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Methodological Foundations of Interdisciplinary Incorporative Approach in Primary School Technology Lessons

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Abstract: The article discusses the methodological foundations of interdisciplinary approaches in primary school technology lessons. It emphasizes how integrated lessons can foster students' creative activities across various arts and crafts techniques. By connecting technology with subjects like mathematics, visual arts, environmental studies, and native language, teachers can create a holistic learning experience that enhances critical thinking, problem-solving, and collaboration skills. This approach not only deepens students' understanding of concepts but also prepares them for real-world applications by combining academic knowledge with practical skills.

Keywords: Incorporation, interdisciplinary incorporation, approach, integration, teaching method, incorporated lessons, technology.

Introduction: In contemporary education, considerable emphasis is placed on deepening students' knowledge and fostering their creative potential through interdisciplinary integration, particularly via an incorporative approach. In primary school technology lessons, classes organized in close connection with other subjects—such as mathematics, visual arts, environmental studies, and native language—prove effective in developing students' creativity, logical thinking, and problem-solving skills.

In contemporary education, significant attention is being given to deepening students' knowledge and developing their creative potential through interdisciplinary integration, particularly via an integrative approach. In primary school technology lessons, classes organized in close connection with other subjects—such as mathematics, visual arts, environmental studies, and native language—are effective in fostering students' creativity, logical thinking, and problem-solving skills.

The integrative approach involves harmonizing knowledge, skills, and competencies from multiple disciplines to create a unified educational experience. In technology lessons based on this approach, students enhance their practical and aesthetic thinking by exploring various art and craft techniques.

For instance, observing natural shapes and applying them in decorative designs, creating patterns using geometric figures, and utilizing textual assignments to craft handicraft items are methods that direct students' knowledge from different subjects into a cohesive activity. In this process, the teacher's methodological expertise—such as lesson planning, selecting appropriate tools, and creating a creative environment—plays a crucial role.

Moreover, lessons conducted based on the integrative approach develop the following skills in students:

- Multidirectional thinking
- Creative problem-solving in challenging situations
- Collaborative work and cooperation
- Aesthetic taste and appreciation for art

In conclusion, applying the interdisciplinary integrative approach in primary school technology lessons is not only a means to develop students' creative activities but also serves as an essential pedagogical tool in shaping their overall worldview and practical skills.

There are many activities in the field of integration of technology with general education and the organization of vocational guidance work for students. In the rapidly developing digital age, the growing importance of mastering and putting into practice new knowledge to create innovative products is due to the

factors that determine the competitiveness of the national economy and the effectiveness of national security strategies to develop an integration system and determine its directions; in the era of globalization, certain models of thinking are necessary to implement the issue of educating students who are able to achieve non-standard issues in accordance with the requirements of the labor market, on the basis of the approach of creativity, to establish integration functions in the formation of such models of thinking in students; identifying integration trends aimed at developing students ' abilities that can carry out scientific research based on indicators such as motivational, cognitive, operational, reflexive and self-assessment, with high professional competence, competitive staff training, innovation in education, the wide introduction of modern, interactive and creative teaching techniques; within the framework of the development of technology science, it is necessary to get acquainted with modern technological equipment, the world of professions, find the direction in which students work independently in various social spheres, develop levels of integration and forms of implementation in directing them to the right choice of profession.

Uzbek scholars such as R. Safarova, A. Musurmonov, P. Musayev, A. Ch. Choriyev, A. A. Salomov, B. Abdullayeva, and I. Karimov have conducted scientific research on the issues of interdisciplinary connectivity. These and other studies have addressed various aspects and principles of interdisciplinary connectivity, their application in mastering specific subjects in the educational process, and the requirements for the educational content selected based on interdisciplinary connectivity from scientific and practical perspectives.

V. N. Fedorova, in her research, demonstrates the didactic possibilities of interdisciplinary connectivity to enhance the effectiveness of the educational process. She emphasizes that interdisciplinary connectivity in natural sciences is manifested as a didactic condition for expressing the interrelation and consistency of environmental phenomena.

In technology lessons, introducing new topics and linking them with other subjects and various professions can deepen students' understanding of the subject matter and potentially spark interest in a particular profession. The theoretical foundations of interdisciplinary connectivity reveal didactic opportunities that assist in mastering them. Educational subjects form an integrated system through their interconnection. In the educational process, a specific subject can generalize all other subjects, ensuring the integrity of the educational process.

Before delving into the significance of incorporation in technology lessons, it's essential to explore the various definitions of the term "incorporation."

