QUATREC 2 – Comparing qualifications for reliable recognition 2

Country chapter

The aim of the country chapters is to collect information about the use of learning outcomes in higher education. Information from country chapters will be used to develop methodology for writing and comparing learning outcomes in terms of recognition.

Please provide detailed information about each aspect regarding learning outcomes:

Country: **Armenia**

Chapter 1. General information about the use of learning outcomes

1.1 Legal framework for learning outcomes in higher education

Armenian NQF/ANQF has been adopted by the Decision of the Government of Armenia /GoA dated 07.07.2017 (N 714) https://www.arlis.am/DocumentView.aspx?docid=107371. It is an 8-level framework starting with elementary secondary education up to doctoral education. Levels are described by 3 broad categories - knowledge, skills and competence.

1.2 Categories/ dimensions in which learning outcomes are expressed (e.g. knowledge, skills, competences) and how are they defined?

At national level: knowledge skills and competence. Learning outcomes at national level are rather general – covering all types and all levels of qualifications.

Sectorial level: According to the Decision of the Government of Armenia dated 16.05.2019 on Activities Plan of Government for the period of 2019-2023 each year 7-8 sectorial QFs should be developed (point 159). So far were developed 6 sectorial QFs which still need to be approved by the GoA[1]. Learning outcomes are expressed in knowledge, skills and competence. Moreover, sectorial QFs were developed by several EC funded projects, like ARMENQ[2].

Armenia has chosen to align the ANQF learning outcomes to the EQF, emphasising more international comparability as a key goal and using a general language.

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[1] https://www.gov.am/files/docs/3347.pdf

[2] http://armenqa.am

At higher education institution level: HEIs are developing education programmes based on ANQF and sectorial QFs (if they exist).

1.3 Are learning outcomes subject to Quality Assurance? Who assesses and how?

According to Government of Armenia Decree on "State Accreditation of RA Institutions and their Educational Programmes" dated 30.06. 2011 and RA Standards for Professional Education Accreditation education programs are subject to QA (*Criterion III Academic program. The programmes are in concord with the institution's mission, form part of institutional planning and promote mobility and internationalisation*). Each HEI that is in process of accreditation has to evaluate minimum three programs while self-assessment process. Besides, QA agency in the process of external evaluation of HEIs randomly selects another three education programmes for evaluation. In case of positive evaluation, the selected programmes are considered accredited.

1.4 Are learning outcomes of the study programme indicated in Diploma Supplement (if there is one)?

In Armenia, Diploma Supplement is issued and learning outcomes are indicated in the Diploma Supplement.

Chapter 2. Good practice for writing learning outcomes in terms of recognition

1.5 Recommendations, guidelines, set procedures for writing learning outcomes (if applicable) *Please provide references and/or links, if possible.*

At national level: There is no a single manual on recommendations or guidelines for writing learning outcomes.

At higher education institution level: Based on the results of the survey it is evident that all the higher education institutions have institutional guidelines for development of the education programmes which are approved by internally (scientific councils or curriculum committees or some other bodies in charge of programmes). Below are the links some of the surveyed HEIs.

- o **Yerevan State University**: http://ysu.am/files/quality/GuidelinesonProgramDesign.pdf
- o **Brusov State University**: https://brusov.am/website/documentation/files/04811e4e.pdf
- o **Polytechnic.** http://qa.polytechnic.am/index.jsp?sid=1&id=185&pid=24).
- o **Armenian National Agrarian University** https://anau.am/wp-content/uploads/2019/06/Masnagitakan-krtakan-cragir.pdf

1.6 Formulation of learning outcomes (who defines, what methodology is used, who approves, ownership)

At national and Sectorial levels: MoESCS establishes working groups do develop QFs and learning outcomes are defined by the corresponding working groups. ANQF was approved by the Government of Armenia and sectorial QFs are also pending approval of the Government. Presently, the MoESCS as well as the higher education institutions are in charge of implementation of the frameworks

At higher education institution level: Learning outcomes are formulated by staff that is in charge of development of education programmes and as already mentioned above these programmes are approved by the scientific councils, or curriculum committees of higher education institutions.

