing-masing kelompok kerja memiliki kewajiban merencanakan, mengkoordinasikan, mengerjakan dan merawat artefak sesuai dengan tugas dan fungsi kerjanya. Misalnya, kelompok kerja biopori. Mereka merencanakan di mana dan bagaimana bentuk biopori yang sesuai dengan kondisi lahan sekolah, mengkoordinasikan pembuatan dan merawatnya. Kelompok kerja tanaman hias, membuat taman depan kelas, mendiskusikan tanaman apa saja, bagaimana mendapatkan tanaman dan membuat jadwal pemeliharaan tanaman setiap hari. Kelompok kerja keindahan kelas, memiliki tugas dan fungsi mendesain interior ruang kelas, mengkoordinasikan dan melaksanakan kegiatan (Interview with Arifah, 2019)

Translation: Each working group has the obligation to plan, coordinate, work on, and maintain artifacts according to its duties and functions. For example, the bio pore working group. They plan where and what form of bio pore is suitable for the school land condition, coordinate its making and maintain it. The ornamental plant working group, create a garden in front of the class, discuss what plants, how to get plants, and

make a daily plant maintenance schedule. The classroom beauty working group has the duty and function to design the interior of the classroom, coordinate and carry out activities.

Based on the researcher's observation, the interior design of the class is painted and equipped with posters that give messages about the cleanliness and beauty of the class. Thus, each working group focuses on carrying out tasks and functions that have been previously determined, so the principal can more easily monitor and evaluate them. At the end of the year, an open joint evaluation is held to measure what aspects still need improvement in achieving the objectives of the *adiwiyata* school.

The meaning of adiwiyata school artifacts at MI Perwanida

The interpretation of *adiwiyata* school artifacts at MI Perwanida can be grouped into two categories: *evocative* meaning and *suggestive* meaning. Written artifacts and objects in the school become a driving force for a positive attitude to love the natural environment, both at school and at home. Love for the environment is manifested into attitudes and behaviors, such as maintaining cleanliness, maintaining purity, maintaining beauty and preserving the environment. Not only students, teachers, and anyone present at school "must" practice such habits. The behavior of loving the environment gradually become a habit for every member of the school stakeholders. Thus, teachers become examples for students at school and parents become examples of environmental love for children at home.

Knowledge about love for the natural environment obtained by students in class and various posters at school, becomes an internal driving force for the growth of attitudes to care for the environment. The source of values and norms that form the basis of the *adiwiyata* school culture at MI Perwanida is derived from Islamic teachings and local communities. These values then become the main drive of positive attitude and desire to always maintain harmony between the school environment, social environment and the natural environment. The principal, Nikmad Arifa, explained as follows.

> *Sekolah merupakan rumah kedua bagi guru dan murid. Oleh karena itu harus diciptakan lingkungan yang bersih, indah dan suci. Keindahan, kebersihan penting, tetapi menjaga kesucian, terutama di kelas dan tempat sholat adalah sangat penting. Karena pembelajaran yang diterapkan di kelas bersifat dinamis; kadang murid-murid duduk dan bersimpuh di lantai kelas.* (Interview with Arifa, 2019).

> Translation: The school is the second home for teachers and students. Therefore, an environment that is clean, beautiful and pure must be maintained. Beauty, cleanliness is important, but maintaining purity, especially in classrooms and places of prayer is very important. Because the learning applied in the classroom is dynamic; sometimes students sit and kneel on the classroom floor.

According to the classroom teacher, Darin Nafi'ah, students have willingness to maintain cleanliness and preserve nature, especially inside and outside the class according to the duty schedule, as noted below.

> *Program perawatan kebersihan dan keindahan ruang kelas yang mengalami perubahan adalah asesoris poster. Hiasan dinding dan cat tembok tidak mengalami perubahan. Sedangkan untuk menjaga kebersihan ruang kelas dibuat jadwal petugas kebersihan. Mereka secara bergantian masing-masing anggota kelas membersihkan ruang kelas setiap mau masuk dan mau pulang sekolah.* (Interview with Nafiah, 2019).

