

# **Teaching and Learning Technologies and Student Success in Agricultural Higher Education of Armenia**

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## **1. Introduction**

Armenia has solid traditions of higher education. Armenia's higher educational system has over 700 years of history. Many large cities and monasteries of historical Armenia had various higher educational centers (Navoyan 2006). The start of contemporary higher education is being considered 1919, when the Yerevan State University was founded. During 70 years of Soviet system (1921-1991), several higher educational institutions were established in Armenia. Education in these institutions was extensive, although free, but controlled by the Government and educational authorities.

Starting from 1991, Armenia entered into a new era of economic and political relations. The collapse of the Soviet system resulted in major changes in the economy and economic relations between the former Soviet countries. If the existing education system satisfied the needs of the Soviet-era economy and state-owned enterprises, for the free market economy it was not enough. The teaching materials, methods, curricula did not come from the needs of the market economy, businesses and entrepreneurship. It was obvious that Armenia needed significant changes throughout the education system.

In the post-Soviet era, most of the universities started to implement educational reforms and collaborate with European and U.S. universities, governmental and non-governmental agencies in training, student and faculty exchanges, and curriculum development. However, these reforms are not yet completed. Different attitudes are emerging towards modern and traditional education, educational reforms and student success within the Armenian higher educational institutions. The paper reveals many issues involved in student success and current levels of teaching and learning technologies in the Armenian higher educational system with particular emphasis given to the agricultural higher education.

The study: a) reveals the current understanding and the importance of student success in agricultural higher educational institutions (using the case of the Armenian State Agrarian University), b) shows faculty perceptions as well as the breakdown of teaching and learning objectives important to the success of students, and c) reveals the problems educators are facing in adopting new teaching and learning technologies.

## **2. Agricultural Higher Education in Armenia Before and After the Soviet Period**

The agricultural higher education in Armenia is based on the Armenian State Agrarian University (ASAU) and the agricultural colleges. The ASAU (formerly the Armenian Agricultural Academy (AAA)) was founded in 1994 on the basis of two agro-institutes: the Armenian Agricultural Institute and the Yerevan Zootechnical and Veterinary Institute. These two institutes were established in 1930 on the basis of the Faculty of Agriculture of the Yerevan State University. These institutes trained graduates for specific jobs in the state-owned and state-operated production-distribution system. As in many transitional countries, these agricultural institutes were under supervision of the Ministry of Agriculture of Armenia rather than higher educational authorities. The transfer of the Armenian Agricultural Academy (after the unification of the aforementioned institutes) to the Ministry of Education and Science of the Republic of Armenia occurred only in April 2002 (MoA, 2002).

Like in many "brotherly" republics, the agricultural higher education of Armenia during pre-reform period had the following features (Csaki 1999, Lissitsa 2005):

- Agricultural higher education was entirely planned and controlled by the Ministry of Agriculture.
- The number of students enrolled was centrally-determined by the forecasts of the Ministry of Agriculture.

- Students received five-year educational qualification, which was known as “specialist”, changing specialization was difficult and changing faculties was rare (Fletcher 2005).
- Overall, agricultural education was concentrated on increasing the primary agricultural production; there was a little regard to economic efficiency, product quality and consumer demand considerations.
- Graduates became managerial and technical staff at the collective farms or state-owned agribusiness firms, with most of them traditionally remaining in their career path dictated by their specialization.
- Economics content in the curricula was Marxian, weak in nature and highly ideological, not emphasizing development of creative thinking and problem-solving capacities of students,
- The research was carried out not in the universities but in the state research institutes, which were also controlled by the Ministry of Agriculture.

After the achievement of independence, Armenia’s higher educational system faced several important challenges. As country’s economical and social infrastructure was changing, privatization of land and other production means were undertaken; there was an urgent demand to revise the list of specializations by including new specialties coming from the needs of market economy and excluding old, non-marketable specializations.

Many agricultural universities of post-socialist countries in early transition years started reorganization. With political liberalization and international opening, the universities began to measure themselves by similar institutions in other countries, especially in Europe and the United States. Some countries offered 3-year programs for the first degree, the US model was a basic 4-year baccalaurate, and most of Europe required five years for their first degree (Fletcher 2005).

Armenia also followed the other former Soviet republics and started to implement some reforms in the agricultural higher educational system. The newly created agricultural academy (AAA, now ASAU) designed a new curriculum, preparing agricultural specialists with a three-step education system. New specializations were introduced to adjust to the new environment, some new specialties are being considered in order to further adapt education to the current needs of the agri-food system of Armenia. However, overall, the changes in the agricultural higher education were occurring very slowly. For several years the Armenian Agricultural Academy was hesitating whether or not to shift to a basic four-year degree. Then academy decided to retain the five-year specialist degree program and introduced new four-year baccalaurate program and, in addition, inserted a master’s degree into the degree menu. By doing this, the academy was giving students more flexibility in choosing their degree, although facing difficulties in designing overall curriculum.

In April 2002 the AAA was transferred under the supervision of the RA Ministry of Education and Science. Following this, another movement of reforms started in the agricultural education. Special tasks and responsibilities of the Ministry were carried out by a new body, the National Center of Educational Reforms, which was mandated to elaborate the principles of the state educational policy, standards, to develop curricula, textbooks, teaching aids and guides to set up licensing and accreditation criteria and procedures.

Although the Law on Higher and Postgraduate Professional Education was approved by the RA National Assembly in December 2004, the essential part of which was the integration into the European higher education systems, the AAA implemented a shift towards Anglo-Saxon degree system since September 2004 in all 37 specializations.

