In the name of God

FINAL REPORT of Graduate Employment Status Monitoring Project, 2020–2021

University of Tabriz

Reporting period: 22 September 2020 to 21 September 2021

Summer 2026

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Acknowledgments

We would like to express our sincere gratitude to the President of the University of Tabriz, the Vice President for Research and Technology, and the Director of Technology Management for their valuable support, guidance, and cooperation in implementing the University of Tabriz Graduate Employment Tracking Project.

Their support has contributed to understanding graduates' employment status, evaluating the effectiveness of university education, identifying barriers to entering the labor market, and strengthening the university's links with society and industry.

We also sincerely thank Dr. Hossein Hesami, Mr. Shahram Sharifi, and Ms. Maryam Gholizadeh for their valuable efforts, responsibility, follow-up, and effective participation. We are grateful to all experts, implementation staff, and graduates who helped collect information and follow up on graduates' employment status.

It is hoped that the findings will support more effective planning to improve educational quality, strengthen graduates' capabilities, expand employment opportunities, and align the university more closely with societal and labor-market needs.

1. Preface

As one of the principal institutions responsible for generating and disseminating knowledge, universities play a central role in educating specialized human resources and responding to the needs of society and the labor market. However, higher education cannot be evaluated solely by examining teaching and research activities. The outcomes of education and graduates' circumstances after completing their studies are also important measures of system performance. Tracking graduates' employment provides a more realistic picture of how well university education matches professional requirements and labor-market changes.

The transition from university to work is multidimensional and influenced by field and level of study, technical and transferable skills, work experience, socioeconomic conditions, labor-market characteristics, and employment policies. Systematic collection and analysis of employment data can clarify the current situation, identify strengths and shortcomings, and inform more effective education, skills-training, and student-development programs.

Graduate career surveys and follow-up activities have been conducted at universities for years. Their findings can help establish an appropriate framework for monitoring graduates' career pathways. The Graduate Employment Tracking Project and statistical data on employment and unemployment among higher-education graduates can also provide valuable evidence for policymaking and planning. Such surveys can help universities maintain active relationships with alumni and develop collaborations through graduates working in industries, organizations, and other institutions.

By participating in this national initiative and reviewing the previous year's monitoring results, the University of Tabriz planned practical measures, including reviewing admission capacity across fields, revising course materials and curricula, and offering practical and skills-based courses.

This report uses a data- and evidence-based approach to examine the employment status of University of Tabriz graduates and aspects of their transition into the labor market. Beyond presenting statistics, it aims to clarify career pathways, examine the relationship between education and employment, and identify areas requiring attention.

These issues are increasingly important as universities face rapid technological change, evolving occupational structures, and changing labor-market needs. Reliable, up-to-date information on graduates can help higher-education administrators make informed decisions, revise educational programs, and strengthen links between universities and society.

It is hoped that this report will provide a clear picture of graduates' employment status and encourage dialogue among universities, students, alumni, employers, and policymakers. Its findings may contribute to improving higher-education quality and responsiveness to societal needs.

We sincerely thank everyone involved in data collection, monitoring, analysis, and preparation of this report. Continued studies of this kind can improve understanding of higher education's outcomes and support more effective future planning.

Dr. Asghar Asgari

Vice President for Research and Technology, University of Tabriz

2. Data Collection Methods

The Graduate Employment Tracking Project at the University of Tabriz was implemented as follows:

The Directorate of Educational Affairs provided a list of graduates from 22 September 2020 to 21 September 2021. The list included faculty, field of study, personal details, mobile phone numbers, and email addresses. The 4,155 records were reviewed, and records with incomplete contact information were excluded. A final group of 3,977 graduates with complete contact details was retained for follow-up and questionnaire completion.

Graduates were invited by text message to participate through the Karāmad system. The message asked them to log in to the Sajed system and complete the questionnaire under the “Performance Monitoring” menu.

Graduates submitted employment information through Sajed (Sajed.msrt.ir). Similar messages were sent through the Technology Management SMS platform, number 10000090003000.

The questionnaire asked about: (1) name, gender, employment status and public/private/other employment sector; (2) suggestions for improving the university’s role in graduates’ skills and employability; (3) occupation type if employed; (4) useful short-term and skills-based courses; (5) improving alumni–university collaboration; (6) alignment of current employment with field of study; (7) curriculum changes to improve effectiveness and industry alignment; (8) employment barriers; and (9) any other recommendations to improve graduate employment.

