Using databases when creating multimedia products

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Databases are organized sets of data that are systematized and structured for efficient storage, management, and access to information. In the context of modern multimedia projects, databases play a key role in providing access to various types of multimedia data, such as images, videos, audio, texts, and other multimedia elements.

A multimedia project is a project that uses different types of multimedia data to create visual or audiovisual content. This can be anything from websites and mobile applications to computer games and educational programs.

Transferring student ID to the database

Moodle

Node.js

Oracle SQL Developer

Creating a task and posting it on a web page

Methodical guidelines for executing the task

Module for calculating and checking the correctness of the task execution

MongoDB

Morphological matrix of the formation of the level of knowledge assimilation

		1 Quality parameters for printed products	2 Color measurement in printing	3 Densiometric and colourometric control methods	4 Moulding processes control	... ...	13 Organization of statistical quality control in printing houses
A	ability to solve technical tasks	P_{A1}	P_{A2}	P_{A3}	P_{A4}	...	P_{A13}
B	ability to work with technical literature and handbooks	P_{B1}	P_{B2}	P_{B3}	P_{B4}	...	P_{B13}
C	ability to see a task	P_{C1}	P_{C2}	P_{C3}	P_{C4}	...	P_{C13}
D	ability to explain a technical task	P_{D1}	P_{D2}	P_{D3}	P_{D4}	...	P_{D13}
E	ability to plan work	P_{E1}	P_{E2}	P_{E3}	P_{E4}	...	P_{E13}

Source: Authors' development
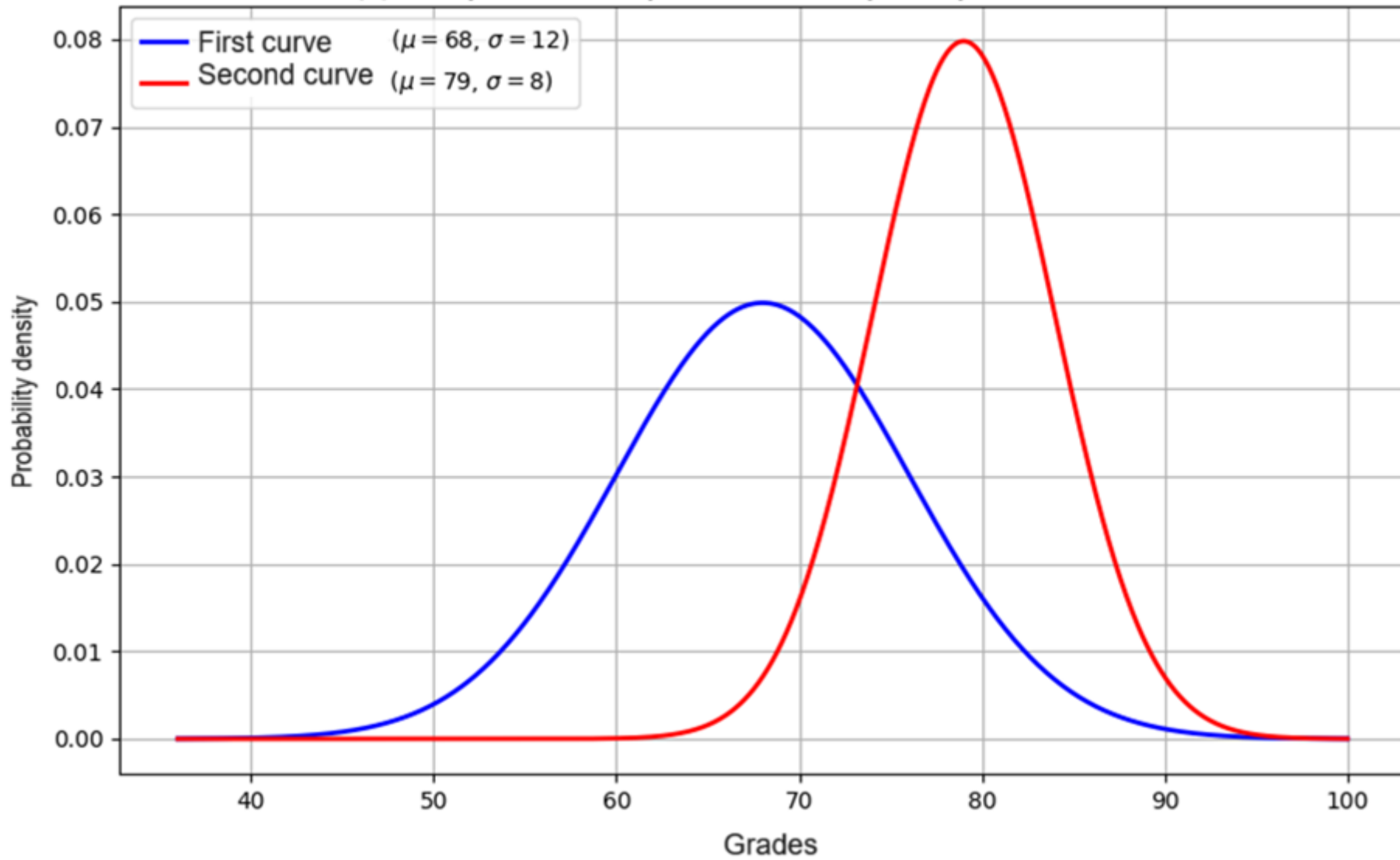
Moodle tools : the first curve – the main group of students, the second curve – the control group

The use of multimedia databases during the preparation of educational products provides a number of significant advantages. First, this approach is based on a systemic approach both in general and when designing a programmatic and regulatory environment for studying individual disciplines. This contributes to a deeper and more comprehensive understanding of the material.

In addition, multimedia databases make it possible to implement laboratory practices based on a competent approach, where students acquire the necessary competencies in practice and apply them in the creation of projects of various formats. This approach promotes the development of creativity and the ability to work in a team.

The individual trajectory of laboratory work gives students the opportunity to choose the subject of the content and the format of the tasks, which stimulates their activity and independence. Also, the creation of complex interdisciplinary projects allows integrating knowledge from different fields and forming a holistic vision of the problem.