Methodology. First of all, it is based on the definition of learning outcomes, i.e., on the learner and his/her ability to do something. When writing a course or programme learning outcomes, the focus is on the important aspects of the discipline or course subject. Action verbs are used and it is important to be realistic about what can students achieve. Outcomes should describe what the student can do by the end of a course or programme. Usually, draft outcomes are consulted with employers and more experienced colleagues. The next step is to understand how student will acquire necessary skills and competencies sequentially and developmentally. For this Bloom Taxonomy is consulted. Formulated learning outcomes should be connected back to mission of institution and its competencies.

There are different types of assessment and the one to select depend on their suitability, acceptability, feasibility and sustainability to validate whether the learning objective have been achieved. Thus, all types of assessment are linked to learning outcomes.

As regards, the training for writing learning outcomes at HEI level, the situation with is rather diverse. Some of leading universities offer a component on writing learning outcomes within other training programmes on teaching, learning and assessment.

1.7 Good practice example of formulating learning outcomes

All the surveyed higher education institutions presented good practice examples of formulating learning outcomes. Here are some of them:

Yerevan State University: Bachelor's Degree in Psychology Programme Learning Outcomes

A. *Professional Knowledge and Understanding.* Upon completion of the programme the student will be able to:

A1. Describe the main methodological principles, contemporary and fundamental theories in psychology; present their relevant concepts, approaches and notions; define their applied significance in various spheres of social life.

A2. Understand psychological issues, such as the regularities, mechanisms and peculiarities of an individual's mental development, normal and clinical manifestations of mental health. A3. Define the main methods of carrying out psychological research, data collection, as well as analysis and interpretation of findings; distinguish the ways, possibilities and limitations of their application

A4. Identify the psychological facts and regularities related to the fundamental and applied fields of psychology; understand their role and significance in individual and social life.

A5. Enumerate the main ethical principles of the psychologist's professional activity; highlight their significance and the importance to comply with them.

A6. Identify the symptoms of mental disorders and their classification systems.

B. Practical Professional Skills. Upon completion of the programme the student will be able to:

B1. Apply the main methods of psychological research as required, analyse and interpret the obtained results to cope with professional (working or learning) issues.

B2. Put into practice the methods of psycho-recognition; draw well-grounded conclusions based on professional analysis.

B3. Distinguish and interpret psychological phenomena, psychological problems existing in various spheres of human life and activity; implement actions aimed at solving those problems.

B4. Combine various approaches of psychological work displaying creativity; find professional solutions providing socially useful activity.

B5. Organise his/her working and/or learning activities in accordance with the acquired theoretical knowledge and practical skills.

C. General (Transferable) Skills: Upon completion of the programme the student will be able to:

C1. Cooperate with specialists of the given and other adjacent fields; work in a professional environment; maintain the standards of professional ethics.

C2. Implement ICT tools to facilitate and carry out efficiently the process of knowledge transfer and professional activities.

C3. Analyse critically and draw conclusions about theories, studies and applied issues.

C4. Prepare reports, present research findings, conduct scientific debates.

C5. Apply creatively the acquired knowledge; perceive and disseminate new information.

Polytechnic: Bachelor of Informatics. (Software Engineering)

Goals of program	- To form the necessary scientific-educational background and professional potential for the development of informatics and computer engineering in Armenia, - to prepare a wide profile professional engineers for design and operation of different function computing systems and networks, - To prepare a basis for the organisation of Master and Researcher programs in Informatics and Computer Engineering.
Objectives of program	- Ensure the acquisition of basic principles and methods of informatics and computing techniques, design, analysis and operation and the ability of practical application, - establishing the necessary educational background for the graduates of the program to continue their studies at the Master's and Researcher's programs, - Preparing graduates for a variety of professional careers and jobs as well as continuous professional development, forming necessary written, oral and graphical communication and teamwork skills, creating necessary learning conditions/environment for acquiring the set learning outcomes.
Learning outcomes of program in the form of graduate competences	- Use algorithms design, information protection methods and tools for researching management systems processes, structural analysis of computational systems, ability to detect, analyse and solve business, design problems *(ability to design and develop algorithms, structural analysis of computational systems, knowledge of computing system management and protection)*, - Use mathematical methods and means of informatics, information security, automation and numerical theories for the development of discrete structure algorithms and software, methods for the analysis and analysis of computational processes in solving software design problems *(ability to design discrete structures, methods of algorithm modelling and knowledge of theoretical basics of software design computing systems)*, - Apply the principles of software and structural architecture analysis of computing systems to analyse operating systems and their business procedures, design and develop system software

