KA-220-SCH Erasmus+ "Clean Environment-Clean School Climate" with Creative Environmental Practices in School Education-" project

Co-funded by the Erasmus+ Programme of the European Union

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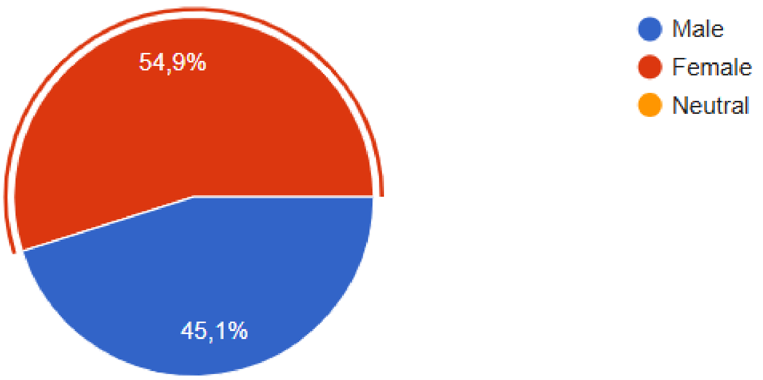
REPORT ANALYSIS OF QUESTIONNAIRE RESPONSES

The report provides a clear insight into the participants' perceptions and opinions on environmental education, the use of digital applications and methods to improve awareness of environmental issues.

General data:

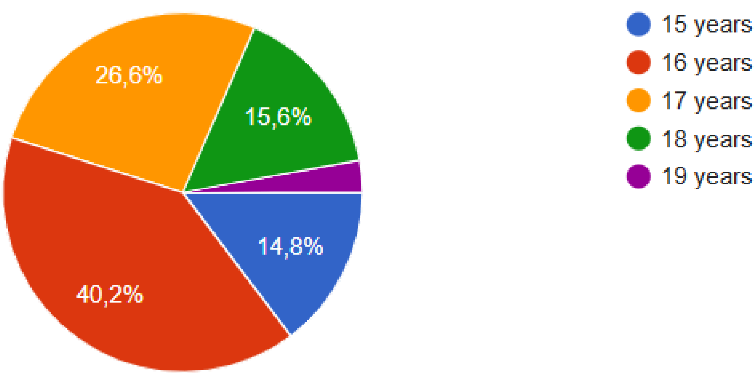
Gender:

244 de răspunsuri

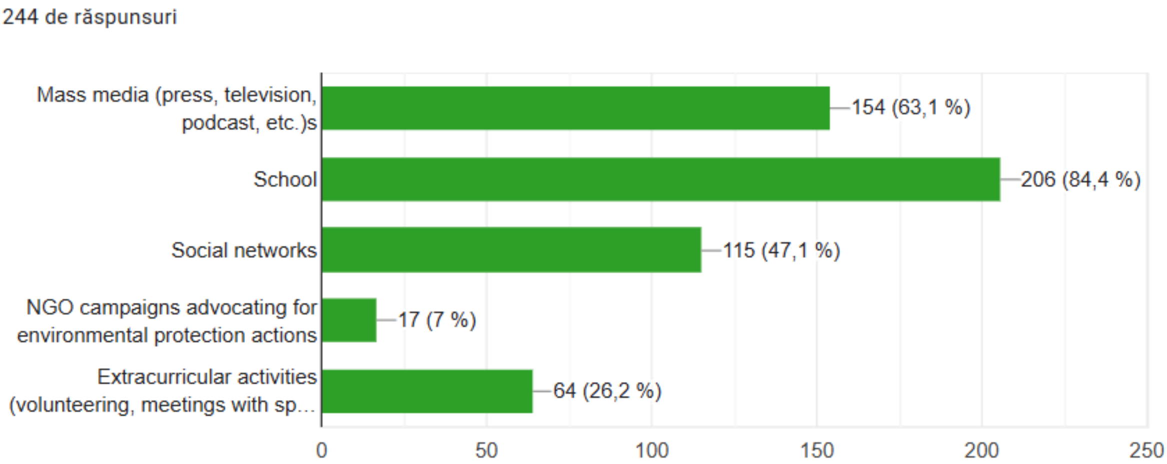


Age:

