Fundamentos Teóricos de las Inteligencias Múltiples y el Tratamiento a la Conciencia Ambiental en Estudiantes

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Abstracts: El presente trabajo es titulado Fundamentos Teóricos de las Inteligencias Múltiples y el Tratamiento de la Conciencia Ambiental en Estudiantes, con el objetivo de analizar la aplicación potencial de los principios teóricos de las inteligencias múltiples en la promoción de la conciencia ambiental entre los estudiantes. Para esto, se desarrolló un método cuantitativo en el que se realizó una revisión bibliográfica en diferentes bases de datos, inicialmente encontrando 98 artículos, procediendo a una selección discriminatoria de ellos y finalmente logrando identificar 45 artículos que fueron utilizados para obtener los datos de esta obra. Los resultados encontrados mostraron que para la primera variable referida a las inteligencias múltiples se identificó aproximadamente 27% de los documentos examinados, mientras que la versatilidad fue encontrada en alrededor de 40%. En el otro sentido, las aplicaciones y usos se encontraron en un porcentaje aproximado de 33% en los documentos revisados, de igual manera los estrategias para el tratamiento de la protección ambiental, los artículos que abordan estas estrategias ambientales revelaron que 24% muestran características innovadoras, un 18% muestran flexibilidad, 24% tienen un enfoque crítico, y 33% adoptan una orientación proactiva y perspectiva. Finalmente, fue posible especificar que el uso de inteligencias múltiples mejoran el aprendizaje de los estudiantes, y aún más así cuando son dirigidos a desarrollar conocimientos y habilidades en el cuidado del medio ambiente.

Keywords: Fundamentos Teóricos, Inteligencias Múltiples, Estrategias de Enseñanza, Conciencia Ambiental.

1. INTRODUCCIÓN

El progreso de la ciencia y la tecnología impulsa el desarrollo científico, mejorando la capacidad humana para alterar continuamente la naturaleza. No obstante, este avance va de la mano con un aumento en la presión ejercida por las actividades sociales en el ambiente natural. La conciencia de los problemas ambientales y climáticos está estrechamente vinculada a las percepciones individuales del cambio climático global y al entendimiento de la contaminación por dióxido de carbono derivada de las actividades respiratorias [8].

Los vínculos entre las personas y su entorno forman su medio ambiente, incluyendo todo lo que afecta a éste. En ciertas circunstancias, el deseo de mejorar la calidad de vida en ausencia de un plan territorial, contribuye significativamente a la acumulación de residuos sólidos y orgánicos [20]. El proceso de urbanización y la adopción de tecnologías modernas por las familias han llevado a Malasia hacia la degradación ambiental, enfrentando desafíos derivados de las modificaciones ambientales [2].

Un problema preocupante en la educación integral de los estudiantes es la promoción de la conciencia ambiental desde las escuelas, que debería ser vista como la construcción de un futuro sustentable y considerando, por lo tanto, es esencial redirigir el enfoque educativo hacia el entrenamiento ambiental que es más relevante y pertinente [14].

Una manera de establecer lineamientos para la sostenibilidad ambiental es a través de la educación. La educación ambiental en el campo pedagógico tiene el poder de moldear individuos con conciencia ambiental, fomentando una actitud crítica y reflexiva para abordar y entender la degradación ambiental. Cuando la educación se integra en el desarrollo sostenible, se puede generar a los ciudadanos comprometidos con su ambiente, equipados con actitudes y habilidades que promuevan la conservación. En esta línea, la educación superior juega un papel crucial; las universidades tienen la responsabilidad de fomentar la responsabilidad social educando a las nuevas generaciones, equipando a los jóvenes con liderazgo empresarial, visión para el futuro y compromiso para el desarrollo sostenible en sus respectivas áreas [10].
In the study environment, students show little understanding of the importance of conserving the environment, which is reflected in a lack of interest in environmental care. This behavior is reinforced by the lack of action on the part of authorities and families in the face of obvious problems such as littering in public spaces and bodies of water, neglect of parks, waste of water and deforestation, actions that go against ecology. It is presumed that the lack of knowledge about educational methods and resources to promote environmental awareness based on the different intelligences of students, the reluctance to implement changes towards environmental sustainability in teaching, and time limitations due to administrative pressures to complying with the curriculum are contributing factors.