Translation: "The cleanliness maintenance program for the classroom that experience change is poster. Wall decorations and wall paint have not changed. Meanwhile, to maintain the cleanliness of the classroom, a cleaning roster schedule is made. Students take turns to clean the classroom every time they want to enter and go home from school.

The vice principal, Nurul Khotimah, added that the working groups play an essential role in evoking the awareness of the go green. She stated,

Program kerja periode tertentu merupakan kelanjutan dari perode sebelumnya, misalnya program penghijauan halaman dan depan ruang kelas, setiap tahun mengalami penambahan jenis tanaman. (Interview with Khotimah, 2019).

Translation: The work program for a certain period is a continuation of the previous period, for example, the greening program for the yard and the front of the classroom, every year there is an addition of plant types.

Based on the observations, the culture of *adiwiyata* school at MI Perwanida has developed and growing better; it increasingly provides suggestive power for all stakeholders to better maintain the sustainability of the environment, for example, the growing awareness to recycle waste. Organic waste is recycled into organic fertilizer. The school provides a simple organic waste processor and the results are used to fertilize plants at school. Meanwhile, plastics that can no longer be used are burned, used mineral water or other materials that can still be used are utilized as flower pots, wall decorations and craft materials. Activities like this are carried out once a month on the first Saturday. Students collaborate with other working group members.

All stakeholders of the MI Perwanida directly and indirectly involved in the *adiwiyata* school program, developed awareness, willingness and motivation to collectively realize the school's objectives. Such attitudes are not limited to the level of evocation, but also transform into tangible action, becoming a habit at home and at school. As expressed by a parent, Rahayu,

Anak saya sebetulnya tidak pernah peduli membersihkan rumah, karena ada pembantu, tetapi akhir-akhir ini ia rajin membersihkan kamarnya sendiri. (Interview with Rahayu, 2019).

Translation: My child initially never cared about cleaning the house, because we have a helper, but lately, he has been diligent in cleaning his own room.

Another parent added:

Kebiasaan di sekolah terbawa sampai di rumah, anak saya yang biasanya tidak pernah membantu membersihkan rumah, sekarang tiap pagi membersihkan rumah, bahkan jika libur tetap membersihkannya. (interview with Eny, 2019).

Translation: Habits at school are carried over to the home, my son who usually never helps cleaning the house, now cleans the house every morning, even if it's a holiday.

Ilyas, a father to MI Perwanida student, also reported:

Saya mengetahui dan menyadari dari beragam poster, pelajaran di sekolah, dan pembiasaan melalui kegiatan kelompok kerja dan piket kelas.

Translation: I know and realize from various posters, lessons at school, and habituation through working group activities and class duty.

These parents' testimonies were explained by one of the teachers at MI Perwanida, as follows.

> *Sebetulnya membersihkan ruang kelas dibiasakan sejak murid-murid masuk di sekolah MI Perwanida. Tetapi setelah ada program sekolah adiwiyata kegiatan murid-murid ditambah. Misalnya memperindah ruang kelas, memasang poster-poster, menanam bunga di depan kelas dan halaman sekolah, membersihkan dan menjaga kebersihan kamar mandi.* (Interview with Huda, 2019).

> Translation: Actually, cleaning the classroom has been accustomed since the students entered MI Perwanida school. But after the *adiwiyata* school program was implemented, the students' activities increased. For example, beautifying the classroom, putting up posters, planting flowers in front of the class and school yard, cleaning and maintaining the cleanliness of the bathroom.

The development of the *adiwiyata* school culture at MI Perwanida clearly shows that it increasingly raises awareness and motivation to care more greatly about the cleanliness, beauty and sustainability of the school environment. Students are accustomed to always throw garbage in its place. As observed by the researcher, in front of each class, three are three types of trash bins namely organic waste, unorganic waste, and hazardous/toxic materials. Every student is accustomed to throwing garbage in the provided place. The findings of this study can be summarized as follow table 2.