This shift is a necessary condition for Armenia to become a part of Bologna Process. Armenia signed the Bologna Declaration in May 2005 in Bergen (Norway) and in this respect the country

is obliged to make major changes not only in the higher education sphere but in the whole system of education as well (Tempus 2007).

Currently the AAA, now the ASAU, has six departments (Agronomy, Economics, Machinery & Transport, Foodstuffs Technology, Water Conservation, Land Tenure & Land Cadastre, and Veterinary Medicine and Animal Husbandry), 43 chairs (specialty groups), laboratories, a library, veterinary clinics, educational experimental farms and other centers. In 2007, 9870 students attended the ASAU, 4230 of whom were in regular programs and 4920 in correspondence studies, 181 at the college, 288 at the lyceum, 119 in the Master's courses, and 132 in post-graduate courses. The ASAU employs 627 lecturers, of whom 72 hold the doctor of science degree and 290 hold the candidate of science degree (ASAU official web site).

## **2.1 New Wave of Reforms at the ASAU**

As it was mentioned above, the reforms are not completed yet. In November 2006 the Armenian State Agrarian University and the Caucasus Agricultural Development Initiative (CADI) of the USDA Foreign Agricultural Service through Texas A&M University started the new wave of the agricultural education reforms (CADI 2006). The reformation project has the following objectives:

- Supply timely technical assistance on the ASAU's strategic planning for transition to a credit system, including a timetable and a list of courses and credit values;
- Create a stronger climate in the ASAU for faculty development, recruitment and retention. The activity also includes the development of new curricula, courses, research programs, and study activities to attract graduates to pursue a teaching career;
- Develop a restructuring plan for the ASAU extension education;
- Address the issue of sustainability of the Agribusiness Teaching Center (ATC) and the ASAU in developing a fund-raising capability targeted toward alumni, international donors and other funding sources;
- Identify other innovative approaches for providing higher education that have been effective in transforming agricultural state universities in the former Soviet Union.

As objectives indicate, the reformation project of the ASAU contains 4 components: Credit System, Professional Faculty Development, Extension Education, and Sustainability.

The credit system component includes four activities: a) developing and enhancing course materials and curricula, b) developing student-centered teaching methods, c) developing course syllabi, teaching materials and teaching methods, and d) creating a Center of Excellence for Faculty Development that delivers a seminar series in exploring alternative and creative teaching and learning.

The second component of the reforms will concentrate more on the faculty development. It also has 4 integrated activities: a) enhance faculty member use of computers for student-centered instruction and teaching methods, b) develop student evaluation and grade assignment skills, c) transform a transcript management system and d) computer-assisted English training and extended capacity of the Language Training Center.

The extension education component includes three activities: a) conduct an integrated community needs assessment forum to determine optimization of agricultural extension, b) plan extension programs in integrated extension development activity with a US faculty member to share the methods and materials, and c) plan and optimize extension education for professional development of high school teachers.

The sustainability component will focus on the sustainability of the Agribusiness Teaching Center, which was established in 2000 through the collaborative effort of the Armenian State

Agrarian University (ASAU), Texas A&M University and the U.S. Department of Agriculture Marketing Assistance Project (active in Armenia in 1992-2005). The ATC provides agribusiness education to achieve sustainable entrepreneurship in the food and agriculture sectors in Armenia and Georgia. It prepares agribusiness specialists with broad economic, marketing, and managerial views; up-to-date communication skills; and good knowledge of English language, which make the ATC graduates competitive in growing Armenian and Georgian agribusiness sector. The curriculum is western-structured, based on the undergraduate degree agricultural economics curriculum of Texas A&M University. The courses are taught in English by American and Armenian instructors. Graduates receive a State Diploma from the Armenian State Agrarian University and a Certificate from Texas A&M University.

The sustainability activities include the following activities: a) develop an appropriate legal structure for fundraising and corporate partnerships, b) select, hire and train people who will exploit local, regional and international proposals, grants and gifts, c) produce fundraising materials to enhance faculty teaching and research, student scholarship, facility improvements and general benefits to the ATC/ASAU and d) develop appropriate legal instruments to create a foundation and develop charter documents for ASAU by engaging key university personell, corporate representatives, public leaders and legal specialists.

This research is consonant with the objectives of the Reformation Project and aims at supporting Project Team in getting relevant data and information about faculty perceptions and attitudes towards technology and student success issues at the Armenian State Agrarian University.

### **3. Methodology & Demographics**

The research is based on surveys and interviews which were carried out in the Department of Economics of the ASAU. Before the survey, previous studies in teaching and learning technologies as well as student success were reviewed. The student and faculty interviews reveal the picture of academic success and the role of technology in teaching and learning at the ASAU. A total of 30 out of 81 lecturers of Economics Department were interviewed from 5 different chairs of the Department (the Agribusiness Department/Agribusiness Teaching Center was not included in the study, as it has a quite different educational environment, very similar to the US and European models). A total of 100 4<sup>th</sup> year students (different specializations of Economics Department) were also surveyed. Faculty questionnaire included questions on number of tools they use to measure student success, the faculty's teaching and learning objectives important to the success of their students, resources that ASAU provides to encourage student success, e.g. existence and usage of computer lab, access to computer technology, library services, e-learning activities, etc. Although the questionnaire was mostly quantitative, there were sections which gave opportunity to study teacher's personal opinions on several issues.

In general, the methodology was similar to the McGraw-Hill Ryerson methodology applied in several student success and technology studies implemented since 1998 with some adaptations and changes. Collected data was analyzed using frequencies, cross tabulations and Likert-type scale analysis.

