Simon Kuznets Kharkiv National University of Economics

Information Systems Department

The Information System of Pedagogical Diagnostics as a Component of Education Development

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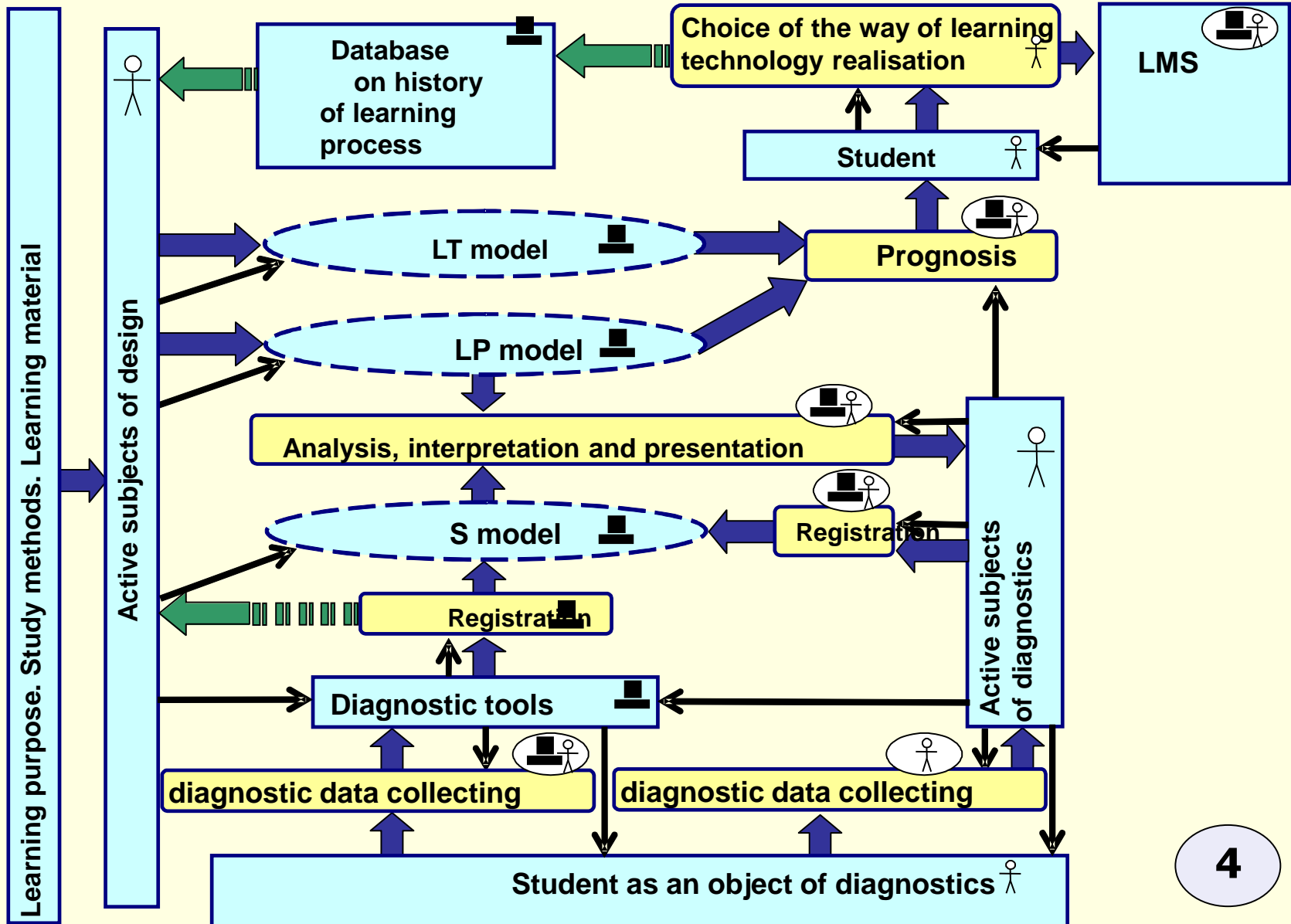# Topicality of Pedagogical Diagnostics Information System

- **Increasing the role of the students' independent work in the educational process;**