Table 2. Summary of Research Findings

1	Artefacts of *adiwiyata* school at MI Perwanida's	*Written artefacts*; school rules, lesson plans, learning materials, learning evaluation, schedules of working groups, schedule of class rosters.
		Objects; Photographs of working groups, posters, class interiors, plants in front of classes and school building, bio pores and organic waste bins.
2	Interpretation of *adiwiyata* school artifacts	*Artefacts as evocative*; creating habits and behaviors of cleanliness, care for the environment at school and at home.
		Artefacts as suggestive; suggesting to perform hygienic behavior, caring for plants and environment.

Discussion

Artifacts are objects produced by humans that can be observed, which depict traces of human work. One important characteristic of artifacts is that, it is movable easily without damaging or destroying their form (Zena et al., 2023), (Rampasso et al., 2021) Artifacts can also be interpreted as objects (goods) resulting from human intelligence, such as tools or weapons (Pradhan & Ambade, 2021). Artifacts are symbols of the human development and dynamics of human civilization at a certain period. Artifacts can also depict the culture, values, norms and technological developments of a particular society. For example, the remnants of various axes in prehistoric societies indicate that at that time the society was agrarian and relied on the surrounding wood as fuel and building

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material for houses. Thus, it can be interpreted that artifacts are objects left by societies in the past or a certain period that depict the dynamics of culture and civilization.

The diversity of artifacts indicates the dynamics of its society's civilization (Nofal et al., 2020), (Fajariyah et al., 2023). For instance, in prehistoric times, artifacts were bare stone objects used for household furniture, farming tools, and so on. However, in their development, these stones were carved and shaped according to the artistic abilities of their society. In fact, in subsequent periods, symbols or writings were added to the artifacts. From these writings and carvings, archaeologists analyze, study and draw conclusions about a society's civilization. Each period of a community's historical development has specific symbols (language, letter shapes) in its way of communicating, so from these symbols, the year/period of the artifact can also be estimated (Rosmalia & Dewiyanti, 2023). Therefore, artifacts also experienced development, from types of stone, metal, paper, buildings, writings and other documents (hard file or soft file).

Based on the descriptions above, the findings of this present study suggest that there are two types of cultural artifacts in MI Perwanida's *adiwiyata* school, consisting writings and objects. Written artifacts are in many forms such as: rules, codes of ethics for implementing *adiwiyata* school culture, learning plans (annual programs, semester programs, and learning implementation plans) and posters on *adiwiyata* school culture. In line with previous research findings, some cultural artifacts of a community are written (Herwindo, 2023), (De Sordi et al., 2020). Long time ago, written artifacts can be found in stone inscriptions, ancient literary works, books left by poets, and so on. Poets in the era of ancient kingdoms were entities that were in the power elite and had functions among others; disseminating values and norms of work to the public through poems, folk tales, short stories, and/or other literary works. Thus, the written artifacts found in this study can essentially also be included as part of the cultural artifacts of the *adiwiyata* school.

The development of artifacts from ancient societies is always influenced by the knowledge and technological tools of the society, which then depict the level of its civilization's development (Hu, 2022), dan (Wang & Chen, 2019). The cultural dynamics and civilization of a society can always be recognized from the remnants of its artifacts found by archaeologists. Any objects that are remnants can be analyzed, correlated and concluded scientifically. Any remnant object has meaning, whether it is in the form of inscriptions, pottery, human and animal fossils, or parts of dwellings. As found in this study, the objects that support the interpretation of the *adiwiyata* school culture, are, for instance, Islamic and go green posters. The posters found at MI Perwanida school are real evidence of the developing *adiwiyata* school culture. It also represents the participation of all school stakeholders in realizing the *adiwiyata* school, as the making of posters is collectively involving all members of the working group (pokja).

