Experimental Framework for Evaluation of ICT Impact on the Learning Process

Adelina Aleksieva-Petrova[1], Amoussou Dorothee[2], Milen Petrov[3]

[1]Faculty of Computer Systems and Technologies, Technical University of Sofia , BULGARIA

[2]ESPU - High Polytechnical School of Uige , ANGOLA

[3]Faculty of Mathematics and Informatics, Sofia University "St. Kl. Ohridski", Sofia, BULGARIA
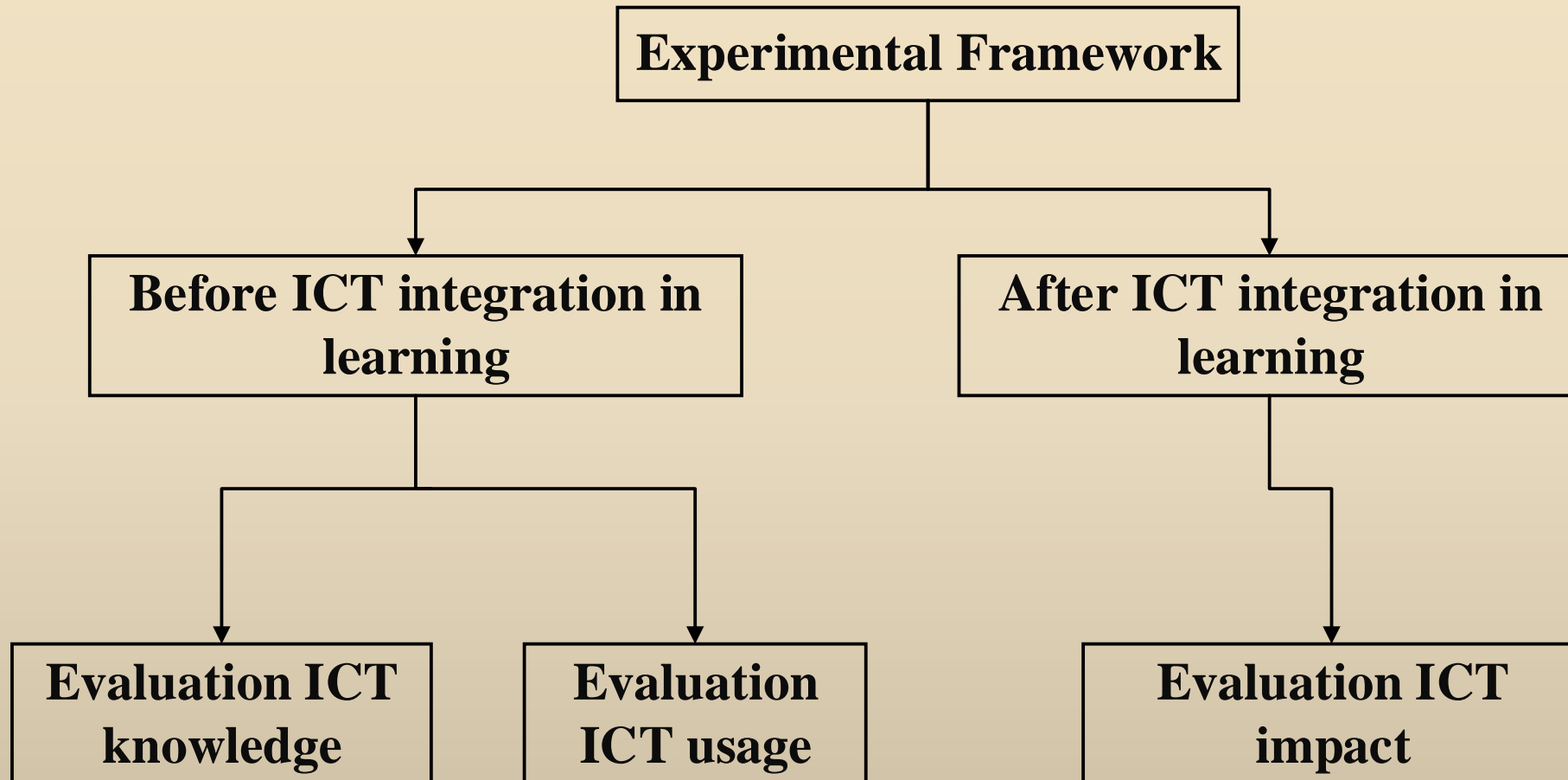
Introduction

- An effort from three different stakeholders: teachers, students and administrators.
- Teachers: positive impact of ICT to support different students' learning processes and objectives.
- Students:
  - motivation of the students and learners;
  - encourages critical thinking and problem solving ability of the students;
  - leads to using discussion and collaboration.