- **Development of various educational methods and technologies;**

- **Increasing the share and role of remote synchronous and asynchronous communication in the educational process - new calls for pedagogical diagnostics;**

- **Great success of information and communication technology -- developing a high level Personal Learning Systems in the Simon Kuznets Kharkiv National University of Economics;**

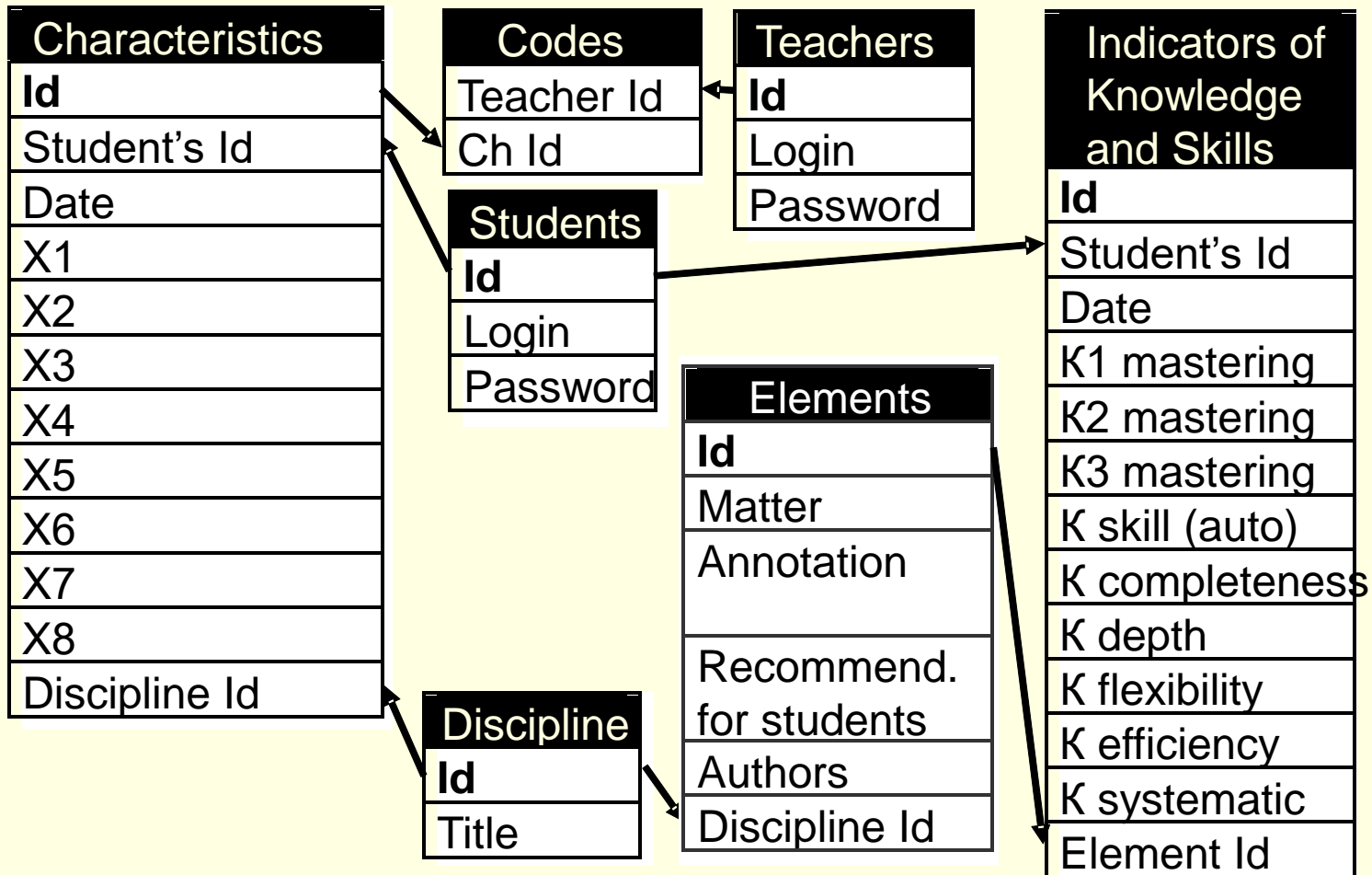# We need to forecast effectivity of learning technology that will be chosen