Male and female representation of participated faculty was fairly balanced (55% males versus 45% females). The majority of participated teachers were above 55 years old (44%) and about 24% were between 45 and 54 years old. Approximately 17% of teachers interviewed were between 36-44 years old and the remaining 15% were under 35. The age groups correspond to teaching experience. About 44% of teachers were very experienced having more than 20 years of teaching experience. The remaining was fairly balanced among the new (1-4 years) and middle (5-10, 11-15, 16-20 years) ranges.

#### **4. Technology and Students Success**

During the recent years many American higher educational institutions started to implement various new initiatives oriented to student success. These initiatives include establishment of student-success centers, applying case-management approach in student advising, the development of a balanced scorecard to measure student success and first-level college courses and other initiatives (Stout 2007).

As McGraw-Hill Ryerson indicated in its several student success studies, student success continues to be a significant professional issue for faculty members in Canadian and American Universities. Starting from 1998 McGraw-Hill Ryerson is undertaking studies to clarify the issues involved in student success – to identify and define what student success stands for and what are the related issues from the point of view of university/college academic (McGraw-Hill Ryerson 2006). Over the course of time the scope of research evolved significantly and during the further studies McGraw-Hill Ryerson evaluated the importance of technology and web-based technology to the student success objectives, and attempted to measure the impact and effectiveness of technology on teaching and learning objectives.

Before finding out what is the impact of technology on student success or how the web-based technology improves the student success, a college or university faces a question of how to measure student success.

In its Strategic Plan 2000-2005, the California Community College listed the following student success objectives: provide ongoing training for faculty in the use of information technology tools, expand access to multi-media classrooms and student computer laboratories, establish and support a baseline of technology infrastructure at every college that will ensure that all students, regardless disabilities, will receive the benefits from such a technology in their students services and instructional programs, integrate technology into college offices and support areas to ensure that staff have tools required to deliver services to students and faculty efficiently and effectively, etc (CCCCO 2000). It is quite clear that all these objectives are linked with information technology; however these objectives themselves do not measure the student success. In the Academic Senate Paper, there were five student success indicators: Access, Course completion, Degree and certificate completion, ESL and basic skills completion and Transfer rate. The paper suggests that such data should be easily available through college “student success” reports (ASCCC 2002).

In his interview to Diana Oblinger at EDUCAUSE, Dr. Homero Lopez, founding president of Estrella Mountain Community College, said: “We have no stronger motivation than the success of our students!” His college has a strategy of “Your Success is Our Success”. If an employee helps a student to succeed, regardless of the type of assistance, then the employee has helped the student along the path to success and doing so the employee is also successful. Among the main three principles of encouraging the student success Dr. Lopez named: a) innovative classroom space, which by its appearance, color, texture, equipment and arrangement, make students want to linger and learn; b) address the changing needs and expectations of students and faculty and c) concept of radical flexibility, which means freeing up faculty and students to customize the learning environment to meet the teaching and learning pedagogy, delivery system and technology needs on demand (Oblinger 2006).

Generally, the higher educational institutions do not single out technology as a strategic issue. The educators claim that technology has a supporting role in the achievement of their overarching goal to extend and improve the student success.

In its series of student success studies, McGraw-Hill Ryerson asked faculty to rate three kinds of activities in terms of their importance in achieving the student success objectives: course preparation activities, training and professional development and the use of technology. Each year course preparation comes the first, followed by training and professional development and then technology. For years educators have the view that technology is not a strategic issue,

however, as McGraw-Hill Ryerson clearly indicated in several studies, that “using technology” is not considered an important ingredient in student success, technology can and increasingly does play a significant supporting role in carrying out other activities that are regarded as more central in achieving student success objectives (McGraw-Hill Ryerson 2002).

## 5. Results

### 5.1 Teaching and Learning Objectives

Faculty interviews indicate that the student success is an issue of significant importance at the Armenian State Agrarian University. About 62% of participating faculty consider the student success to be very important or extremely important issue, regardless of its definition. Thirty-eight percent of the respondents said that the student success is an issue of moderate importance. The study adds more depth to this picture by breaking down the student success into teaching and learning objectives. The idea of this separation was to gain a better understanding of teaching and learning objectives important to the success of the students. The participated faculty was asked to mention their top five teaching and learning objectives (open-ended question), and then the survey tool required them to rate the importance of already given teaching and learning objectives (prompted) using the Likert 5-point scale.

The following table compares top five “teaching” and “learning” objectives.

**Table 1: Top Learning and Teaching Objectives\*.**

Top five “LEARNING” Objectives	Top five “TEACHING” Objectives
<ul style="list-style-type: none"> <li>• Become an educated person (31.9%)</li> <li>• Become a good person for society (27.3%)</li> <li>• Find a good job after graduation (23.3%)</li> <li>• Become a good specialist (14.6%)</li> <li>• Avoid/postpone military service (2.9%)</li> </ul>	<ul style="list-style-type: none"> <li>• Provide good/modern knowledge (49.4%)</li> <li>• Make subject received by students (26%)</li> <li>• Support students in self-development (13.7%)</li> <li>• Be an ethical teacher (8.2%)</li> <li>• Prepare students for a job (2.7%)</li> </ul>