Multiple intelligences, developed by Howard Gardner, represent the valuing of the variety of abilities and aptitudes. In the early 1980s, American psychologist Howard Gardner introduced the theory of multiple intelligences, a proposal that had a significant impact on education on a global scale [22]. Furthermore, according to the theory of multiple intelligences, various forms of intelligence are distinguished, including linguistic-verbal, logical-mathematical, spatial, bodily-kinesthetic, musical, interpersonal, intrapersonal and naturalistic. [19] Likewise, according to Howard Gardner’s theory of multiple intelligences, all people possess, at different levels, all intelligences, and the way in which these are strengthened and combined will determine the specific capabilities they develop [12]. Finally, this is known as “learning styles”, where in each individual there is one that stands out, given that they use different areas of the brain. Even so, the more various intelligences are involved during the learning process, the greater the likelihood of remembering the information [9].

For that reason, it is pertinent to the extent that excessive human activity is generating irreversible changes on the planet, causing a global crisis. It is imperative to involve students in processes that sensitize and raise awareness about the environment. This acquires social importance by requiring a committed and active population. In addition, it has theoretical foundations supported by the Theory of Structural Goals of (Feuerstein, 1996) [7]. Which addresses the determining factors of pro-environmental behaviors, as well as Gardner's Theory of Multiple Intelligences (1983), which identifies different types of intelligence in human beings. The purpose lies in disseminating the theoretical principles of multiple intelligences and their relationship with environmental awareness in students. Likewise, it seeks to review the theories of intrapersonal, interpersonal and naturalistic intelligence, and understand the theoretical bases of environmental awareness [21].

Environmental awareness is an educational process that seeks to form conscious, committed and responsible individuals with the environment, promoting understanding of environmental problems and promoting sustainable practices [11]. As well, it seeks to ensure that teaching has sustainability, this principle that seeks to satisfy present needs without compromising the ability of future generations to satisfy their own needs, balancing economic, social and environmental development. [3].

In the same way, understanding and sensitivity towards the interrelationship between human beings and their natural environment, promoting responsible and careful attitudes towards nature. That is why the educational method involves direct and practical experience as a basis for learning, allowing students to connect with the environment and better understand environmental problems. The active involvement of society in decision-making and actions to protect the environment, promoting collective responsibility and commitment to sustainability [17].

One of the requirements that teachers seek is to achieve the teaching of Deep Ecology: This current proposes a change in the traditional anthropocentric vision, arguing that all living beings and ecosystems have intrinsic value, regardless of their usefulness for humans. Proposes a deep connection with nature, promoting respect and consideration for all forms of life [15].

A theoretical basis is sustainable development where it is suggested that economic development must take into account the conservation and preservation of the environment in the long term. Advocates a balance between human needs, economic growth and the conservation of natural resources, recognizing the interdependence between human well-being and the healthy state of the natural environment [13].
2. MATERIAL AND METHODS

It is essential to keep in mind that the literature review involves the application of a series of techniques associated with the scientific research method. It is not limited only to collecting information without order, but is the starting point for the production of a scientific article. This review provides us with a clear idea of the current situation regarding the topic of multiple intelligences and the approach to environmental awareness. By critically evaluating other studies on these topics, we contribute to contextualizing the topic within its environment. To carry out a comprehensive review of the literature, the work carried out must offer the reader a clear, objective and coherent summary of current knowledge about multiple intelligences and their relationship with environmental awareness [5].