After several follow-up messages, 566 graduates completed the questionnaire, representing 14.23% of the target population, compared with a national participation rate of 4.32%. Under Cochran’s sample-size formula, a population exceeding 2,000 and a 5% margin of error require

at least 384 responses under conventional assumptions. The 566 completed questionnaires exceeded this threshold. Reports were generated and analyzed using the recorded data.

3. Results

Table 1. Summary of the Graduate Employment Tracking Survey at the University of Tabriz

Indicator / Stage	Description
Graduate cohort	September 2020–September 2021
Initial number of graduates	4,155 records from the Directorate of Educational Affairs
Data screening	Records with incomplete contact information were excluded after verification
Graduates with complete contact details	3,977
Final study population	3,977
Communication methods	SMS, Sajed announcements, and university SMS platform (10000090003000)
Questionnaire platform	Sajed (Sajed.msrt.ir)
Main topics	Employment status and type, gender, job–field alignment, skills training, barriers, university–industry links, and recommendations
Completed questionnaires	566
University participation rate	14.23% of the target population
National average participation	4.32%
Minimum sample size (Cochran)	384; population over 2,000 and 5% margin of error
Sample adequacy	566 responses, exceeding the calculated minimum
Respondents who were employed	323

Men and women accounted for 63.1% and 36.9%, respectively, of the 566 participants (Figure 1). Overall, 57.1% were employed and 42.9% were unemployed (Figure 2).

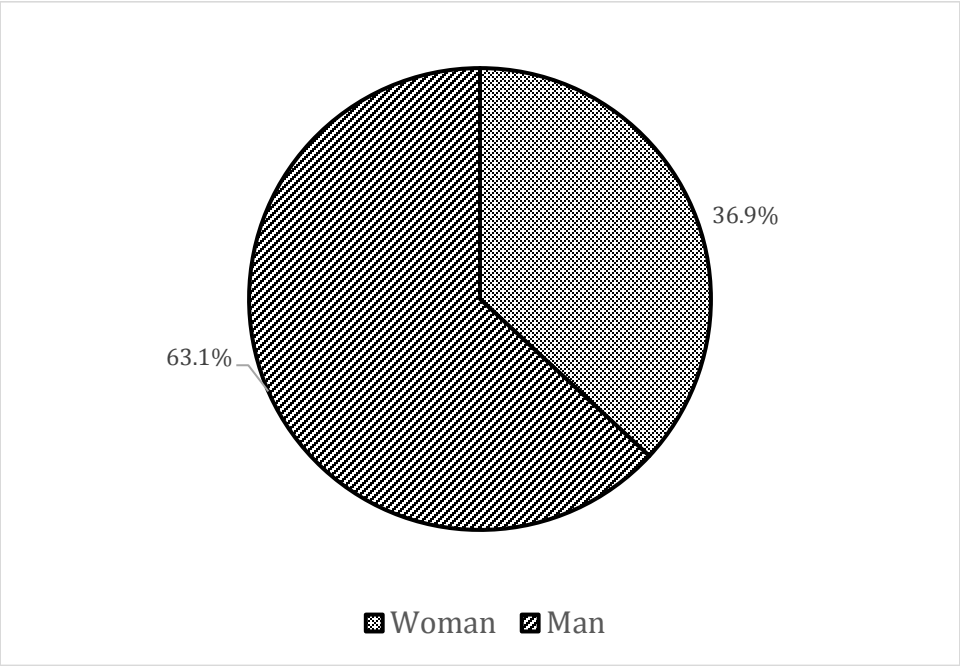


Figure 1. Percentage distribution of graduates by gender among participants in the university of Tabriz graduate employment monitoring study

