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*Artículos Científicos*

## **Evaluación del logro del perfil de egreso en grados universitarios: tendencias y desafíos**

*Assessment of the Achievement of the Graduation Profile in University  
Degrees: Trends and Challenges*

*Avaliação da conquista do perfil de graduação em diplomas universitários:  
tendências e desafios*

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## Resumen

La expectativa del estudiante universitario es formarse profesionalmente para insertarse en el campo laboral y mostrar un desempeño óptimo. Para ello, debe evidenciar el logro del perfil de egreso en el grado que oferta la universidad, según su modelo educativo. La cuestión es cómo se desarrollan y se evalúan las competencias declaradas en el perfil de egreso, cuáles son los mecanismos de aseguramiento del avance y logro que satisfagan las expectativas del estudiante, de los empleadores y de la sociedad. Por esta razón el objetivo fue analizar las principales tendencias y desafíos respecto a la evaluación del logro del perfil de egreso en los grados universitarios. Se realizó un estudio descriptivo e interpretativo con base en el metaanálisis documental de 21 publicaciones ubicadas en Google Académico, Scielo, Dialnet, Fuente Académica Plus y Ebsco. Los criterios de inclusión fueron: artículos científicos que presentaran experiencias de evaluación del logro del perfil de egreso, grados o titulaciones universitarias diversas, publicados entre 2009 y 2019. Se identificaron cinco tendencias de evaluación del logro del perfil de egreso: *a)* coherencia entre plan de estudios e instrumentos de evaluación de asignaturas con el perfil de egreso; *b)* al final de los estudios universitarios; *c)* progresiva durante la formación; *d)* progresiva y al final de los estudios, y *e)* evaluación por egresados y empleadores. Conjuntamente muestran significativos aportes en cuanto a estrategias, instrumentos, actores involucrados y resultados que abren perspectivas de investigación y desarrollo. Se concluye que existe la necesidad de implementar un sistema progresivo, integral y participativo de evaluación del logro del perfil de egreso en los grados universitarios, basado en el conocimiento, la experiencia previa y los desafíos planteados a la universidad.

**Palabras claves:** evaluación, grado universitario, logro del perfil de egreso.

## Abstract

The expectation of the university student is to train professionally to enter the labor field showing optimal performance. For this, it must demonstrate the achievement of the graduation profile in the degree awarded by the university, according to its educational model. The question is how are the competences declared in the graduation profile developed and evaluated, what are the mechanisms for ensuring progress and achievement that meet the expectations of the student, employers and society. For this reason, the objective was to analyze the main trends and challenges regarding the assessment of the achievement of the graduation profile in the university titles. A descriptive and interpretive study was carried out based on the documentary meta-analysis of 21 publications located in Google Academic, Scielo, Dialnet, Academic Source Plus and Ebsco. The inclusion criteria were: scientific articles that present experiences evaluating the achievement of the graduation profile, various degrees or university titles, with a publication period of 2009 to 2019. Five tendencies of assessment of the achievement of the graduation profile were identified: *a)* coherence between study plan and instruments of assessment of subjects with the graduation profile; *b)* at the end of university studies; *c)* progressive during training; *d)* progressive and the end of studies, and *e)* evaluation by graduates and employers. All of them show significant contributions in terms of strategies, instruments, actors involved and results that open research and development perspectives. It is concluded that there is a need to implement a progressive, comprehensive and participatory system for assessment of the achievement of the graduation profile in university degrees, based on knowledge, previous experience and the challenges posed to the university.

**Keywords:** assessment, university degree, achievement of the graduation profile.

## Resumo

A expectativa do estudante universitário é treinar profissionalmente para entrar no campo do trabalho e mostrar um ótimo desempenho. Para isso, deve demonstrar a conquista do perfil de graduação na graduação oferecida pela universidade, de acordo com seu modelo educacional. A questão é como as competências declaradas no perfil da graduação são desenvolvidas e avaliadas, quais são os mecanismos para garantir o progresso e a realização que atendem às expectativas do aluno, empregadores e sociedade. Por esse motivo, o objetivo foi analisar as principais tendências e desafios relacionados à avaliação do desempenho do perfil de graduação em graus universitários. Um estudo descritivo e interpretativo foi realizado com base na metanálise documental de 21 publicações localizadas no Google Scholar, Scielo, Dialnet, Academic Source Plus e Ebsco. Os critérios de inclusão foram: artigos científicos que apresentassem experiências de avaliação do desempenho do perfil de graduação, diplomas ou diplomas universitários, publicados entre 2009 e 2019. Foram identificadas cinco tendências de avaliação do desempenho do perfil de graduação: a) coerência entre os planos de estudos e instrumentos de avaliação de sujeitos com o perfil de graduação; b) ao final dos estudos universitários; c) progressivo durante o treinamento; d) progressivo e ao final dos estudos; e) avaliação por graduados e empregadores. Juntos, eles mostram contribuições significativas em termos de estratégias, instrumentos, partes interessadas e resultados que abrem perspectivas de pesquisa e desenvolvimento. Conclui-se que é necessário implementar um sistema progressivo, abrangente e participativo para avaliar a obtenção do perfil de graduação nos graus universitários, com base no conhecimento, na experiência anterior e nos desafios colocados à universidade.