- Incorporation: The act of integrating smaller entities into a larger one. In a business context, it refers to the process of forming a corporation. In legal terms, it denotes the systematization of regulations.
- Incorporation:
  - The annexation of a country to another sovereign state.
  - The process of mixing dry and liquid substances into a uniform mass in a pharmacy.
- Incorporation – (from Latin incorpore) a type of systematization of normative-legal documents that do not possess legislative creativity, consisting of uniting them into a single collection based on a specific criterion (Principles of General Legal Theory).
- Incorporation – (from the Latin word incorporation) the fusion of two or more autonomous bases in the lexical sense into a single syntactic-morphological unity (a word or phrase). The relationship between these bases corresponds to their syntactic relations (Great Encyclopedic Dictionary).
- Incorporation – (from Latin incorporatio, meaning inclusion) 1) inclusion or merger of other organizations into one’s structure; 2) granting legal entity or corporation status to a group of persons according to legal documents; 3) systematization and organization of state laws (Economic Dictionary).
- Incorporation (from Latin incorporatio) – a method of systematizing existing laws by compiling normative-legal documents in chronological, alphabetical, or other order (e.g., by legal field) into a collection or compendium. Unlike codification, it does not aim to renew the content of legal documents. However, incorporation allows for the inclusion of all subsequent official amendments and additions into the original legal texts, removal of repealed norms, identification of inconsistencies and conflicts, etc. In international treaty texts, the term “incorporation” sometimes refers to the accession of one state to another by agreement.

Based on the meanings of the word “incorporation,” it would not be incorrect to understand this term in the field of education as “linking subjects and professions together.” Additionally, incorporation is used to systematize and generalize students' knowledge.

The importance of incorporating technology lessons in primary grades lies in the fact that a single lesson provides information related to several subjects. This increases the student’s information reserve, develops their knowledge, and accelerates the thinking process.

By analyzing primary technology textbooks, we can understand how essential incorporation is.

Textbooks created based on the national curriculum are gradually being introduced into the education process. In particular, in the 2021-2022 academic year, textbooks for the first and second grades were developed based on the new national curriculum, followed by the creation of third-grade textbooks in the 2022-2023 academic year. The textbooks created under the new national curriculum for the 2021-2022 academic year were designed in accordance with the requirements of the global education system. The textbooks developed on the basis of the national curriculum have a spiral structure that further enhances and consolidates students' knowledge.

Today's modern teacher must be knowledgeable in many areas, capable, a master of their profession, and of course, creative. The incorporation of subjects largely depends on the teacher's creativity and knowledge potential. Therefore, in technology lessons, by linking each composition and piece of information with other subjects, students are provided with more comprehensive knowledge. Currently, textbooks for grades 1, 2, 3, and 4 in primary school have been developed based on the new national curriculum.

During the lessons, students begin to apply the knowledge they have gained in their daily lives right away. This is because these textbooks are designed to enable students to use the knowledge they acquire in real life. In the process of teaching these lessons, it is very important to use visual aids and ICT tools, as this greatly enhances lesson effectiveness.

All textbooks created based on the national curriculum stand out by preparing students for life and enabling them to apply their acquired knowledge in their everyday lives.

The role of the incorporation approach in education is to create a new meaningful learning environment by harmonizing knowledge, skills, and competencies obtained from several subjects into a unified educational activity. In primary school technology lessons, classes organized in close connection with other subjects—mathematics, visual arts, environmental studies, and native language—are considered effective in developing students' creativity, logical thinking, and problem-solving skills.

Advantages of the Incorporation Approach

1. Development of Creative Thinking and Problem-Solving Skills: The incorporation approach allows students to direct the knowledge they have gained from various subjects into a unified activity, which fosters their creative thinking and problem-solving abilities.

2. Formation of Group Work and Collaboration Skills: The interdisciplinary approach teaches students to work in groups and collaborate, which enhances their social skills.

3. Cultivation of Aesthetic Taste and Interest in Art: By integrating elements of visual arts and design into technology lessons, students' aesthetic sense and interest in art can be increased.Inkorporatsion yondashuvni amalga oshirishda qo'llaniladigan metodlar

Project-Based Learning (PBL): Teaching students to apply interdisciplinary knowledge through projects aimed at solving real-world problems.

STEAM (Science, Technology, Engineering, Arts, Mathematics) Approach: Developing creative and critical thinking by integrating the arts into STEM (science, technology, engineering, mathematics) education.

Technological Pedagogical Content Knowledge (TPACK): Ensuring effective teaching by integrating teachers' knowledge of technology, pedagogy, and subject content.

Scientific Research and Practical Examples

A professional development program for primary school STEAM teachers developed by Birmingham City University includes advanced technologies such as 3D printing and robotics, and trains teachers in interdisciplinary project management skills.

In Vietnam, the integration of STEM education through the design of technical toys in primary schools helps students develop creative thinking and problem-solving skills.

CONCLUSION

The application of the incorporative approach in primary school technology lessons is an important pedagogical tool for deepening students' knowledge and developing their creative potential. This approach enables students to see interdisciplinary connections and apply them to real-life situations, helping to strengthen their understanding.

Scientific research and practical examples demonstrate the effectiveness of the incorporative approach in the educational process. In primary education, this method plays a key role in making learning more comprehensive and practice-oriented. When implemented through the subject of technology, the incorporative approach helps students recognize links between subjects and apply their knowledge in practical, real-world contexts. This, in turn, strengthens their conceptual understanding and enhances their

ability to find creative solutions.

From a scientific perspective, this article highlights the theoretical foundations of using the incorporative approach in teaching technology at the primary level. Practically, it offers clear guidance to teachers on how to make lessons more effective and engaging for students. Additionally, this approach opens up opportunities to introduce new methods that support the development of students' skills and competencies.

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