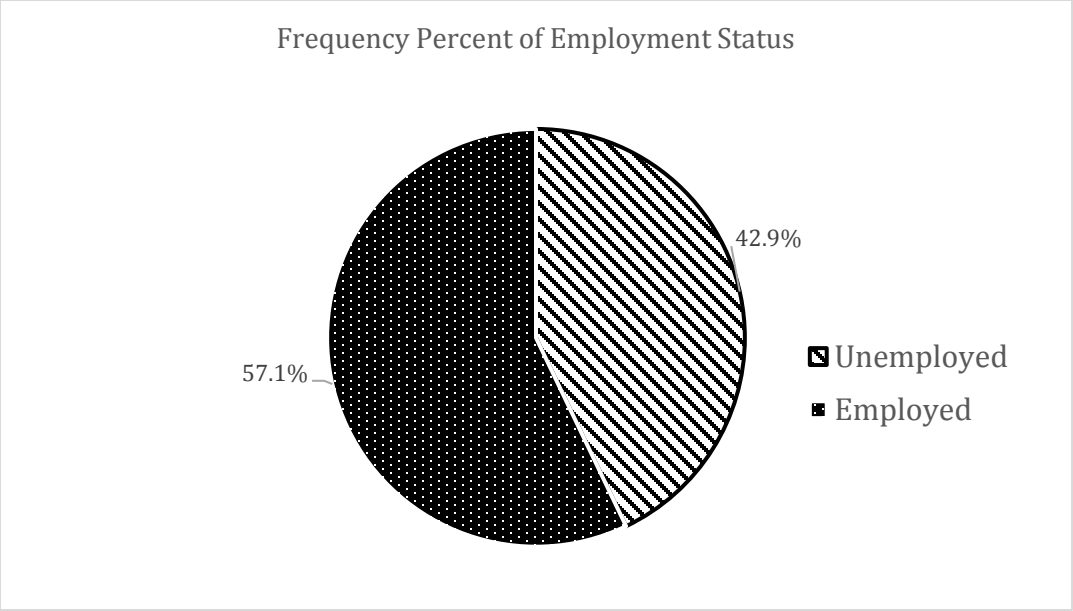


Figure 2. Percentage distribution of employment status among graduates participating in the university of Tabriz graduate employment monitoring study

Among all respondents, employed men represented 38.69%, the largest group, while employed women accounted for 18.37%. Unemployed men represented 24.38% and unemployed women 18.55% (Figure 3). Men comprised 63.07% of the sample and women 36.93%. Based on these group sizes, the employment rate was approximately 61.35% among men and 49.76% among women. Employment outcomes were therefore more favorable for men in this sample. Further analysis of field and level of study, age, work experience, and skills would be needed to explain the difference.

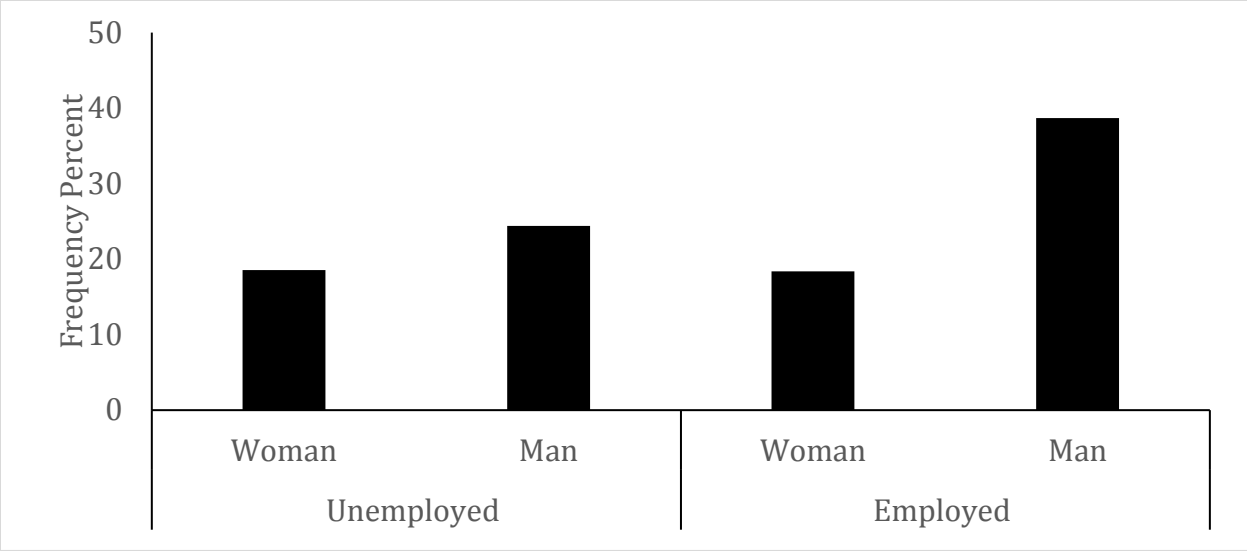


Figure 3. Percentage distribution of employment status by gender among graduates participating in the university of Tabriz graduate employment monitoring study

Employment rates increased with educational level: 46.7% for associate-degree graduates, 47.7% for bachelor's graduates, 53.4% for master's graduates, and 68.4% for doctoral graduates (Figure 4). The highest rate was among doctoral graduates and the lowest among associate-degree graduates. The 21.7-percentage difference suggests that higher educational attainment was associated with a higher employment rate in the surveyed population.