244 de răspunsuri



List the information sources for ecological education you have accessed so far:



The graph represents the distribution of the answers to the question regarding the sources of information accessed for ecological education. Here is the detailed analysis:

Distribution of answers:

1. **School (84.4% / 206 responses):**
   - o It is the main source of information for environmental education, highlighting the important role of educational institutions.
2. **Mass media (63.1% / 154 responses):**
   - o A popular source, including print, television and podcasts, reflecting the accessibility and diversity of these media.
3. **Social networks (47.1% / 115 responses):**
   - o Used by almost half of the respondents, indicating the importance of the digital environment for information.
4. **Extracurricular activities (26.2% / 64 answers):**
   - o Volunteering and meetings with experts are less frequent but remain relevant.
5. **NGO campaigns (7% / 17 responses):**
   - o A less-accessed source, but one that could be expanded to increase impact.

Interpretation:

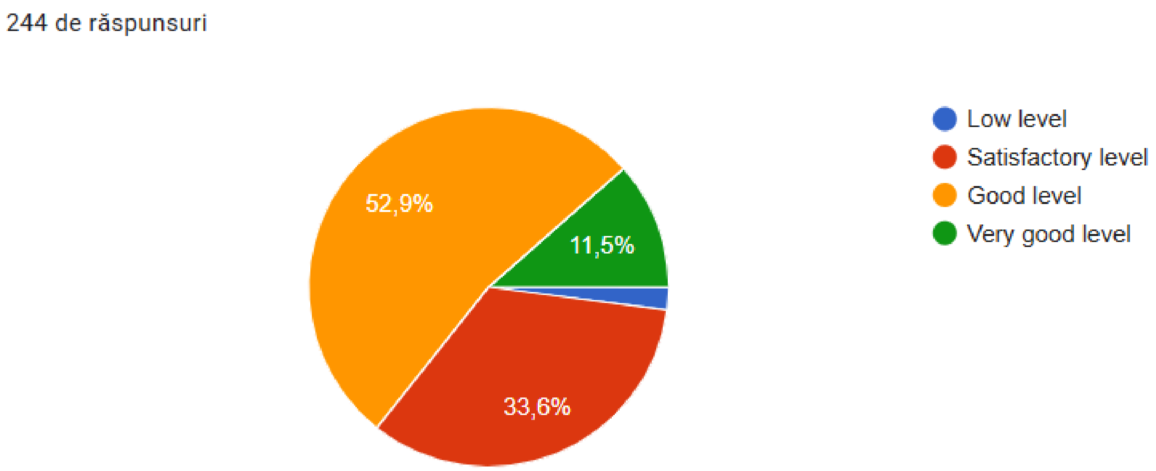
1. **Central role of the school:**
   - o Formal education is the main source of ecological information, which emphasizes the importance of curricula and teachers.
2. **Digital networks:**

   - Mass media and social networks are important complementary sources, reflecting the accessibility of environmental information through these channels.
3. **Practical activities and NGOs:**
   - Lower responses indicate growth opportunities for student involvement in practical activities and awareness campaigns organized by NGOs.

Recommendations:

1. **Strengthening education in schools:**
   - Integrating multiple digital applications and interactive materials to support environmental education.
2. **Promoting extracurricular involvement:**
   - Organizing more practical activities such as volunteering or meetings with experts.
3. **Extension of NGO campaigns:**
   - Creating more visible and accessible initiatives, including in the digital environment, to attract more participants.