■ **The purpose of our work is to design the model that provide individual forecast of the learning process efficiency for a student based on his/her educational achievements and features of learning style.**

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Pedagogical Diagnostics System

Learning purpose. Study methods. Learning material

Active subjects of design

Database on history of learning process

LT model

LP model

Analysis, interpretation and presentation

S model

Registration

Registration

Diagnostic tools

diagnostic data collecting

diagnostic data collecting

Student as an object of diagnostics

Choice of the way of learning technology realisation

LMS

Student

Prognosis

Active subjects of diagnostics

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Psychological and Pedagogical Student's Model (S model)

Characteristics
- **Id**
- Student's Id
- Date
- X1
- X2
- X3
- X4
- X5
- X6
- X7
- X8
- Discipline Id

Codes
- Teacher Id
- Ch Id

Teachers
- **Id**
- Login
- Password

Students
- **Id**
- Login
- Password

Discipline
- **Id**
- Title

Elements
- **Id**
- Matter
- Annotation
- Recommend. for students
- Authors
- Discipline Id

Indicators of Knowledge and Skills
- **Id**
- Student's Id
- Date
- K1 mastering
- K2 mastering
- K3 mastering
- K skill (auto)
- K completeness
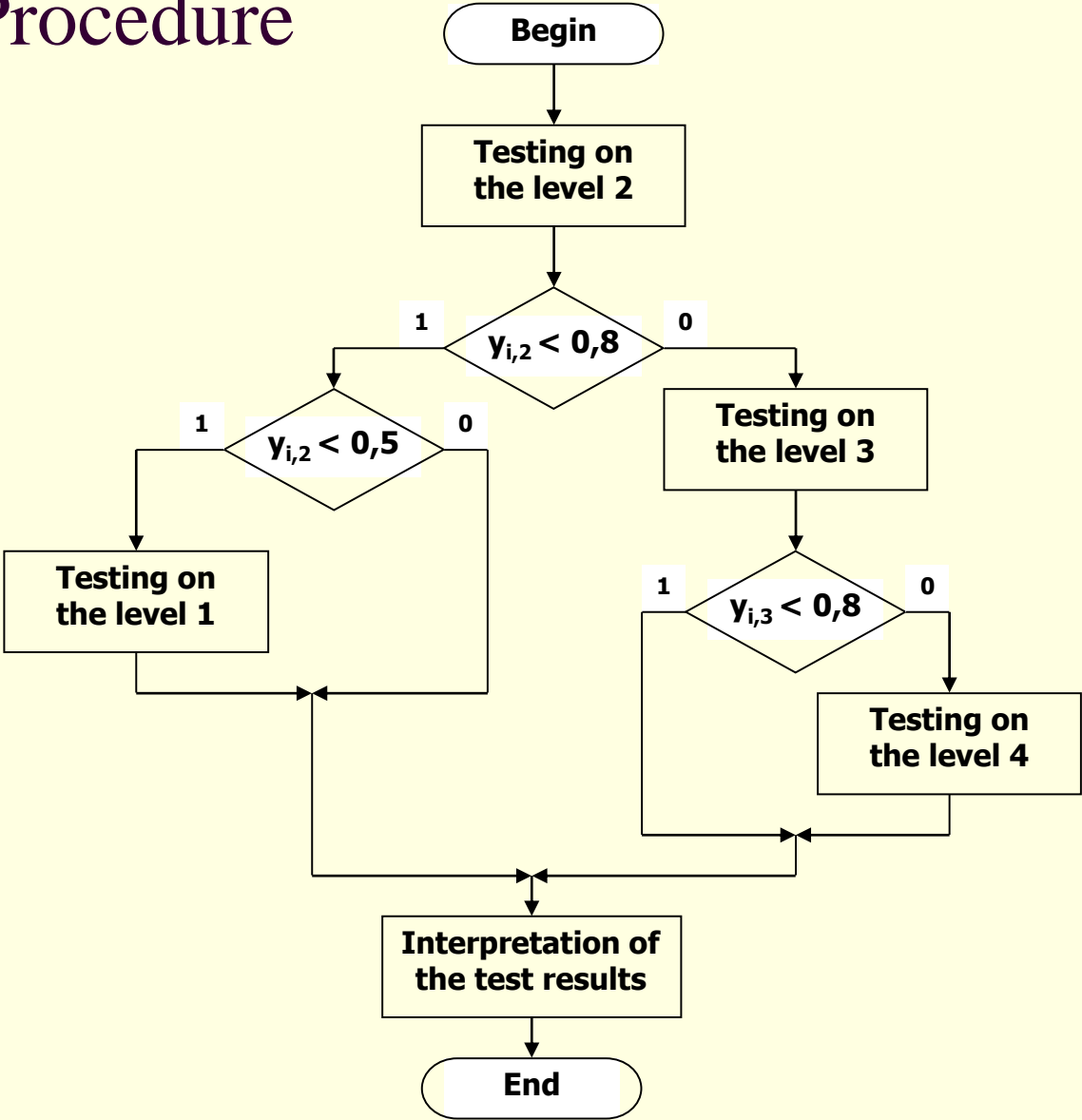- K depth
- K flexibility
- K efficiency
- K systematic
- Element Id