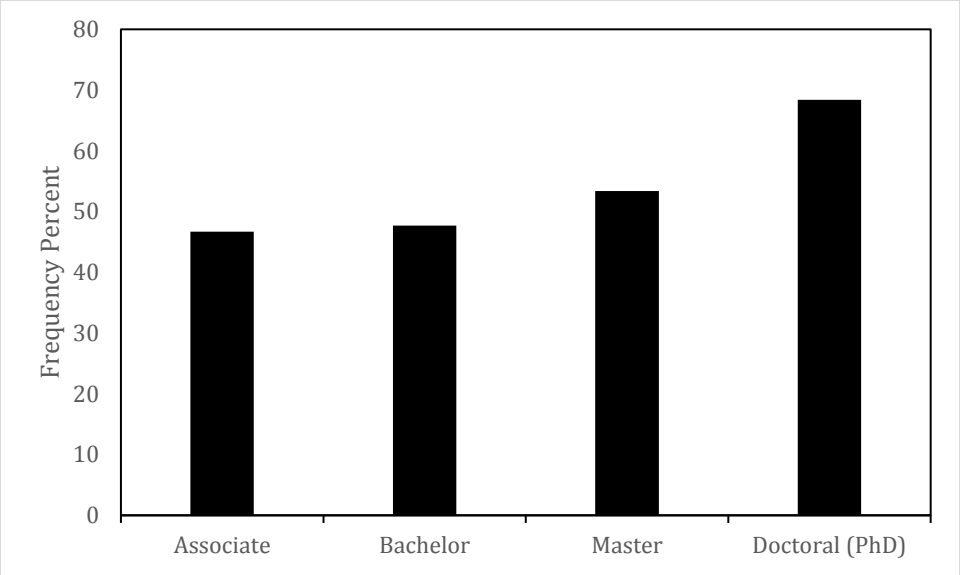


Figure 4. Percentage distribution of employed graduates by educational level among participants in the university of Tabriz graduate employment monitoring study

Private-sector employment accounted for the largest share (21.55%), followed by public-sector employment (18.73%). In addition, 8.30% of graduates were continuing their studies, 6.89% were self-employed, and 1.59% were completing military service (Figure 5).

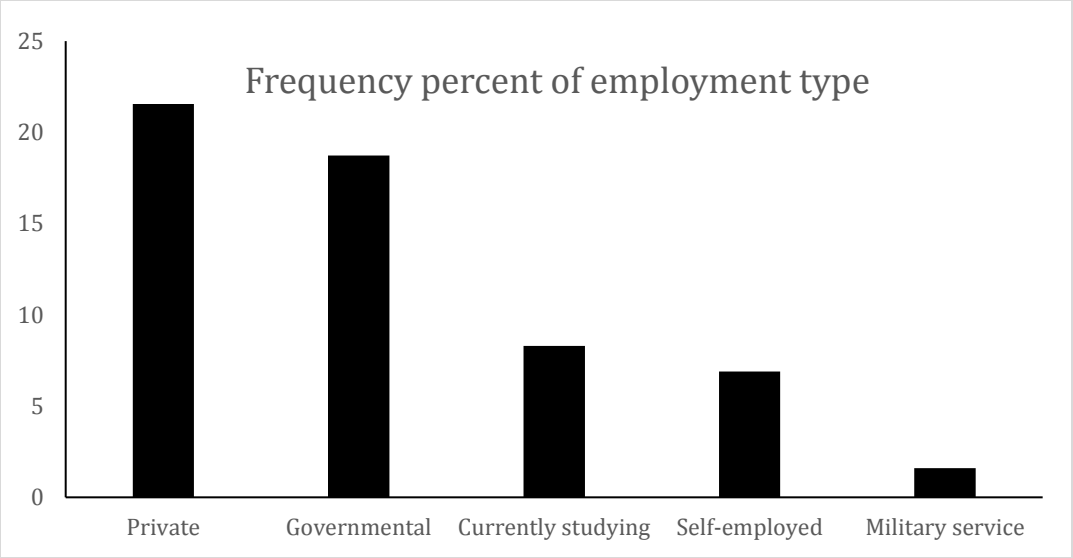


Figure 5. Percentage distribution of employment types among employed graduates participating in the university of Tabriz graduate employment monitoring study

More than half of employed respondents (52.73%) reported that their current work was not related to their field of study. In contrast, 17.70% described the relationship as “very high” and 13.56% as “high”; together, 31.26% reported high or very high alignment (Figure 6). This mismatch may reflect limited specialist vacancies, a gap between labor supply and demand, or graduates accepting unrelated jobs. Strengthening labor-market links, expanding practical skills training, and guiding graduates toward field-related opportunities may help reduce this mismatch.