Paper goal

- an experimental framework for evaluation of ICT impact on the learning process;

- Moodle Learning Platform through its set of ICT tools;

- High Polytechnical School of Uige in Angola.

Experimental Framework

Methodology

- Evaluation of the use of ICT in classrooms - direct monitoring of lecture:
  - title, teacher identification in the classroom, class characteristic, lesson characteristic, learning characteristic, content curriculum characteristics and ICT usage characteristics
  - 4 lessons in the course of Agronomy; 3 lessons in the Medical Care course; 2 lessons in the Accounting and Management course; 2 lessons in the Computer Engineering course.
- The evaluation of the ICT impact the methodology – integration of MOODLE platform and students' results:
  - virtual learning environments, video tutorials, audio and video conferencing, chats, forums and virtual libraries
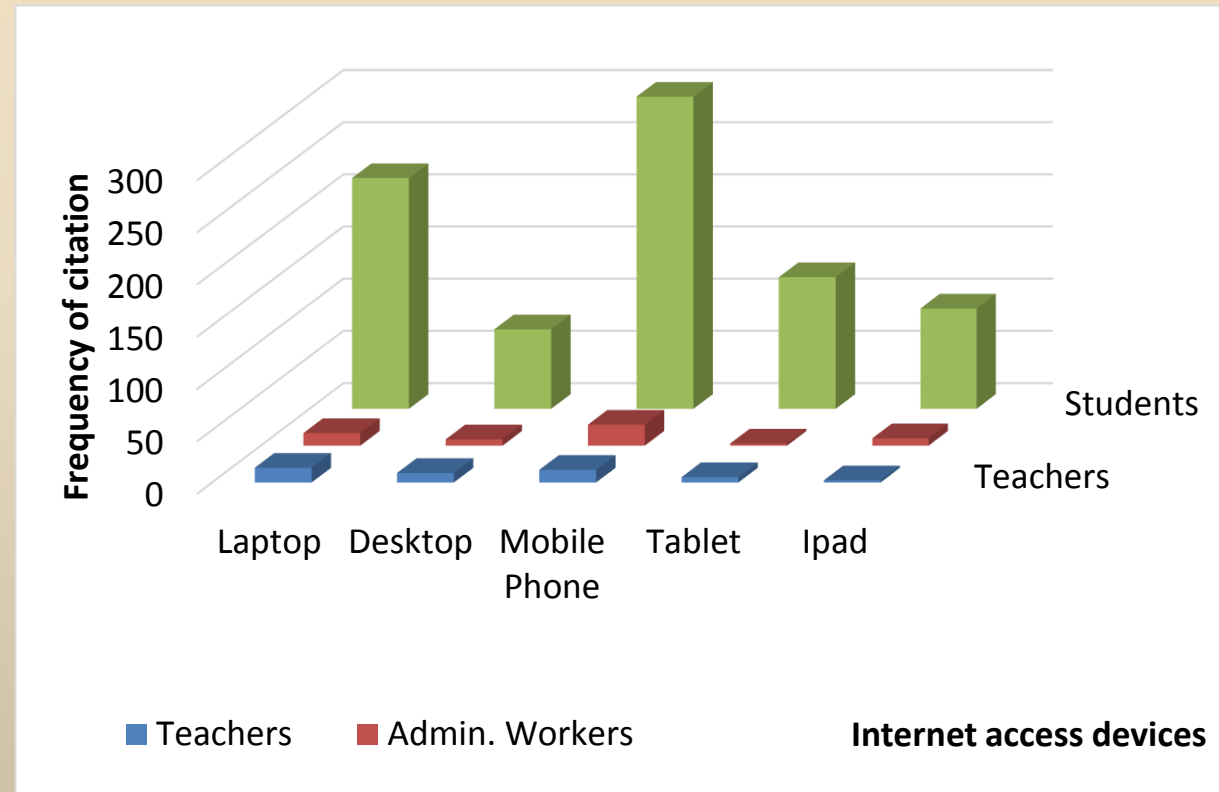 - IV course to the department Computer Systems in Multimedia Systems and E-Commerce.
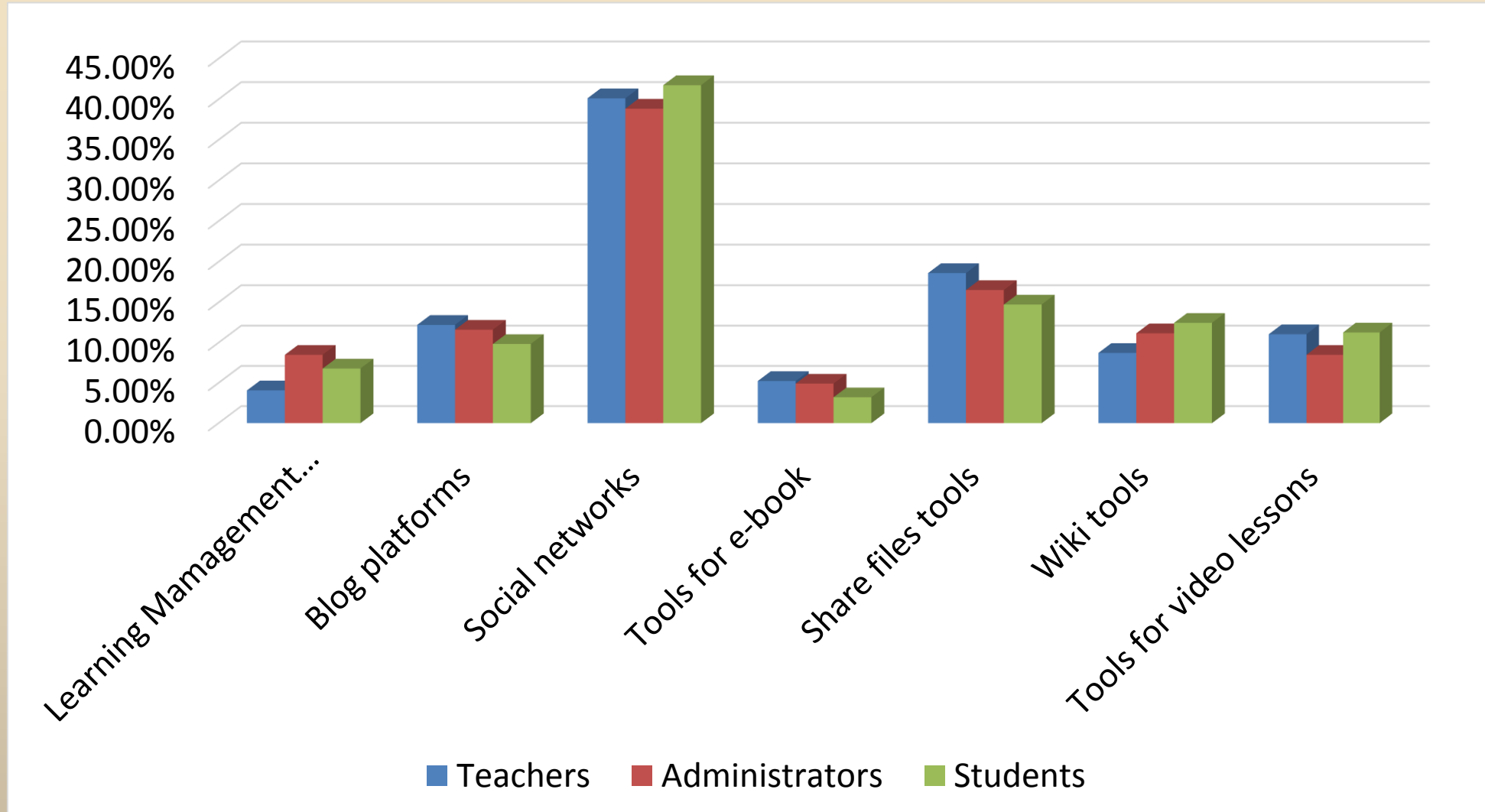
Target groups