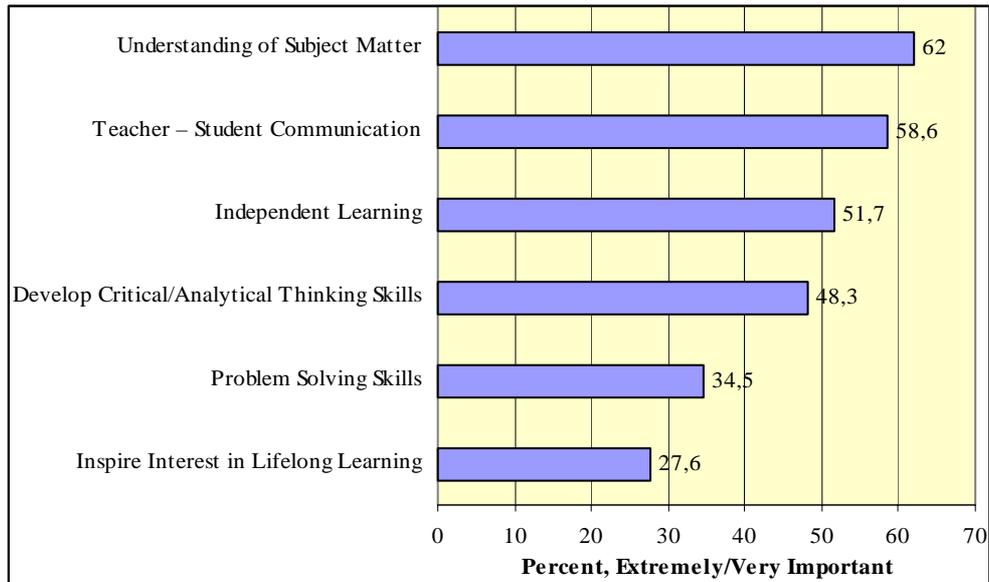
\*Multiple responses allowed (% of total responses).

The “learning” side objectives mentioned by faculty, as Table 1 shows, are related to the wishes that faculty would like their students become by learning. The objectives go beyond the basic context, which include encouraging critical thinking, independent learning, problem solving skills, etc. On the “teaching” side, faculty is concerned about providing relevant or modern knowledge to students and make teaching subject received/understood by students. About 8.2% of the responses touched upon the ethical context of the teaching process. The teaching objective which ranks last, is “Preparing students for a job”.

The participated faculty also rated the importance of already given teaching and learning objectives. Understanding of subject matter tops the list with 62% agreeing that it is very or extremely important, followed by teacher-student communication (58.6%). It’s surprising that “inspire interest in lifelong learning” ranks last with 27.6% (See Figure 1).

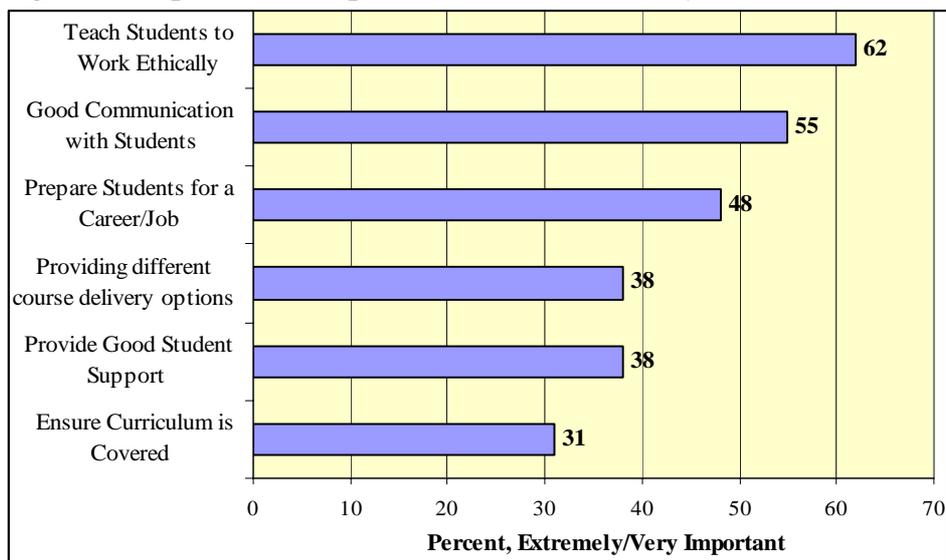
The following objectives: problem solving skills, inspire interest in lifelong learning and develop critical/analytical thinking although were at the bottom of the list according to very/extremely important rating, were considered as objectives of moderate importance (52%, 48%, and 43% respectively).

**Figure 1: Importance of Specific “LEARNING” Objectives.**



On teaching side “Teach students to work ethically” ranks first with 62% of participated faculty saying that it’s very or extremely important, following “Good communication with students”. Although “Prepare students for a Career/Job” ranks third, its “total” importance rate is 93% (percent of participated faculty who gave moderate/very/extremely importance to that objective). It’s pretty surprising to see that “Ensure curriculum is covered” ranks last even with the “total” importance rating. This teaching objective tops the list in Canadian studies with 81% agreeing that it’s extremely or very important (McGraw-Hill Ryerson 2006). Another low priority “teaching” issue is “Providing different course delivery options”, which ranks before the last objective according to total importance rate (83% - moderate/very/extremely important).

**Figure 2: Importance of Specific “TEACHING” Objectives.**



All participated faculty members were asked to indicate their level of satisfaction with achieving their teaching and learning objectives. A little more than half (52%) are highly satisfied – Satisfied/Very satisfied. About 20% of the respondents are highly dissatisfied and the remaining 28% of participated faculty members were neutral.

Like faculty, the ASAU students surveyed also consider their success to be very or extremely important (70%). About 20% of the students surveyed consider their success as an issue of moderate importance. Students were also requested to indicate their top five learning goals, as well as the most important one being at the ASAU. The vast majority (78%) of the students surveyed said that the most important goal at the ASAU is “Learning skills for their career”. The same number of responses were received in favor of “Earn a degree” and “Decide upon a career” (7% each).

The top five learning objectives mentioned by students are given in Table 2 in comparison with faculty choices. It’s interesting to see that students themselves didn’t mention any goal related to “Avoid/postpone military service” (See Table 2).