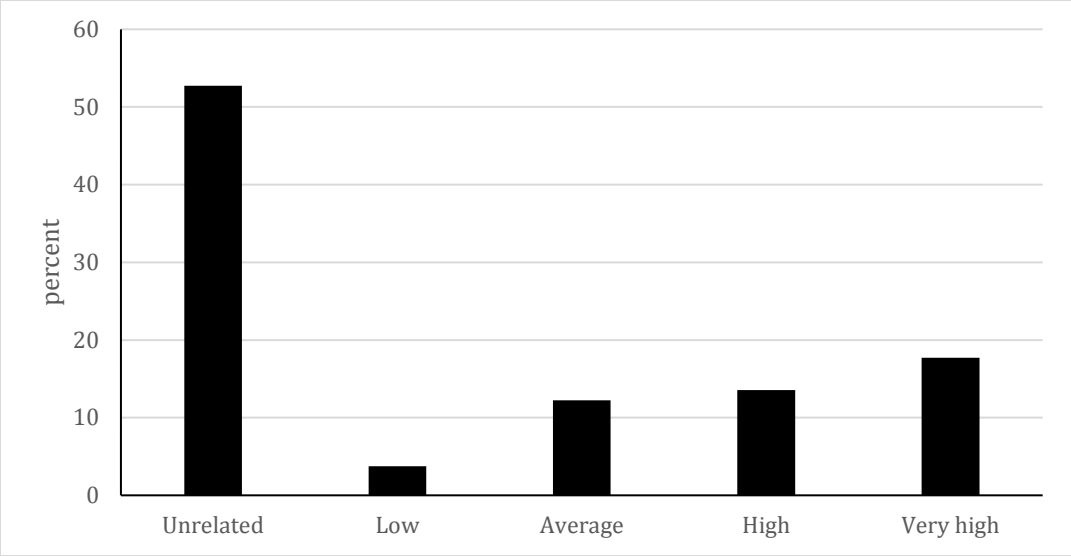


Figure 6. Percentage Distribution of the Alignment between Current Job Activities and Field of Study among Employed Graduates Participating in the University of Tabriz Graduate Employment Monitoring Study

3.1. Strategies for Enhancing Graduates' Skills and Employability: Graduates' Perspectives

Qualitative analysis of responses from 243 of the 566 graduates showed that the main expectation was a shift from theory-based education toward skills-based learning and stronger labor-market connections. Frequent suggestions included more practical courses and genuine internships, expanded industry partnerships, updated curricula reflecting new technologies, training in soft and digital skills, and effective mechanisms for referring graduates to job opportunities (Figure 7). Graduates expect universities to play an active facilitating role throughout the process, from education to entry into employment.

