

UDC 373.2

A. N. Novik, M. A. Filon

Baranavichy State University, Baranavichy, the Republic of Belarus

ADDIE MODEL: ORGANIZATION OF EDUCATIONAL SERVICES FOR TECHNICAL DESIGN

Introduction. The development of an educational service for technical design is a time—consuming process that requires taking into account many factors. The ADDIE model helps to cope with the task.

ADDIE is a traditional model of curriculum development (both full-time and distance). The ADDIE model is a system that allows you to create an educational project and evaluate its effectiveness after launch. The ADDIE model is universal and suitable for working on any task if the educational process is linear and does not carry any risks.

Main part. The key idea of ADDIE (analysis, designing a training course, development of a training program, conducting, evaluation) is to break the process into phases and finish the previous one before you start the next one.

The process of designing educational materials is in many ways similar to such disciplines as programming, logistics, design, and applied psychology. This is a sequence of well-defined procedures that are grouped into several stages and have specific tasks and methods for solving them. When developing an educational service for technical design, you can use the well-proven ADDIE model (Analysis, Design, Development, Implementation, Evaluation), which breaks the entire process into 5 stages.

Analysis. The most important stage of development: the key elements are identified, the needs of students and the task of the teacher are studied, measurable and understandable learning goals are formulated, the target audience and forms of work with it are evaluated, and a list of expected results is compiled. Here it is possible to clearly define the methods of evaluating the effectiveness of the learning process itself. Clearly and precisely set expected results will allow you to

formulate the content and form of exercises, control questions, final tasks, and the form of their submission. And they will also allow comparing materials and techniques of various authors, choosing only the most suitable ones. This will help the pupil in the learning process, focus on the essence of the proposed material, and direct efforts to achieve goals.

Designing a training course. The most extensive and unpredictable stage of the project. At this point, it is necessary to take into account all the conclusions of the analysis stage and develop a general plan and structure of the material, draw up a scheme of exercises and assessments, visual series, interface, and overall design, link dozens of sometimes very different components together. A prototype is being created, a scenario for the entire project that determines the impact of each element on the tasks identified at the first stage. It should also be divided into several steps since an attempt to solve all problems without a systematic approach is most often doomed to failure.

Development of a training program. The main “technical” stage of any project, is when all the created materials take their place in the overall structure, acquire new elements and logical connections, and undergo debugging and “lapping” among themselves. Here you can also fine-tune the choice of methods of presentation of the material, pitch, style, and form of presentation of individual elements based on the goals of the entire project and the characteristics of the audience.

Conducting. At this stage, the program is uploaded to the appropriate Learning Management System (LMS) or to a resource through which students or parents can access the materials. Despite the seemingly small significance of this stage, it allows us to assess the applicability of educational materials in practice. It is here that you can check whether the program is suitable for the selected audience, get primary data on its implementation and effectiveness, and establish communication with the community of students, which will provide additional material for the preparation of instructions, and accompanying documents.

Evaluation. After the accumulation of primary information about the implementation of the training course, it is necessary to evaluate its effectiveness. It is necessary to correlate the tasks set at the analysis stage with the results obtained in practice. The study materials themselves are evaluated, the achievement of learning goals, the feasibility of a particular type of task, and their compliance with the overall task. Based on this, the program as whole or individual classes are being finalized, the results of educational work are evaluated and ways to adjust educational materials are outlined. Ideally, this stage should end with a revision of the requirements for individual blocks and an updated version of the entire program.

A well-mastered and developed ADDIE methodology will provide a powerful toolkit for creating universal training courses focused on obtaining fundamental knowledge, but requires very highly qualified developers.

The technical type of construction includes: construction of building material (painted or unpainted wooden parts of geometric shape); construction of parts of constructors with different mounting methods; construction of large-sized modular blocks; designing based on computer programs.

In technical design classes, children mostly demonstrate real objects and also come up with crafts by association with images from fairy tales and films. At the same time, they model their main structural and functional features: a building with a roof, windows, a door; a ship with a deck, stern, rudder, etc. [2].

Designing always involves solving a certain constructive and technical problem, providing for the organization of space, and establishing the mutual arrangement of elements and parts of objects per a certain logic. At preschool age, constructive activity has several features:

- children learn how to examine objects and how to create structures;
- preschoolers learn the constructive properties of parts and materials;
- the field of creative manifestations is expanding [1].

The management of constructive activities in a preschool educational institution involves:

- creation of a subject-developing environment and its compliance with the implemented technology (availability of material, drawings, illustrations, drawings of building schemes or crafts);
- equipping group rooms or classrooms for technical and creative design classes;
- creating an interesting and exciting environment in the classroom or free activity;
- methodological support for constructive activities in each age group;
- psychological and pedagogical control over the qualitative characteristics of the educational process (diagnostics, control sections of children’s knowledge, analysis of products of activity);
- improving the professional competence of teachers;
- interaction of teachers and parents.

Conclusion. Summing up, we can say that the ADDIE model can be used to develop a training program for technical design classes.

References

1. Theory and methodology of visual activity in kindergarten: Textbook for students of pedagogical institute / V. B. Kosminskaya [and etc.]. — 2nd ed., trans. and add. — M. : Shopping center Sphere, 2005. — 255 p.
2. Raeva, V. V. Technical design — a type of children’s design : method.rec. for teachers of educational organizations implementing preschool education programs / V. V. Raeva. — Kostroma, 2016.
3. ADDIE model for training [Electronic resource]. — Mode of access: <https://4brain.ru/blog/модель-addie-для-обучения/> . — Date of access: 28.01.2022.