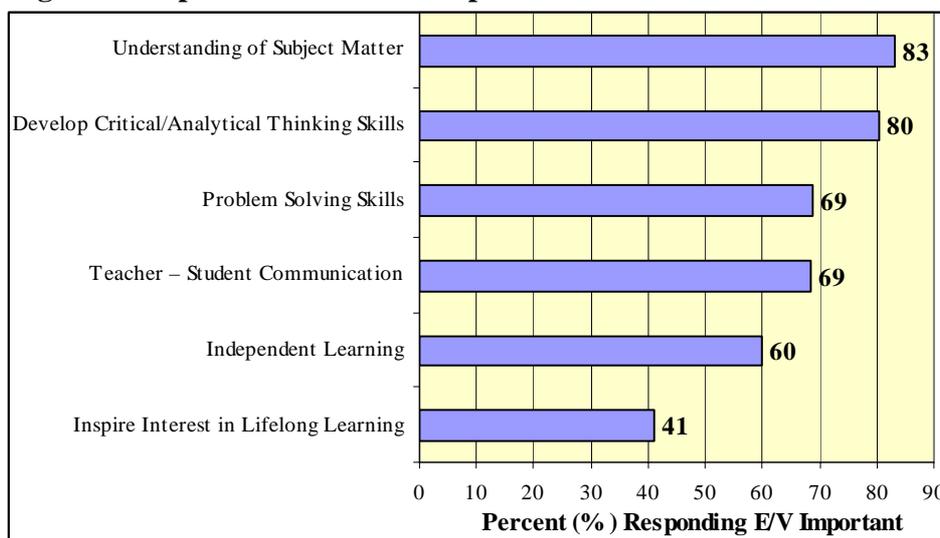
**Table 2: Top Faculty Learning Objectives and Students Learning Goals.\***

Top five “LEARNING” Objectives	Top five “LEARNING” Objectives
<ul style="list-style-type: none"> <li>• Become an educated person (31.9%)</li> <li>• Become a good person for society (27.3%)</li> <li>• Find a good job after graduation (23.3%)</li> <li>• Become a good specialist (14.6%)</li> <li>• Avoid/postpone military service (2.9%)</li> </ul>	<ul style="list-style-type: none"> <li>• Self-development (20.5%)</li> <li>• Become a good specialist (18.4%)</li> <li>• Communicate and have fun (18.2%)</li> <li>• Become an educated person (15.9%)</li> <li>• Find a good job after graduation (11%)</li> </ul>

\*Multiple responses allowed (% of total responses).

More interesting was the comparison of faculty and students “LEARNING” goals using prompted/structured questions. Understanding of subject matter tops the list. This objective was also ranked highly among faculty learning objectives. The fourth faculty choice “Developing critical/analytical thinking skills” was ranked as the second by the students. Surprisingly, both students and faculty rated “Inspire interest in lifelong learning” similarly, ranking it as the last (See Figure 3).

**Figure 3: Importance of Student Specific “LEARNING” Goals.**

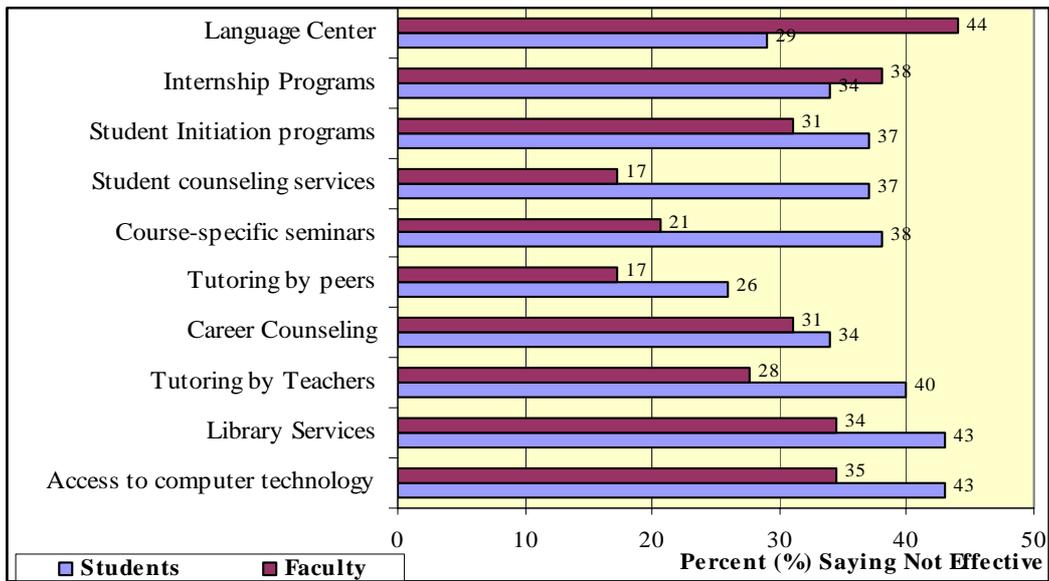


Students were requested to rate their satisfaction level with the opportunity to get a well-rounded education, to develop their generic skills and with the extent the ASAU helps them learn how to learn. In all aspects about 52% of the students surveyed were either unhappy or dissatisfied. Only 42% of the students participated were totally satisfied with their professors’ teaching methods and concept explanations.

## 5.2 ASAU Resources that Encourage Students Success

Both students and faculty members participated in the interview were requested to rate the effectiveness of the ASAU resources that encourage students success. On average, about 65% of the students surveyed said that they have access to the resources captured in Figure 4. As the survey results showed, internship programs and library services received high scores for access by the students: 84% and 80% respectively.