Evaluate your current level of information and knowledge:



The pie chart shows the distribution of responses regarding the **current level of environmental information and knowledge** self-assessed by the respondents. Here is the detailed analysis:

Distribution of answers:

1. **Good level (52.9 %):**

  - o More than half of the respondents consider themselves to have a good level of ecological knowledge, indicating a solid information base.
2. **Satisfactory level (33.6 %):**
   - o About a third of respondents consider their level to be satisfactory, indicating an opportunity for improvement.
3. **Very good level (11.5 %):**
   - o A smaller percentage consider themselves very well informed, suggesting that few respondents have advanced knowledge.
4. **Low level (2%):**
   - o Very few respondents indicate a low level of knowledge, which shows an acceptable general information.

Interpretation:

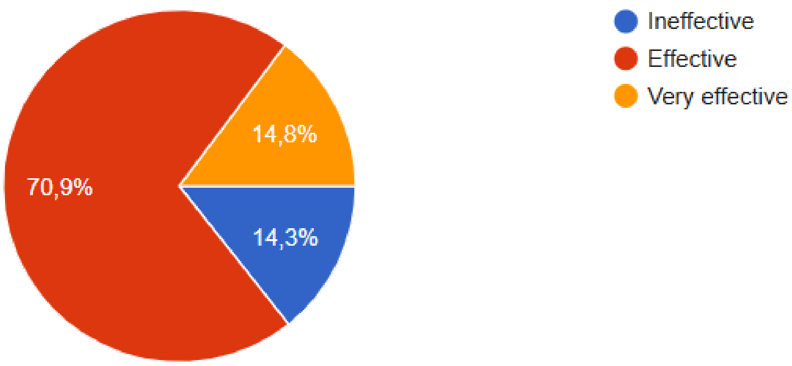
1. **The positive trend:**
   - o The majority of respondents (over 86%) fall into the "Good" and "Satisfactory" categories, indicating a solid information base.
2. **Low proportion of experts:**
   - o Only 11.5 % consider themselves to have a "Very good" level, which highlights a deficit in advanced knowledge of ecology.
3. **Minimum basic information:**
   - o Only 2% have a low level of knowledge, which shows that access to basic environmental information is relatively good.

Recommendations:

1. **Deepening the "Good" level:**
   - o Educational programs should focus on turning "good" knowledge into "very good" through more detailed and interactive courses.
2. **Low level support:**
   - o Specific projects should target low-level respondents using simple and accessible learning materials.
3. **Creating advanced resources:**
   - o The development of digital applications and educational materials for advanced users can help increase the number of "Very good level."

Evaluate the educational effectiveness of online games with ecological content:

244 de răspunsuri



The pie chart represents the respondents' assessment of **the educational effectiveness of online games with ecological content** . Here is the detailed analysis:

Distribution of answers:

1. **Effective (70.9 %):**
   - A large proportion of respondents believe that online games are effective for environmental education, which reflects a high level of acceptance of this type of resource.
2. **Very effective (14.8 %):**
   - Only a small percentage consider these games to be "very effective." This may suggest that there is room for improvement in game design and content.
3. **Ineffective (14.3 %):**
   - Almost the same percentage as "Very effective" consider the games "ineffective," indicating a mixed perception of their impact.

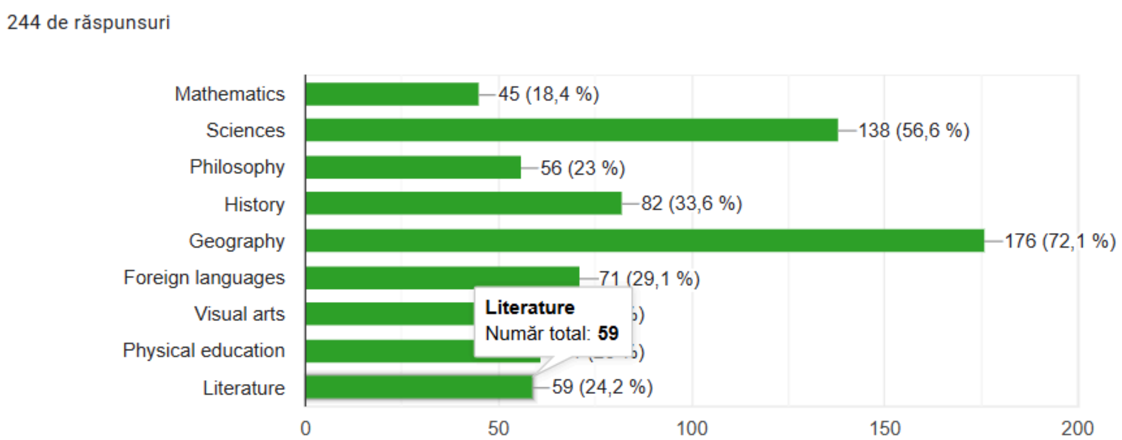
Interpretation:

1. **Overall positive trend:**
   - Respondents recognize the educational value of online games with green content, with most rating them as "effective."
2. **Difference between efficiency and high impact:**
   - The low percentage of "Very effective" suggests that games do not always achieve a maximum level of educational impact.
3. **Significant skepticism:**
   - Those who consider them "ineffective" point to the challenges in using these games as effective educational resources.

Recommendations:

1. **Improving the quality of games:**
   - Developers should integrate more interactive elements, engaging scenarios and personalized content to maximize educational impact.
2. **Creating a clear methodology:**
   - Including games in well-defined educational strategies can increase the perception of their effectiveness.
3. **Monitoring and feedback:**
   - Continuously evaluating game use and adjusting based on user feedback can increase perceived effectiveness.

Specify the school subjects where digital applications focusing on increasing awareness and understanding of environmental issues could be used:



The chart shows respondents' responses regarding school subjects where green digital applications could be used. Here is the detailed analysis:

Distribution of answers:

1. **Geography (72.1% / 176 answers):**
   - It is the most mentioned subject, due to its direct connection with the environment, natural resources and climate change.
2. **Sciences (56.6% / 138 answers):**
   - A key subject, reflecting the importance of Biology, Chemistry and Physics in understanding ecology.
3. **Foreign languages (29.1% / 71 answers):**
   - The connection with international resources and global collaborations makes this subject relevant.

4. **History (33.6% / 82 responses):**
    - It allows analysis of ecological impacts on past civilizations and lessons for the future.
5. **Literature (24.2% / 59 answers):**
    - A tool for raising awareness of ecological issues through inspirational stories and texts.
6. **Philosophy (23% / 56 answers):**
    - Exploring the ethical and moral aspects of environmental protection.
7. **Visual arts (20.5 %):**
    - A creative way to promote environmental awareness.
8. **Mathematics (18.4% / 45 answers):**
    - Useful for modeling and analyzing ecological data.
9. **Physical education (10%):**
    - Although less mentioned, it can include activities related to nature and the environment.

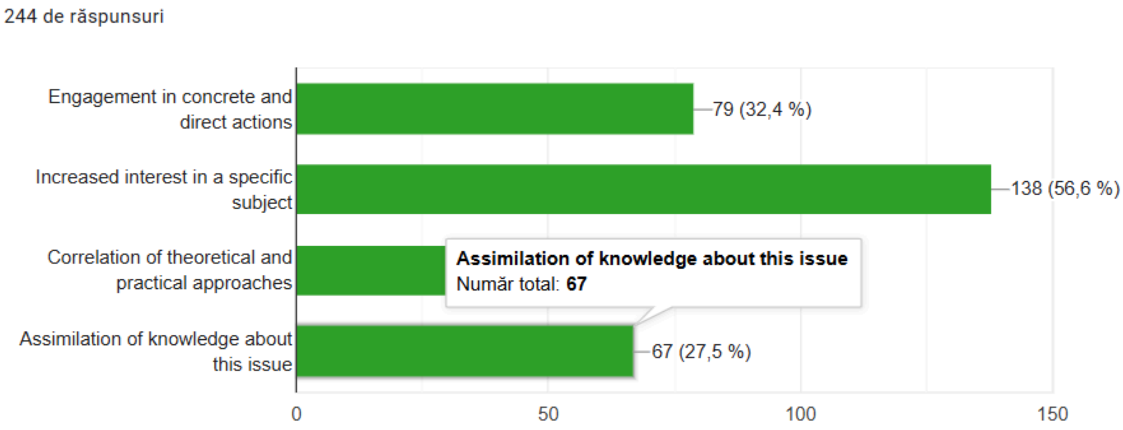
Interpretation:

1. **Geography and the sciences dominate:**
    - These are considered the most relevant subjects for environmental education, due to the obvious connection with environmental subjects.
2. **Interdisciplinarity:**
    - History, literature and philosophy emphasize the role of the humanities in raising awareness of environmental issues.
3. **Mathematics, an unexploited potential:**
    - The lower number of responses suggests that the use of green digital applications in mathematics is an opportunity for development.

Recommendations:

1. **Developing applications for geography and sciences:**
    - Interactive simulations and educational games for exploring the environment and natural resources.
2. **Integration in humanities:**
    - Digital applications that include literary texts or philosophical themes about the environment.
3. **Interdisciplinary promotion:**
    - Connecting Mathematics with other subjects to analyze ecological data and create predictive models.
4. **Exploring creativity:**
    - Developing apps that use the visual arts to draw attention to environmental issues.

I believe that online games related to the environment will stimulate my knowledge about this issue through:



The graph shows the respondents' perception of how online games related to the environment can boost their knowledge about this issue. Here is the detailed analysis:

Distribution of answers:

1. **Increased interest in a specific subject (56.6% / 138 answers):**
   - o The highest percentage shows that online games stimulate interest in a particular topic, suggesting that they can draw attention to specific environmental issues.
2. **Engagement in concrete and direct actions (32.4% / 79 responses):**
   - o A third of respondents believe that games can encourage engagement in direct and concrete action, highlighting their potential to move from theory to practice.
3. **Assimilation of knowledge about this issue (27.5% / 67 answers):**
   - o Almost a quarter of respondents believe that games help to assimilate knowledge about ecological issues, which indicates a clear educational role.
4. **Correlation of theoretical and practical approaches (unclear percentage from the graph):**
   - o An option that highlights the role of games in connecting theory with practice, but is less mentioned compared to other categories.

Interpretation:

1. **Attracting interest:**
   - o Online games are seen as an effective way to capture the interest of users, suggesting that they can serve as a starting point for environmental awareness.
2. **Limited practical role:**

- o The lower number of responses for "Engagement in concrete actions" and "Correlation of theoretical and practical approaches" suggest that games still have a more theoretical than practical impact.

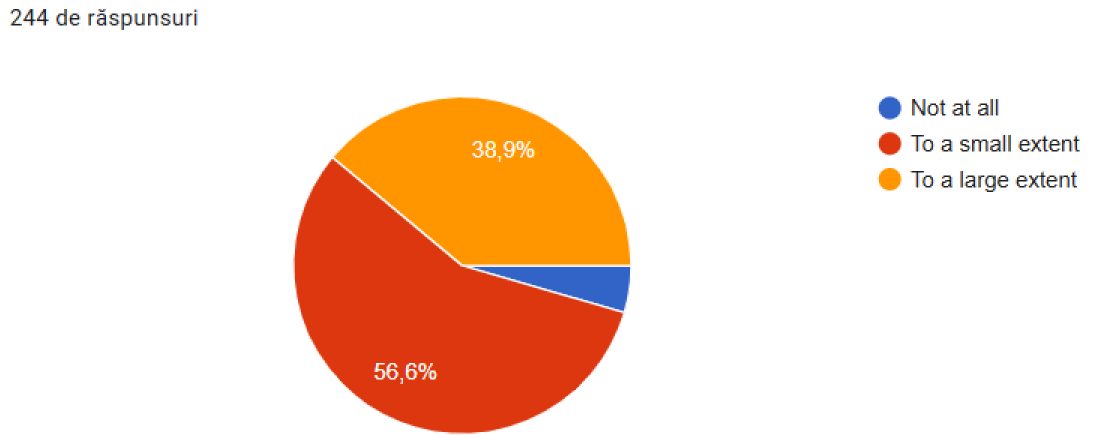
3. **Important educational role:**
   - o "Assimilation of knowledge" indicates a good potential of games to educate users about environmental issues.

