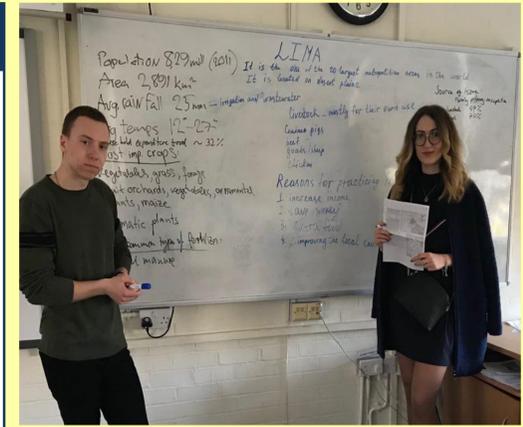




1. Introduction

- The Higher Education institutions of countries of the former Soviet Union had a justified reputation of technical and scientific excellence.
- Teaching was based on the delivery and acquisition of knowledge in a didactic system and assessment through the repetition of the information gathered in the lecture room.
- Post-Soviet agriculture requires more dynamic flexible employees capable of critical thinking and problem solving rather than specialists with a narrow area of expertise.
- For the countries of Armenia, Ukraine and Uzbekistan the pre-Soviet systems of university education are no longer fit for purpose



2. Project Objectives

TOPAS aims to shift Higher Education in partner universities from traditional which has relies on the jug/glass method of delivery (Gray and Madson 2007) to a system where students are active rather than passive learners. Teaching sessions will allow spaces for thinking and analyzing what has been presented. The need to use interactive techniques and develop skills rather than the delivery of knowledge has become important in higher education. This is particularly important in agriculture, where fast moving technology and the multifaceted requirements of the workplace mean a graduate must have a variety of transferable skills, in line with Bloom's Taxonomy (Bloom 1956), not just the ability to acquire and repeat knowledge.

3. Pedagogic Methods

Modern student-centered teaching and assessment methods promoted in the TOPAS project encourage the development of those skills which enhance employability and make graduates suitable for the workplace. Examples include

- The Flipped Classroom when students are given material either before or at the start of the sessions they consider themes or issues and arrive ready to discuss or present their findings (Keengwe and Onchwari 2016).
- Problem based learning with a growing emphasis on transferrable skills has an important role in the development of graduates (Barrett and Moore 2011).
- The use of portfolios with students compiling a collection of evidence and experience of their own choosing based on a module content and expected learning outcomes is an example of an assessment being part of the learning process.
- Digital technologies to widen the student experience through the use of web-based tools and on line polls and quizzes.

The sharing of practices and techniques has taken place during the course of the project through observation, training workshops and the sharing of resources between programme and partner universities.

4. Preliminary Implementation Results

Academics in the partner universities have introduced many of these techniques into their teaching and learning with immediate positive demonstrable benefits to the students. Examples include

- The flipped classroom in National University of Life Science and Environmental Science (Kyiv, Ukraine) Yerevan State University (Armenia) where students are given study material before lectures and given the opportunity to discuss and debate the content during the timetabled sessions.
- Problem based projects and competence-based assessments of work placements have been introduced by have been included as assessment strategies by the two Uzbek partners at the Andijan Agricultural Institute and the Samarkand Institute of Veterinary Medicine.
- Armenian National Agrarian University (Yerevan) and Sumy National Agrarian University (Ukraine) are introducing technology-enhanced learning into their programmes through the Zotero and Padlet platforms.

Each university has undertaken and committed themselves to at least three new teaching and learning techniques with a nominated champion and a timeframe within which they will be introduced.

5. Conclusion

The challenge for the future is to disseminate these techniques across the institutions, encouraging staff ownership to include these within their teaching and to gain institutional support at all levels to ensure that graduates can contribute effectively to such a significant sector of the economies in each of these countries

References

- Barrett, T. Moore. S. (2011) New Approaches to Problem-based Learning: Revitalising Your Practice in Higher Education. New York. Routledge.
 Bloom, B. S. (1956).Taxonomy of Educational Objectives, Handbook I: The Cognitive Domain. New York: David McKay Co Inc.
 Gray, T, Madson. L. (2007)
 Keengwe,,J, Onchwari, G.(eds) (2016)Handbook of Research on Active Learning and the Flipped Classroom Model in Higher Education