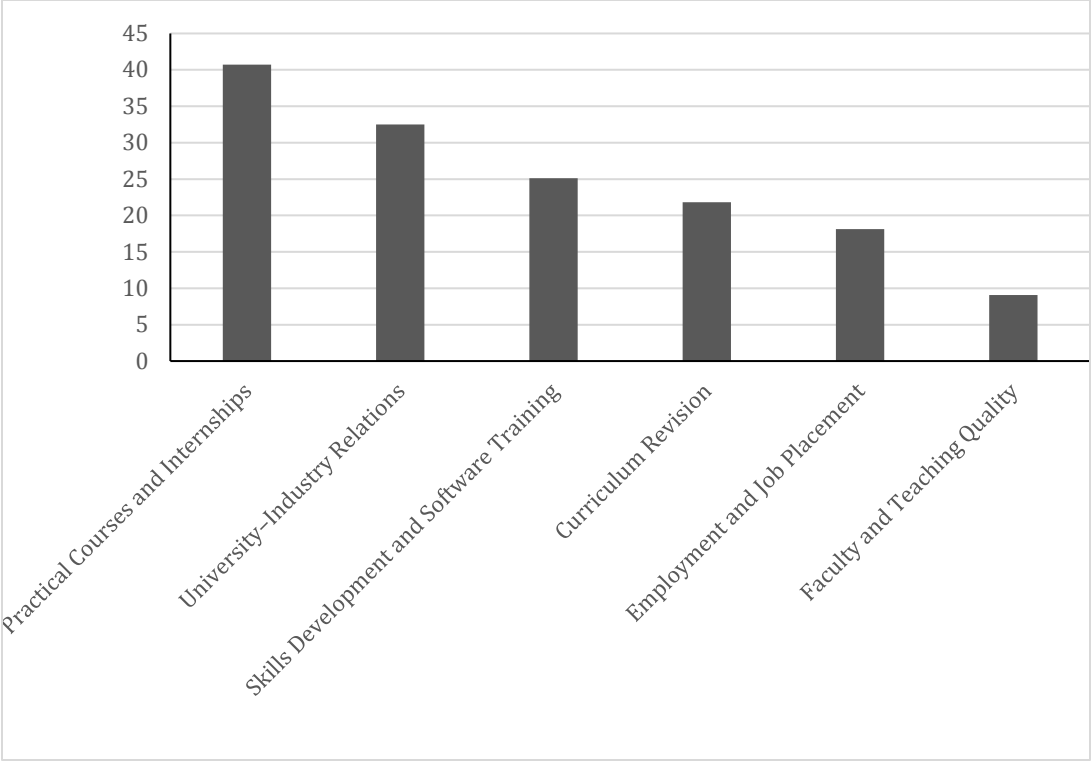


Figure 7: Strategies for enhancing the university's role in improving graduates' professional skills and employability from the graduates' perspectives

Responses highlight the gap between university education and real labor-market requirements. The main themes are summarized below.

1. Expand practical education and strengthen internships

The most frequent suggestions concerned more practical instruction, specialist workshops, better-equipped laboratories, and genuine, targeted internships. Respondents felt that university education was overly theoretical and that graduates often lacked sufficient practical experience. Suggestions included increasing practical credits, making internships compulsory and longer, replacing some purely theoretical activities with real projects, and delivering training in factories, farms, laboratories, and organizations.

2. Strengthen university–industry relations

Respondents called for effective, sustained, and purposeful cooperation with companies, factories, public agencies, and the private sector. Suggestions included operational agreements, industry specialists participating in teaching, industrial visits, joint projects, and shared university–industry offices. Cooperation should lead to internships, projects, work experience, and ultimately employment—not remain limited to ceremonial agreements.

3. Emphasize skills and current technologies

Respondents emphasized moving away from degree-centered and purely theoretical education toward practical competence. Suggested training included field-specific software, emerging technologies, artificial intelligence, digital skills, specialized English, data analysis, and other labor-market skills. Soft skills such as communication, teamwork, problem-solving, time management, negotiation, and critical thinking were also considered important.

4. Review and update curricula

Many respondents felt that some courses did not sufficiently reflect technological developments or current labor-market needs. Suggestions included removing or reducing low-use courses, increasing practical and skills-oriented courses, teaching specialist software, adding real-world projects, and regularly reviewing curricula with industry and employers.

5. Strengthen university support for graduate employment

Graduates expected support to continue after graduation. Suggestions included referring alumni to companies and public agencies, creating a job-opportunity database, holding career fairs and events, providing recommendation letters, networking with employers, and drawing on successful alumni. Some also recommended particular support for high-achieving students and graduates with strong specialist skills.

6. Improve teaching quality and academic staff performance

Respondents called for up-to-date specialist instructors, stronger links between academics and workplaces, improved teaching methods, greater accountability, and more applied activities. Some criticized the emphasis on publications in academic evaluation and recommended giving greater weight to industrial work, applied projects, solving real societal problems, knowledge commercialization, and training skilled graduates.

7. Promote entrepreneurship and self-employment

Suggestions included entrepreneurship education, business models, marketing, sales, financial literacy, funding, and starting small or knowledge-based businesses. Respondents also recommended supporting student ideas, incubators and accelerators, knowledge-based companies, and collaboration across disciplines. Universities should prepare students not only to find jobs but also to create jobs and become self-employed.

8. Align admission capacity and academic programs with labor-market needs

Respondents raised concerns about admitting more students than the labor market can absorb and about saturated fields. Suggestions included reducing admissions in fields with high unemployment, matching enrollment to actual societal and industry needs, developing emerging and interdisciplinary fields, and reconsidering admission to programs with limited career prospects. Enrollment planning should be informed by labor-market needs, regional planning, and employment forecasting.