**Figure 4: The ASAU Resources Encouraging Student Success and their Effectiveness.**



The students had more pessimistic views than the faculty members towards the effectiveness of many campus resources promoting their success. On average, about 36% of the students surveyed said that the campus resources are not effective. When rating the effectiveness of Language Center and the Internship Program, teachers were more pessimistic than students. About 43% of the students indicated that both library services and computer laboratory are not effective.

Students were asked to tell whether their skills had been improved since their involvement at the ASAU. On average, about 68% of the students surveyed feel that their skills have been improved, while the remaining 32% feel that their skills didn't change at all.

**Table 3: Since your involvement at the ASAU do you feel improvement in the following?**

	YES	NO
Academic ability	71.6	27.5
Competitiveness	64.7	34.3
Leadership ability	60.8	38.2
Mathematical ability	54.9	44.1
Reading ability	66.7	32.4
Writing ability	66.7	32.4
One foreign language skills	69.6	29.4
Self-confidence	84.3	14.7
Computer technology skills	61.8	37.3
Time management skills	65.7	32.4
Understanding of others	77.5	21.6

Relatively higher scores were assigned to: self-confidence (84%), understanding of others (77%), general academic ability (72%), and one foreign language skills (70%). About 44% of the students said that their mathematical ability didn't improve (we can consider this as a bad indicator, knowing that they are in economics area), 37% didn't feel any improvement in computer technology (See Table 3).

Again, looking through the students' total satisfaction rates, skill improvement feelings and effectiveness of campus resources promoting their success, it can be summarized that the ASAU should seriously and quickly undertake steps towards the new educational reforms. Otherwise, the picture is not promising: the survey results show that about 47% of the students surveyed would not enrol at the ASAU if they could start over again.

### 5.3 Faculty Members' Priorities and Challenges

The participated faculty members were requested to rate three kinds of activities in terms of their importance in achieving student success objectives: course preparation, training and professional development, and use of internet/web-based technology.

**Figure 5: Student Success Activity Priorities (E/Very Important).**

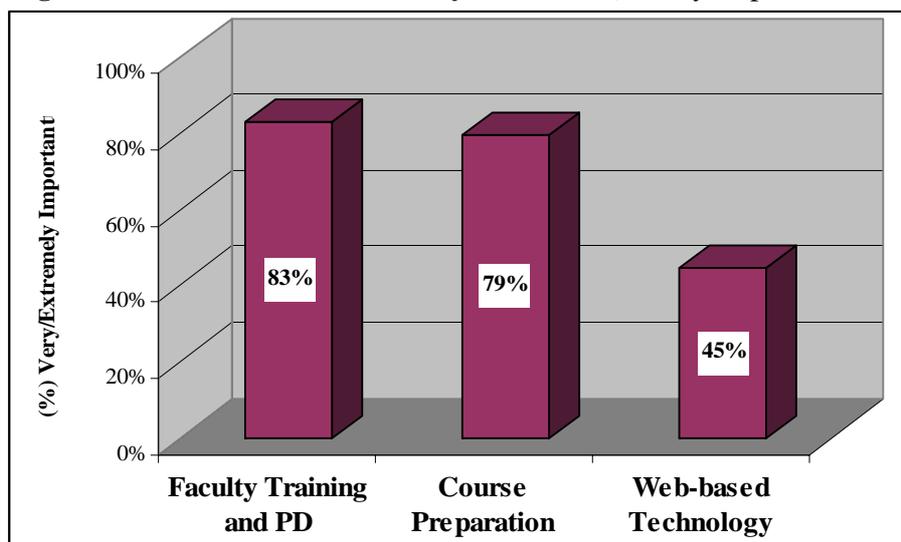


Figure 5 reveals that faculty members consider “Faculty training and professional development” as the most important activity helping them achieve their student success objectives. Activities related to “Course preparation” were ranked as the second followed by the internet/web-based technology. For several years, in American and Canadian studies, the “Course Preparation” was ranked first followed by “Faculty training and professional development” (McGraw-Hill Ryerson 2006). It's quite interesting to see that at ASAU, about 45% of the faculty members interviewed consider “web-based technology” to be extremely or very important in helping them achieve their student success objectives.

Faculty members were asked to tell whether they currently have access to appropriate resources and what kind of support they require for their future professional development. Below is the summary of the responses:

- Almost half of the teachers interviewed told that they have an access to such self-development resources as promoting of critical thinking, understanding of how students

learn, improving delivery of lectures, giving helpful feedback to students, leading class discussions, and help in developing curriculum.

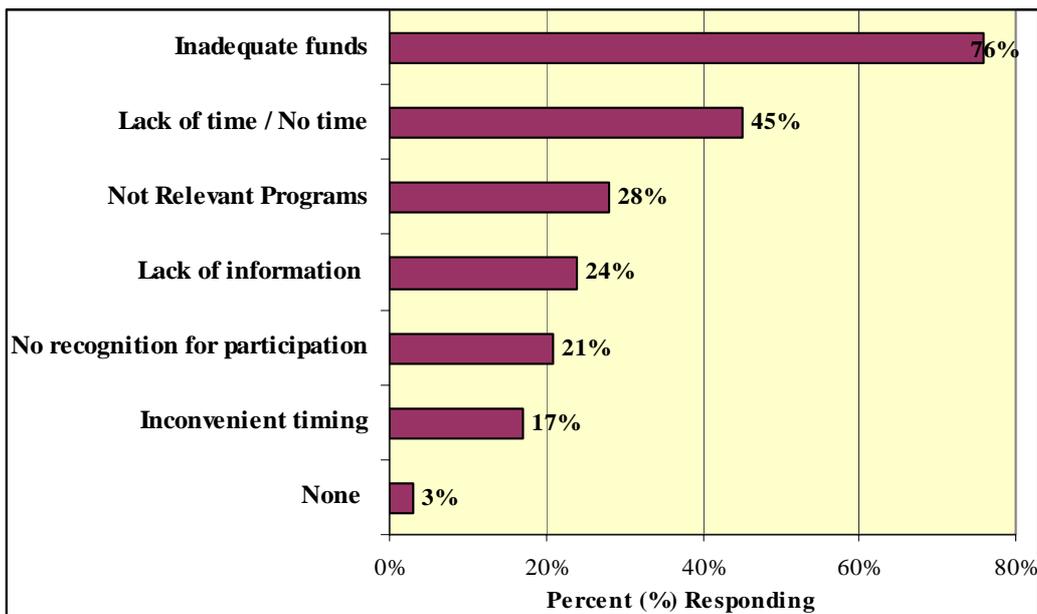
- Only about 13% of respondents said they have an access to such self-development techniques as increasing student participation and stress management.
- Every third teacher told that he/she does not have an access to such self-development techniques as increasing student participation, learning about teaching styles, motivating students, stress management, how to use technology in class, and get expertise to implement/integrate technology in class.