Artifacts have cultural significance that depicts the values, ideas, attitudes and social behavior of a community. For instance, research on carnival clothing in Yogyakarta has meaning as a manifestation of culture, namely: as a complex of ideas, concepts, values, norms, regulations; as a complex of patterned activities and actions of humans in society; and as objects resulting from human culture (Koentjaraningrat, 1962), (Setiawan, 2015). Culture cannot be interpreted as something fixed, but as a dynamic dialectical process through continuous learning without stopping. This means, culture always changes and adapts to the needs of its supporting community (Vilbikienė, 2022). Thus, every object can be interpreted into the aspect of ideas/concepts that are developing at that time, societal activities, and remnants of the general culture of the community.

Flower plants and vegetation at the front of classes, a shady and green school yard can be interpreted as a depiction of the ideas/concepts developed as school culture (Noge

et al., 2021). Green plants at school represents the idea of preserving natural ecosystem and caring for the surrounding nature. Love for the nature is a manifestation of the values taught in Islam and society as the embodiment of the development of love and interest attitudes (Atin & Maemonah, 2022). The balance of the relationship between humans and the universe is instilled earnestly in schools, thus impacting the change in behavior of students, teachers, and parents/guardians, both in terms of knowledge, attitudes and daily behavior. The development of *adiwiyata* schools can thus be understood as an effort to realize the teachings of Islam in daily practice at school (Suhardin et al., 2021). Therefore, it can also be understood that developing a culture of environmental sustainability around the school is a shared responsibility of school stakeholders, based on the values and norms of Islamic teachings.

Other practices that indicate the care for the environment at the *adiwiyata* school, MI Perwanida, include the making of bio pores in the school yard, maintaining the cleanliness of bathrooms and toilets, maintaining the cleanliness and beauty of classrooms and schools, and performing waste management based on reduce, reuse, and recycle (3R) principles. Each school working group (Pokja) is responsible for creating, maintaining and caring according to its scope of work, in accordance with the learning plan developed by the teacher (Ta'rif & Adhim, 2021), (Sihombing, 2021), which is done in groups (Muzayanah, 2020). They not only clean directly, but always reprimand anyone (teachers, guests, and students) known to disobey the rules set in maintaining the cleanliness of bathrooms and toilets. From an early age, students are accustomed to learning to work with a team to implement school tasks. Students are accustomed to caring about waste and the future of the environment, such awareness begins with the instillation of values and religious teachings through the teaching and learning process in each subject so that good character is formed (Muhammad Anas Ma`arif & Ibnu Rusydi, 2020).

Good characters in each student is a result of a long process. The lengthy process of developing a character culture in schools begins with the internalization of religious values and societal values into norms developed in schools (Burga, 2019). The development of school norms is influenced by the internal dynamics of the institution and the external world dynamics of the institution (Hidayati, 2019). These two dynamics then shaped into artifacts as the remnants of *adiwiyata* school culture. The development of *adiwiyata* school culture, which is based on the development of religious values and societal values, is interpreted by all school stakeholders as having evocative and suggestive power. Sourced from these two powers, it ultimately forms patterns of attitudes, patterns of behavior that have good character, namely being responsible, disciplined, loving the environment, cleanliness, and beauty.

The attitudes and behaviors of individuals are fundamentally determined by their intentions, beliefs and subjective norms (Ajzen, 2020). In the context of this study, *intention* refers to the plan for developing school culture and *adiwiyata* model learning. Religious values and social values are subjective norms, which are expected to be realized in the daily life of students at school, at home, and in their community environment. Artifacts, whether in the form of posters, documents (written artifacts), or facilities such as bio pores, classrooms and school environments are the results of the expected behavior development. Such behavior is certainly strengthened by the choices made by school stakeholders. Thus, the results of this study reinforce behavior theory (Hill et al., 1977), (Ajzen & Driver, 1992). The school principal has a strong vision and mission, which is believed to be implementable based on knowledge, understanding, and strengthened by religious and social values. Of course, this strengthens the behavior theory that beliefs,