Literature review as a method that involves the identification and collection of information supported by parameters and expert studies [23]. This allows the researcher to incorporate data from the perspective of other authors, as long as the content is relevant to the topic of study. In this case, reference is made to the theory of connectivism by Stephen Downes and George Siemens, which focuses on learning derived from the use of new technologies in the digital age. This theory allows learning through strategic planning of the use of virtual resources and tools, facilitating communication between educational actors [1]. In this context, the research focuses on two variables: multiple intelligences and environmental awareness, which are fundamental for the object of study [4].

The methodological approach used in this study is qualitative in nature, focusing on a bibliographic review. First, an exhaustive investigation of articles linked to the topic of study was carried out, followed by a detailed and complete analysis of the scientific academic literature. The key question that guides this integrative review was formulated following the PICOT (Population, Intervention, Comparison, Results, Time) strategy: ¿What is the potential for applying the theoretical principles of multiple intelligences in the promotion of environmental awareness among students of today?

In order to support the research, bibliographic managers and search engines were used in databases of journals indexed in Scopus, Web of Science and Scielo. A comprehensive review of all articles published up to May 30, 2023 was carried out to obtain relevant information and references, in order to understand the theoretical contribution of experts in the field and consolidate the theoretical basis of the research.

The term search was conducted using keywords suggested by the thesaurus, such as “theoretical foundations,” “multiple intelligences,” “treatment,” and “environmental awareness.” In addition, a search was carried out in the UCV virtual library. After applying exclusion criteria to eliminate duplicates and documents not relevant to the topic, 98 results were obtained. Review and original articles in English and Spanish that were related to the proposed research were selected, using filters for the title, abstract and full text. As a result of this process, 45 articles were included, the current review will be found in Table 1.

<table>
<thead>
<tr>
<th>Sources</th>
<th>Descriptor</th>
<th>Number</th>
</tr>
</thead>
<tbody>
<tr>
<td>Scielo <a href="https://scielo.org/es/">https://scielo.org/es/</a></td>
<td>Theoretical fundament</td>
<td>14</td>
</tr>
<tr>
<td>Redalyc <a href="https://www.redalyc.org/">https://www.redalyc.org/</a></td>
<td>Multiple intelligences</td>
<td>16</td>
</tr>
<tr>
<td>Alicia Concytec <a href="https://alicia.concytec.gob.pe/vufind/">https://alicia.concytec.gob.pe/vufind/</a></td>
<td>Treatment and environmental awareness</td>
<td>19</td>
</tr>
<tr>
<td>Google Academic <a href="https://scholar.google.com/schhp?hl=es">https://scholar.google.com/schhp?hl=es</a></td>
<td>Treatment and environmental awareness</td>
<td>21</td>
</tr>
<tr>
<td>Dialnet <a href="https://dialnet.unirioja.es">https://dialnet.unirioja.es</a> /</td>
<td>Multiple intelligences</td>
<td>14</td>
</tr>
<tr>
<td>Access proposal provided by the Cesar Vallejo University <a href="https://www.proquest.com/">https://www.proquest.com/</a></td>
<td>Theoretical fundament</td>
<td>14</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td></td>
<td><strong>98</strong></td>
</tr>
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The search was carried out using the terms “Strategies”, “Didactics”, “Intelligence” and “Artificial” in quotes, with the purpose of focusing on the information desired in the search engines. Specific inclusion and exclusion criteria
were established. The inclusion criteria covered documents that address the notion of formative research, articles published between 2020 and 2023 in Spanish and English, and those that contain data on formative research in Latin America. Regarding the exclusion criteria, articles that do not refer to Latin America or do not present relevant information on the variable in question were eliminated.