Recommendations:

1. **Making games more practical:**
   - o Developing games that include concrete scenarios and stimulate direct involvement in ecological actions.
2. **Connecting theory with practice:**
   - o Games should encourage users to apply what they have learned to real-world situations, such as environmental projects.
3. **Promoting games as an educational resource:**
   - o Campaigns to highlight the educational value of online games for environmental awareness.

This review shows that online environmental games have potential in stimulating environmental interest and education, but need to be improved to generate a more practical impact.

To what extent will digital applications focusing on ecological education contribute to forming an appropriate behavior and responsible attitude in a sustainable and environmentally friendly society in the future?



The pie chart reflects the respondents' perception of **the contribution of digital applications in environmental education** to the formation of responsible and sustainable behavior. Here is the detailed analysis:

Distribution of answers:

1. **To a small extent (56.6 %):**
   - Most respondents believe that digital applications will contribute to a small extent to the formation of sustainable behavior. This indicates a limited perception of the impact of these tools.
2. **To a large extent (38.9 %):**
   - Almost 40% of respondents are more optimistic, considering that apps can have a significant impact in environmental education.
3. **Not at all (4.5 %):**
   - A small proportion of respondents believe that digital applications have no impact on green behaviour, suggesting skepticism about their usefulness.

Interpretation:

1. **Moderate impact perception:**
   - Respondents see digital applications as having a limited role in environmental education, but there is a significant percentage that recognizes their potential.
2. **Marginal skepticism:**
   - The low percentage of "Not at all" indicates that most respondents recognize some level of contribution from apps, even if it is perceived as small.
3. **Opportunity for improvement:**
   - The difference between "To a small extent" and "To a large extent" suggests that there is room to develop more efficient applications.

Recommendations:

1. **Improving the design of applications:**
   - Development of applications with interactive and engaging content to stimulate the adoption of sustainable behavior.
2. **Promoting tangible benefits:**
   - Highlighting concrete examples where the use of digital applications has led to positive changes in environmental behavior.
3. **Creating an educational digital ecosystem:**
   - Integrating apps into broader educational strategies, combined with hands-on activities and additional resources.

This review highlights the importance of improving digital applications to increase their impact on responsible and sustainable behavior.

GENERAL CONCLUSIONS REGARDING THE USE OF DIGITAL APPLICATIONS IN ECOLOGICAL EDUCATION

- Moderate but promising contribution:

Most respondents believe that digital applications have a positive but limited impact on the formation of sustainable behavior. However, almost 40% recognize their potential to have a significant impact, suggesting opportunities for their development and expansion.

- Marginal skepticism:

Only a small part of the respondents (4.5 %) believe that digital applications do not contribute at all to environmental education. This indicates a generally favorable perception of the apps, even if their effectiveness is sometimes questioned.

- Ecological education through applications is insufficiently exploited:

The difference between the responses "To a small extent" and "To a large extent" highlights that there is room to increase the effectiveness of the applications through improvements in content and methodology.

- The role of digital applications is complementary:

Digital applications are not perceived as the sole solution for environmental education, but rather as a complementary tool that should be integrated into broader learning strategies.

Future directions and recommendations

1. Developing more effective apps: Creating interactive, personalized and gamified apps that encourage green behaviors through direct engagement.
2. Integrating apps into formal education: Implementing them in schools alongside extracurricular activities to provide an interdisciplinary and hands-on approach.
3. Promoting positive change: Communicating concrete examples and success stories related to the use of digital applications in environmental education.
4. Impact monitoring: Conducting studies to assess how app use influences long-term green behaviors.

These conclusions and directions provide a solid basis for improving digital applications so that they play a more active and effective role in environmental education.