9. Track graduates' employment

Respondents recommended a system for following graduates after completion of their studies, recording employment status, identifying reasons for unemployment, collecting employer feedback, and using results to revise educational programs. Such a system could assess whether

programs lead to related employment and identify gaps between university learning and labor-market requirements.

3.2. Short-Term Skills Courses to Improve Graduates' Employability

In response to the question about short-term and skills-based courses that could improve employability, 39.7% of graduates provided answers. The proposed areas are summarized in Table 2.

Table 2. The Role of Skills Training and Short-Term Courses in Improving Graduates' Employability: Perspectives of Participants in the University of Tabriz Graduate Employment Tracking Survey

Priority	Skills area	Suggested courses
1	Internships and practical experience	Real internships in companies, industries, organizations, and laboratories; longer placements; employer-led real projects; paid internships
2	Field-specific software	AutoCAD, Revit, SolidWorks, CATIA, MATLAB, ANSYS, SPSS, GIS, remote sensing, financial software, and other field-specific tools
3	AI and digital skills	ChatGPT and AI tools, Python, data analysis, Power BI, advanced Excel, programming, digital content creation

4	Soft and workplace skills	Communication, public speaking, negotiation, teamwork, time management, problem-solving, conflict management, leadership
5	Job-market readiness	CV writing, job interviews, personal branding, networking, organizational culture, labor regulations
6	Specialized English	English for Work, business communication, administrative and academic correspondence, field-specific English
7	Entrepreneurship and business	Business models, marketing and sales, e-commerce, company registration, knowledge-based companies, business finance
8	Technical and vocational skills	Field- and region-specific skills; maintenance, welding, industrial electricity, PLC, facilities, and related skills
9	Research and applied projects	Academic writing, data analysis, industrial projects, laboratory equipment, problem-oriented theses
10	Future-oriented skills	Renewable energy, industrial automation, cybersecurity, data mining, machine learning, green technologies

3.3. Strategies for Improving Alumni–University Collaboration

The most important recommendation was to establish a continuous, two-way system for communicating with alumni. Approximately 32% of responses emphasized sustained networks and communication mechanisms, 28% focused on job opportunities and using alumni capabilities, 20% on participation in research and industrial projects, and 19% on sharing experience, teaching, and mentoring (Table 3). Other suggestions included an independent alumni office or center, periodic events, refresher training, and financial or non-financial incentives. Alumni seek active, sustained, reciprocal relationships; conferences alone or requests for financial contributions are not sufficient. An active alumni network focused on employment, research, experience-sharing, and university–industry links could provide an effective basis for lasting cooperation.

Table 3. Strategies for Enhancing Alumni Engagement with the University from the Perspectives of Participants in the University of Tabriz Graduate Employment Monitoring Study

Priority	Suggested action	Frequency	Percentage
1	Maintain regular contact and an alumni network	75	32%
2	Create job opportunities, provide job placement, and use alumni expertise	65	28%
3	Involve alumni in research and industrial/scientific projects	48	20%
4	Invite alumni to share experience, teach, and mentor	45	19%

5	Establish an independent alumni office/center and database	35	15%
6	Hold conferences, meetings, and regular events	32	14%
7	Offer post-graduation training and refresher courses	25	11%
8	Provide financial and non-financial incentives	22	9%
9	Strengthen university–industry links through alumni	21	9%
10	Involve alumni in curriculum revision	15	6%
11	Engage alumni in teaching, advising, and university activities	15	6%
12	Create an online platform and virtual alumni network	12	5%
13	Recognize alumni and strengthen their sense of belonging	10	4%
14	Follow up on employment and conduct regular surveys	10	4%

3.4. Strategies for Improving Program Effectiveness and Alignment with Industry

Table 4 summarizes graduates' recommendations for improving the effectiveness of academic programs and their relationship with industry.

Table 4. Strategies for enhancing effectiveness and strengthening the alignment between academic disciplines and industry

Priority	Main recommendation	Desired shift
1	Increase practical, workshop-based, and laboratory instruction	Theory → practice
2	Review and update curricula	Outdated content → labor-market-relevant content
3	Provide genuine, targeted internships and placements	Classroom learning → real work experience
4	Involve industry in education	University-only → university–industry partnership
5	Teach emerging technologies and specialist software	Traditional knowledge → modern skills
6	Strengthen soft skills, entrepreneurship, and problem-solving	Degree orientation → skills orientation
7	Align program variety and admission capacity with labor-market needs	Educational supply → market demand

Graduates' responses indicate that the main requirement for improving academic programs is to move from theory-centered teaching toward practical, skills-based, problem-oriented education.