The pedagogical actions and methods used by the teacher cover all activities and plans designed to facilitate student learning. These strategies may vary depending on the topic and educational level, and will also be influenced by the ideology of the educational center. Keeping students motivated is crucial in any teaching and learning process, even more so if the environmental aspect is taken into account. [17] The dimensions proposed for teaching strategies linked to environmental awareness are innovation, flexibility, critical focus, prospective perspective and orientation. As for the variable artificial intelligence, it refers to the ability of a machine to display human-like abilities, such as reasoning, learning, creativity and planning ability [16].

The dimensions associated with this variable include understanding, versatility, applications and uses.

3. Results And Discussions

For the first variable that refers to the Theoretical Foundations of Multiple Intelligences, the following results have been found from the articles presented in table 2. Results of the variable Theoretical Foundations of Multiple Intelligences and their comparison in figure 2.
Table 2. Results of the variable Theoretical Foundations of Multiple Intelligences

<table>
<thead>
<tr>
<th>Theoretical Foundations of Multiple Intelligences</th>
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<tbody>
<tr>
<td>Comprehension</td>
<td>12</td>
<td>27%</td>
</tr>
<tr>
<td>Versatility</td>
<td>18</td>
<td>40%</td>
</tr>
<tr>
<td>Applications and uses.</td>
<td>15</td>
<td>33%</td>
</tr>
<tr>
<td>TOTAL</td>
<td>45</td>
<td>100%</td>
</tr>
</tbody>
</table>

Figure 2. Theoretical foundations of multiple intelligence

The results found in Table 2 show that the reviewed documents have different perceptions regarding the dimensions proposed for this variable, in this sense it is shown that understanding is in the range of 27% of the reviewed documents, in the same way. The versatility is at 40% and the applications and uses are at 33%, it can be concluded that multiple intelligences allow the development of various competencies which allow people to consider diverse activities such as the development of music. The sciences, among other specialties are also present in their diversity, promoting not only the development of specific skills, but also proposing the development of a diversity of activities in which the individual can specialize and be able to develop actions that improve their competitiveness in the market.

For the second variable: Strategies and learning in the environmental aspect, Table 3 shows the results of the learning strategies in the environmental aspect and their comparison in Figure 3.

Table 3. The results of learning strategies in the environmental aspect

<table>
<thead>
<tr>
<th>Learning strategies in the environmental aspect</th>
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</thead>
<tbody>
<tr>
<td>Innovation</td>
<td>24%</td>
<td></td>
</tr>
<tr>
<td>Flexibility</td>
<td>18%</td>
<td></td>
</tr>
<tr>
<td>Critical approach</td>
<td>24%</td>
<td></td>
</tr>
<tr>
<td>Prospective Outlook and Guidance</td>
<td>33%</td>
<td></td>
</tr>
</tbody>
</table>

Figure 3. Learning strategies in the environmental aspect
The results shown in table 3 and figure 3 show the results of the search for information in the articles referring to the strategies used for the environmental aspect, finding that 24% have innovative characteristics, 18% have flexible characteristics, 24% show a critical approach and 33% show a perspective and prospective orientation. Each of these characteristics being very important to ensure that students show real knowledge about learning about the environment, the combination of these strategies with the use of multiple intelligences raises various alternative competencies that can be developed by students in an approach closer to learning with a high significance regarding environmental knowledge.

CONCLUSIONS

It has been found that multiple intelligences have been widely studied and that they can be used for the development and execution of various activities of an educational nature and their use in daily life is possible to improve the competitive levels of the person, thus the main characteristics of multiple intelligences with understanding, versatility and the diverse applications and uses that can be given to this type of intelligence. In the same way these are important so that various learning can be developed, especially linked to the environment, this being increasingly most important to promote awareness of caring for the environment among young people, thus the main characteristics that were studied in this article are innovation, flexibility, critical approach as well as perspective, foresight and orientation, each being one of them very important for the achievement of specific results in the learning levels of the students. Finally, each of these variables can affect each other, in the sense that students who develop better levels of multiple intelligence will be able to develop better competencies in their educational process.

REFERENCES


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