441 participants:

- 22 lecturers

- 26 administrative workers

- 393 students

Analysis of the results of the evaluation of ICT knowledge before its integration

- *The most common used devices for Internet access*

The most common used ICT tools

The most common used ICT tools from students

- LMS: Moodle (60%),
- Blog tools:
    - teachers: WordPress (38%), Live Journal (19%)
    - administrative: Blogger (23%), Blog, BlogSpot and Tumblr
    - student group: Blog tool (29.70%), WordPress (21.12%), Blogger (15.51%) and BlogSpot (15.18%).
- Social networks: Facebook, Google+, Instagram and WhatsApp
- File Sharing: Youtube, Google Doc / Drive, Dropbox, and Slide Share

Analysis of the results of the evaluation of ICT usage before its integration

- 91% text – doc or pdf format

- 11 lessons:
  - images - 7 times,
  - three of the lessons - a video
  - audio multimedia is not used

Analysis of the results of the evaluation of ICT impact after its integration

- Multimedia Systems - 62 students:
  - 30% to 50% after using the MOODLE platform
- E-Commerce – 76 student:
  - approved students out of a total of 76 in the classroom. This study revealed a rebound in the success rate of student education (an average of 12%).

Conclusion

- high interactivity during lessons between the different participants;
- a rich multimedia character of both the content used and the lesson itself;
- a great deal of interest and understanding by students towards the whole process.

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- **Adelina Aleksieva:** aaleksieva@tu-sofia.bg
- **Amoussou Dorothee:** amousdorothe@yahoo.com.br
- **Milen Petrov:** milenp@fmi.uni-sofia.bg