attitudes, and attention determine behavior (Hill et al., 1977), (Sihombing, 2021). The results of this study can be illustrated, see figure 1.
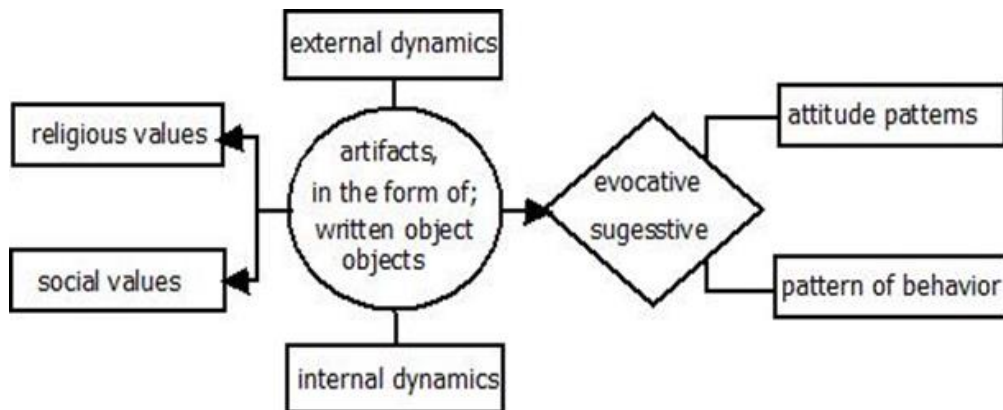
Figure 1. *Adiwiyata* School-Based Characteristic Development Pattern

The culture of *adiwiyata* schools is developed based on an awareness of the significance of religious values and social values for the growth and development of students with characters. Based on the concepts of social exchange theory (Homans, 1958), the findings of this study can be analyzed based on three categories namely: activities, interactions and feelings. Firstly, *activities* refer to the development of character-based culture in *adiwiyata* school of MI Perwanida. Secondly, *interactions* encompass activities that interact and influence each other, thereby forming a culture of students with character. Among these activities are leadership meetings to design strategy for achieving program activities, workshops to formulate ethical codes, workshops to map character-based learning themes, workshops to compile annual and semester programs, workshops to formulate learning plans, movements involving school stakeholders (internal and external), and the implementation of creating *adiwiyata* school artifacts (written or in the form of objects). Thirdly, the *subjective feelings* of school stakeholders, consisting of the driving force (evocative) and suggestive power (suggestive) to develop a culture of students with character based on *adiwiyata* schools.

Conclusion

This research concludes that: first, the cultural artifacts of the *adiwiyata* school at MI Perwanida can be grouped into writings and objects. The written artifacts include school rules, learning plans, learning materials, learning evaluations, activity schedules and class duty schedules. Meanwhile, the object artifacts consist of photo documents of workgroup activities, Islamic and social posters, classroom interiors, class and school plants, bio pores, trash cans and organic waste equipment. Second, such artifacts are interpreted by school stakeholders as having the power of *evocative* and *suggestive* for school stakeholders to develop students with positive characters in accordance with religious and/or societal values and norms.

This research complements two categories of research findings of the previous studies, namely: environment-based schools and *adiwiyata* schools. The findings of this study indicate that the formation of students' characters can be achieved through the development of *adiwiyata* schools. The development of such a school culture allows students to become aware of and appreciate the environment as well as increase their

initiative to cleanliness and sustainability of the surrounding ecosystem. The development of green characters is developed through enhancing understanding and awareness of religious values and social values, thus forming attitudes and behaviors with characters. The technique of character development begins with enhancing understanding of religious values and social values, awareness of the dynamics of the internal-external school environment. Finally, good attitudes and behaviors are developed.

The method employed in this qualitative research is quite basic. Going forward, studies on the similar topic can be conducted with mixed research, so that the range of participants can be expanded and deepened. Techniques such as telling stories, role-playing, focus group discussion can be employed as data collection methods. In addition, research and development (R&D) study can also be implemented in this topic, to produce a certain model of *adiwiyata* school programs that could be implemented elsewhere. Furthermore, research on measurement tools for developing student character based on *adiwiyata* school culture needs to be conducted so that students' green characters could be consistently measured across school contexts. This includes the need for research to improve the aspects of insight and knowledge, in addition to the aspects of attitude and behavior found in this study.

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