(ability to analyse computational processes, mastering of system programming techniques, ability to analyse
operating systems),
- Apply software, methods and means of controlling the protection of software systems for data and network
  systems design and application development *(knowledge of software protection systems, control methods,*
  database design techniques, network technology and application development capability),
  possess software engineering design, regulation principles, apply software technology knowledge for application design
  and network applications development, software product configuration, naming and validation *(application design capability, software design skill, software testing capability, network application skill)*
- Plan and perform experimental research on hardware-software development, analyse, comment on experimental data and
  make conclusions, draw up technical documentation of the projects *(professional practical knowledge and skills,*
  experimental skills, teamwork ability, ability to self-actualise).

Armenian National Agrarian University. Master of AgriBusiness (MAB)

Programme Goals/Competences. The goal of MAB programme is to provide an opportunity for Agribusiness Teaching Center graduates to:

A. Enhance their skills and be more competitive for management-track positions.

B. Analyse problems, construct and criticise alternative solutions relevant to agribusiness firms and the economic sector.

C. Understand the importance of fundamental economic concepts and quantitative methods as crucial aids to decision making in agribusiness and government.

D. Understand and utilise business concepts associated with management, marketing, econometrics and finance in order to comprehend and effect change in the private and public sectors.

E. Present skills necessary for day-to-day business operations and career advancement in a variety of agribusiness and/or government organisations.

F. Present strong communication skills, both oral and written, for the purpose of conveying the results of business analyses in a clear, persuasive, and informative manner.

Learning Outcomes: *A MAB graduate, trained according to this program, will be able to:*

A1. Have solid understanding in modelling economic and financial applications.

A2. Have understanding how to manage risk in various applications.

A3. Have an ability to make better decisions in their area of interest.

A4. Think critically when developing and analysing marketing plans and communicate them effectively.

B1. Analyse and evaluate companies' performance using financial and other contextual information regarding the operating environment of a specific business sector and have an appreciation of the limits of this analysis.

B2. Select and deploy the correct statistical method for a given data analysis requirement. In particular, develop expertise in describing data, process management, hypothesis testing and model building.

C1. Describe the determinants of demand for a product or service and use statistical methods to estimate and analyse demand for a product or service.

C2. Describe and incorporate business forecasts into discussions of corporate strategies.

C3. Explain how market conditions (market structure) impose constraints on business strategy and pricing.

C4. Have an ability to conduct focus groups, surveys, and other methods for researching customer reaction to various new venture concepts.

C5. Formulate, solve linear programming problems, and interpret the results from the solution of different types of linear programming problems.

C6. Develop various forecasting techniques, produce economic forecasts, construct, validate, and using stochastic simulation models include risk into business decision-making using Simetar (Excel add-in).

D1. Recognise, develop and distinguish between models for cross-sectional analysis at a single point in time and models for time series analysis at multiple points in time.

D2. Understand and implement the key concepts and frameworks in marketing, the strategies for market segmentation and targeting, product positioning, and marketing mix development.

D3. Manage agricultural projects at each phase of the project management life cycle.

D4. Design and implement project monitoring and evaluation using logical framework and balanced scorecard methodologies.

D5. Think strategically and tactically for solving economic problems using the estimation results.

E1. Prepare financial statements based upon Generally Accepted Accounting Principles.

E2. Gain a better understanding of such issues as: the effect of accounting policies on the presentation and interpretation of financial statements; the allocation of resources and the control of costs within a corporation; and the financing of the company and the risks and rewards that arise from these financing decisions for investors and creditors.

F1. Develop critical thinking skills and communicate effectively, effectively engage in the process of writing individually and collaboratively

F2. Read, listen to and critically respond to a number of sources within their professional areas of interest, incorporate evidence in their papers following accepted academic and professional standards.

F3. Demonstrate understanding of professional customs and practices.

F4. Work with diversity/diverse populations applying learning to task.

F5. Understand and manage personal behaviour and attitudes, develop individual responsibility.

1.8 Is the labour market involved in the development and use of the learning outcomes? If yes, then how?

Usually drafts of learning programmes for study programmes are consulted with the employers.