The respondents were asked to indicate those areas where they require more support from their university. High priority support areas were: how to use technology in class (55.2%), motivating students (51.7%), promoting critical thinking (48.3%), understanding how students learn (44.8%), help in developing curriculum (44.8%), and creating relevant assignments (41.4%).

Low priority support areas were mentioned by faculty members as being: increasing student participation (10.3%) classroom management skills (10.3%) and help in developing curriculum (10.3%).

The faculty members were asked to identify some factors that prevent them from taking advantage of the resources, which they require for training and professional development.

**Figure 6: Factors Preventing Use of Training / PD Resources.**



About 76% of the faculty members interviewed claim that the major factor preventing them from using faculty training/PD resources is “Inadequate funds”, followed by lack of time (45%).

The faculty members were asked to rate the importance of specific **course preparation activities** that help them enhance their students’ success. The highest degree of importance was assigned to “Using up-to-date/current materials (66%)” followed by “Developing new assignments (55%)”.

Both students and faculty members were asked to mention about their preferred instructional approaches and instructional tools they would like to have/use to achieve their teaching and

learning objectives. Table 4 provides the summary results. In the “instructional tools” category the top two choices of both students and faculty were the same. Then students prefer to see more technology used in the class: class presentation hardware/software, video clips, on-line resources, etc.

The preferred instructional approach for students was “Classroom discussion” followed by “Case study approach”. Faculty members had different choices: “Classroom instruction” followed by “Group work” (See Table 4).

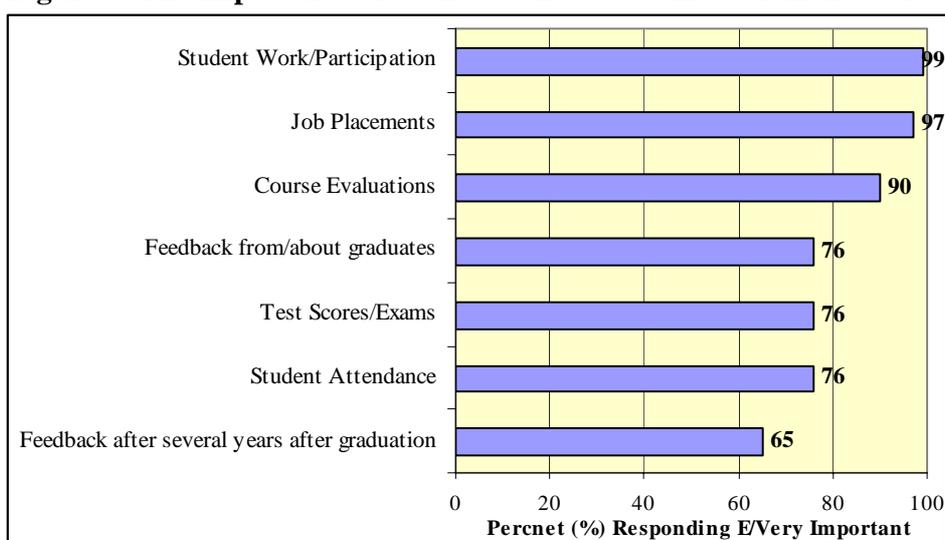
**Table 4: Preferred instructional approaches and tools - Faculty vs. Students.**

<b>Preferred instructional approaches by Faculty</b>	<b>Preferred instructional approaches by Students</b>
<ul style="list-style-type: none"> <li>• Classroom Instruction – 79%</li> <li>• Group Work – 76%</li> <li>• Classroom Discussion – 72%</li> <li>• Case Study Approach – 69%</li> <li>• Online Discussion (E-mail) – 3%</li> </ul>	<ul style="list-style-type: none"> <li>• Classroom Discussion – 77%</li> <li>• Case Study Approach – 54%</li> <li>• Group Work – 50%</li> <li>• Classroom Instruction – 46%</li> <li>• Online Discussion (E-mail) – 15%</li> </ul>
<b>Preferred instructional Tools by Faculty</b>	<b>Preferred instructional Tools by Students</b>
<ul style="list-style-type: none"> <li>• Textbooks – 83%</li> <li>• Quizzes or Test Banks – 83%</li> <li>• Text Publisher Resources – 83%</li> <li>• In-Class Presentation Hard/Software – 48%</li> <li>• Guest Lecturers – 45%</li> <li>• On-Line/Web Links – 17%</li> <li>• Video Clips – 10%</li> </ul>	<ul style="list-style-type: none"> <li>• Textbooks – 75%</li> <li>• Quizzes or Test Banks – 59%</li> <li>• In-Class Presentation Hardware/Software – 51%</li> <li>• Guest Lecturers – 51%</li> <li>• Video Clips – 46%</li> <li>• On-Line/Web Links – 45%</li> <li>• Text Publisher Resources – 21%</li> <li>• E-mail Communications – 15%</li> </ul>

#### 5.4 Students Success Measurement Tools

The participated faculty members were requested to rate the importance of each students success measurement tool. Student work/participation was assigned an almost maximum degree of importance. Job placement and course evaluations received high degrees of importance as well.