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Requirements to Computer-oriented Testing in Pedagogical Diagnostics System
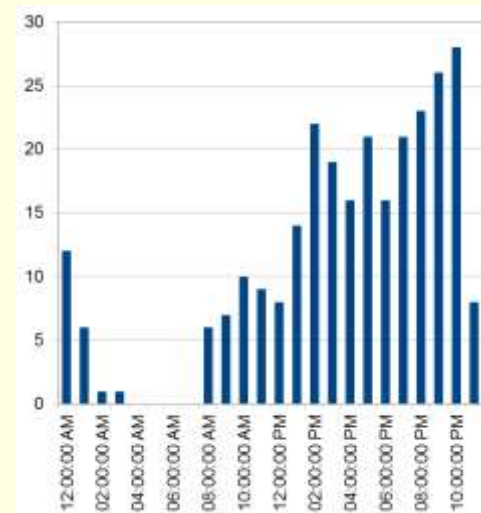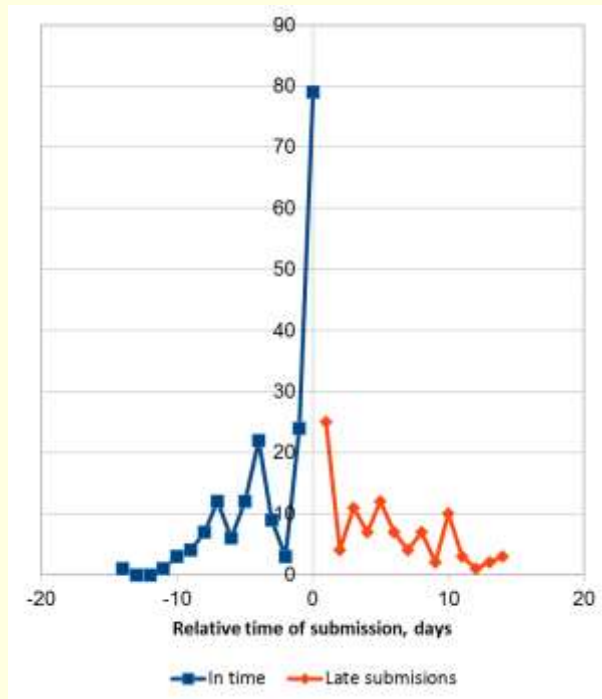
- criterion-referenced interpretation;
- variability;
- representativeness;
- stability of test difficulty;
- two-dimensional processing of test results:
  - by the levels of educational achievements;
  - by the elements of learning material;
- adaptability;
- registration of the test results in dynamics;
- on-line processing of the test results:
  - presentation of the results to student;
  - controlling the test procedure;
- dynamic test design.

Test Procedure

Problems for Future Development of the Study

- **Correlation between students characteristics and efficiency of some kind of learning method or technology;**

- **Methods of students characteristics collecting with compliance to confidentiality and educational ethics;**

- **Methods of optimisation**

Figures from: Kolgatin, O., Holubnychyi, D. and Kolgatina, L. 2022. Systematicity of students' independent work in operating systems classes. Ukrainian Journal of Educational Studies and Information Technology. 10, 4 (Dec. 2022), 28–40. DOI:https://doi.org/10.32919/uesit.2022.04.03.

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Thank You!