Respondents called for more practical courses, workshops, laboratories, internships, and field activities, noting that much university learning is not readily applicable in real workplaces. Students should gain experience in solving real problems, teamwork, using equipment and specialist software, and working in professional environments.

Another major theme was updating curricula. Graduates recommended removing or reducing outdated, repetitive, or low-relevance courses and replacing them with applied, specialist courses aligned with emerging labor-market needs. They also emphasized artificial intelligence, data science, machine learning, specialist software, and digital technologies. Curriculum updates should involve changes in teaching content and delivery, not merely changes in course titles.

Industry should participate not only in hiring graduates but also in curriculum design, project definition, teaching, internships, theses, and skills assessment. Joint university–industry committees, industry professionals as guest instructors, real projects provided by companies, and opportunities for students to work in industrial settings could establish effective and lasting partnerships.

The internship system also requires revision. Some graduates considered current internships ineffective or merely a formal requirement for earning course credits. Internships should instead be genuine, targeted, sufficiently long, and assessable, with each student assigned a specific project or task in a relevant company, factory, farm, laboratory, hospital, or organization. Both the university and host organization should assess performance.

Respondents also emphasized the role of industry professionals and alumni in teaching. Successful graduates and experienced professionals could be invited to teach, run workshops, and share their experience, helping reduce the gap between academic knowledge and professional practice.

Complementary and interdisciplinary skills were also considered essential. Specialist software, data analysis, AI, programming, project management, teamwork, professional communication, problem-solving, and entrepreneurship should complement disciplinary knowledge. Increasing specialist credits alone will not meet labor-market needs; curricula should combine technical knowledge, professional skills, and soft competencies.

Some respondents stressed that student admission capacity should match labor-market demand and university teaching capacity. Admitting large numbers of students to fields with limited employment opportunities, without considering educational and laboratory resources or actual demand, may increase graduate unemployment. Regular employment tracking and labor-market analysis should inform decisions to expand, merge, revise, or discontinue programs.

Finally, some responses identified structural problems beyond the university, including a weak or limited labor market, low recruitment of specialists, hiring barriers, weaknesses in private industry, a lack of jobs related to some fields, and underuse of graduates by public agencies. Curriculum reform alone cannot solve all employment and university–industry alignment problems; labor demand and employment policies must also be addressed.

4. Final Conclusions and Recommendations

Practical recommendations for improving graduates' employability

An effective information system on university graduates' employment can inform education policy, help stakeholders understand employment outcomes by field, guide students toward programs needed by the labor market, and contribute to reducing graduate unemployment. Key measures include:

1. Continuous and systematic graduate employment surveys

Universities should establish a coherent, sustainable system to monitor graduates' employment and evaluate results at regular intervals. This would help identify employment outcomes by field, track labor-market trends, and reduce graduate unemployment.

2. Organize and expand skills-development courses

Skills-development courses are important for strengthening students' and graduates' professional and occupational capabilities. Universities should increase the share of skills-based education in curricula, particularly through elective courses.

3. Activate university career counseling and job-placement services

A complex and dynamic labor market and limited reliable information make stronger career counseling and job-placement services essential. Identifying, documenting, and sharing successful university practices can help other institutions adopt effective models.

4. Maintain direct and continuous contact with graduates

Alumni associations and regular communication can facilitate employment tracking, identify skills needs, improve job opportunities, and strengthen university–society engagement. Alumni networks are also valuable for academic, research, and professional collaboration.

5. Establish a professional competency framework

A professional competency framework classifies, describes, and develops occupational competencies, supports standardization, and helps evaluate educational outcomes. It requires coordinated mechanisms and inter-institutional cooperation to develop and recognize competencies. Joint initiatives between universities and relevant professional bodies can make education more purposeful and strengthen students' skills.

6. Improve educational content and curricula

Curricula should be reviewed and improved with an emphasis on skills development and well-implemented practical, workshop, and laboratory components. Graduates' feedback should be incorporated regularly into curriculum revision and extracurricular activities. National initiatives such as Karap, Ham-Amoz, and the Ministry of Science's education-development and skills-enhancement programs may also help improve student employability.

"END"