**Figure 7: The importance of each student success measurement tool.**

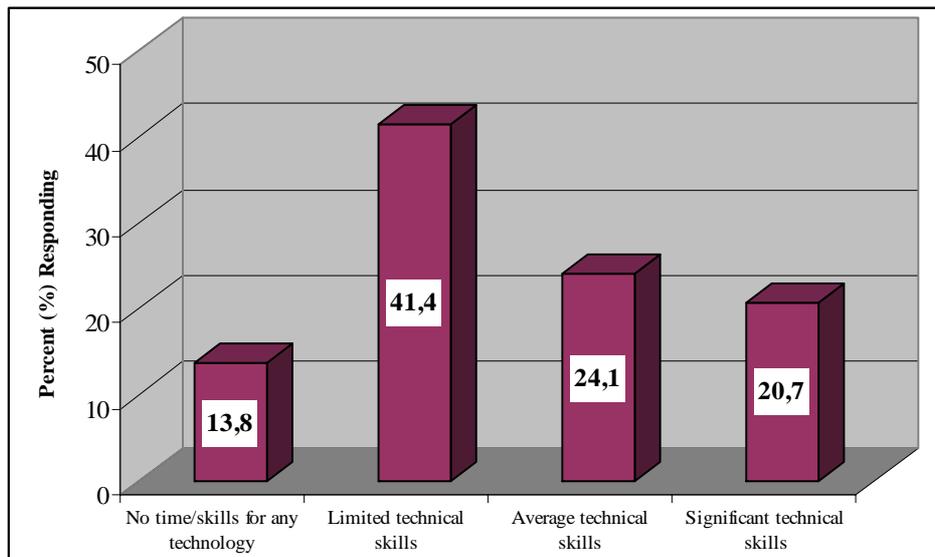


The following measurement tools: feedback from/about graduates, test scores/exams and student attendance received equal percentages (76%). Many teachers stressed the importance of feedback that comes several years after graduation, rather than that received immediately after completing the course or university (See Figure 7).

#### 5.4 Involvement with Instructional Technology

The faculty members participated in the interview were asked to rate their comfort level with instructional technology, specifically, their involvement with software/hardware/technology that allows them to manage their course.

**Figure 6: Involvement with Technology.**



A bit more than half of the respondents had no or very limited skills in instructional technology. Only about 21% of the faculty members interviewed identified themselves as having significant technical skills. However, our general information about the ASAU technological resources indicate that even having these skills they don't have the opportunity to apply these skills in class or manage a course. Most of the lecturers stated that from time to time they participate in many kinds of computer application trainings, specific software trainings (SPSS, PhStat, etc.), but as they don't have access to computers, these trainings lose their value.

Teachers were also asked to share about their expectations towards drivers of changing roles. About 83% of the faculty members interviewed clearly expect that things are going to change and the most significant driver of change will be instructional technology. Only 17% think that things are not expected to change, in particular with the driver to change being instructional technology.

## 6. Conclusions & Recommendations

The study showed that both participated faculty members and students consider the student success to be very or extremely important issue. However, less than half of the teachers are not satisfied with their achievement of their student success teaching and learning objectives. Students also are not happy with their opportunity to get a well-rounded education and with the extent the ASAU helps them learn how to learn. More than half of the participated students were unhappy with their professors' teaching methods. Probably the above-mentioned dissatisfaction rate is the reason that about 32% of economics students felt that their skills (academic, generic, etc.) didn't improve since the involvement in the ASAU. Another reason is that the ASAU resources that should have encouraged student success are not effective. As we noticed, on average, 36% of the students said that the campus resources are not effective.

The ASAU should seriously and quickly undertake steps towards the improvement and increase of effectiveness of that resources. Otherwise, the picture is not promising: as we saw about 47% of the students surveyed would not enroll at the ASAU if they could start over again.

From the faculty side, it was obvious that "Faculty training and professional development" was the most important activity helping them achieve their student success objectives. Faculty members indicated the areas where they need more support from the ASAU. High priority support areas were: how to use technology in class, motivating students, promoting critical thinking, understanding how students learn, help in developing curriculum and creating relevant assignments. As it was expected, the major factor that prevents faculty members from using faculty training/PD resources is "Inadequate funds". The ASAU does not have enough financial resources to spend on faculty members' professional development.

Although many teachers identify themselves as having significant technical skills, however they are not able to apply these skills or knowledge in teaching or managing a course, as they are not provided with appropriate technological resources. The majority of participated teachers clearly expect that things are going to change, and the most significant driver of change will be the instructional technology.

As for recommendations, the main one will be to encourage the ASAU in implementing a number of initiatives oriented to student success like: establishing student success center, mentoring programs, moving towards case-management approach in student advising, etc. Another recommendation will be to integrate technology not only in class but also in administration, offices, departments ensuring that staff also has the tools required to deliver services to students and faculty efficiently. Integrating technology can remove the classroom walls and give students access to interactive curriculum and various on-line/web resources needed for their success.

Student engagement, their satisfaction, their learning objectives and self-development should guide the work, programs and policies of faculty and education administrators to improve student success. We expect that all these issues will become a reality at the Armenian State Agrarian University after the successful implementation of the new wave of agricultural education reforms being carried out by joint efforts of the Caucasus Agricultural Development Initiative and Texas A&M University.

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