**Palavras-chave:** avaliação, diploma universitário, obtenção do perfil de graduação.

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## Introduction

The university student has the expectation of training as a competent professional to enter the labor and social field. He places his trust in the education system as a social placement device, so it is an ethical imperative for university training to ensure the quality of training in all its dimensions, as a person and as a professional, for his future work performance (Muñoz, Latrach, González and Araya, 2010, p. 78; Villa and Poblete, 2007, p. 11). However, upon graduating and applying for a job, "generally faces a scenario of greater competition, because the supply of graduates is wider, due to the massive expansion of higher education in the world" (Villarroel and Bruna, 2019, p. 493).

Worldwide there are various investigations and evaluations on the quality of professionals who graduate from universities (Barrera, 2009; Cevallos and Rosales, 2019; Interuniversity Development Center [Cinda], 2017; Izquierdo and Loarte, 2014; Maldonado and Vidal, 2015; Olivos, Voisin and Fernández, 2015). Graduates must demonstrate the achievement of the graduation profile in the degree offered by the university, and be prepared to respond to the changing demands of the labor market and society; reason why "one of the greatest challenges is to apply pertinent assessment methods, responding to the committed graduation profile and the needs of the world of work" (Villarroel and Bruna, 2019, p. 496).

In this context, the evaluation in higher education is located in the neuralgic center of the training processes and the curricular execution; It fulfills a pedagogical and social function, useful for students, teachers, the institution and society, because it allows knowing and evaluating whether the student has reached the appropriate level to deserve promotion, and whether he is competent to perform as a professional (Castillo y Cabrerizo, 2009; Champin, 2014). In the words of Cano (2008), evaluation is at the didactic "crossroads", in the sense that it is an effect but at the same time a cause of learning (p. 9).

Although its formal history is relatively recent: its beginnings go back to the end of the 19th century and the beginning of the 20th, passing through the pre and posttylerian stages (Castillo and Cabrerizo, 2009; Pimienta, 2012), the theoretical and methodological conception of evaluation in Education has evolved remarkably over the years.

Currently, many authors agree that educational evaluation in general consists of collecting and analyzing reliable information on the object being evaluated, making value judgments, from which to make the pertinent readjustment and improvement decisions (Castillo and Cabrerizo, 2009, p. 15-17; Mateo, 2005, p. 36; Pimienta, 2012, p. 52;

Sepúlveda, Opazo and Díaz, 2018, p. 38). It must be systematic, comprehensive, flexible, participatory, continuous, among other characteristics.

The evaluation has a conceptual structure and must respond to certain common aspects: the contents (what to evaluate), the purposes and functions (why to evaluate), the moment (when to evaluate), the procedures (how to evaluate), the instruments (with what evaluate) and the executors or participants (who evaluate), whose particularities depend on the educational and curricular approaches taken by university institutions (Castillo and Cabrerizo, 2009, p. 21; Tejada and Ruiz, 2016, p. 28).

Since the 1990s, various approaches and referents have been proposed that have guided curricular reforms in higher education in various latitudes, including socioconstructivism, the perspective of cognition and situated teaching, authentic assessment and competency-based training (Díaz and Barroso, 2014, p. 37). These mainstream and guide the conception and concretion of the curriculum, therefore, they guide the conception and procedures of evaluation in its various fields and types, such as in the evaluation of the achievement of the graduation profile in university degrees.

Indeed, one of the current approaches is authentic performance-focused evaluation, with activities and learning placed in context (Díaz, 2005). This allows classes to be related to situations in daily and professional life, creating a link between what is learned and its use for solving everyday problems (Villarroel & Bruna, 2019, p. 496). Here evaluation prevails as a process inherent to learning, feedback, with a diagnostic and formative role rather than summative (Ahumada, 2005, p. 18; Brown, 2015, p. 5).

Related to this approach, formative evaluation, one of the most internationally accepted in higher education (López, 2010, p. 161), is oriented towards improving the learning and training processes of students, so that decisions to take may refer to the restructuring of content, the reconceptualization of teaching methodologies or intervention to improve the institutional climate (Pimienta, 2012, p. 54.)

There is agreement between the approaches of the authentic assessment, the formative assessment and the assessment of competences, mainly due to the contextual and situated nature of these pedagogical positions (Sánchez, 2014, p. 26).

Competency assessment is “a process of collecting evidence and formulating assessments about the extent and nature of student progress, based on expected learning outcomes” (Valverde, Revuelta, & Fernández, 2012, p. 51). In the socioformative model it is

understood as “a systematic assessment of student performance, by means of the comparison between the criteria and the evidence that shows the degree of mastery that is possessed around a given action in the face of pertinent problems in the context” ( Tobón, Pimienta y García, 2010, p. 122-123).

Tobón (2013) highlights the assessment as a “feedback and reflection process for the development and improvement of skills, taking into account the diagnosis, continuous monitoring and agreed criteria, from which decisions are made about teaching strategies, strategies of learning, resources, institutional policies ”(p. 321). Subsequently, it states the following:

Socio-formative evaluation is a process of diagnosis, feedback and continuous support for individuals, teams, organizations and communities so that they learn to solve challenging contextual problems, improve their performance and develop the necessary talent for the knowledge society, through self-evaluation. , coevaluation and heteroevaluation, based on the elaboration of products (evidence) and indicators (or instruments) that enable metacognition, through collaborative work and complex thinking (Tobón, 2017, p. 17).

This definition is very powerful when you think about the evaluation of the achievement of the graduation profile in the university degrees.

As has become clear, the conception of evaluation in education has evolved significantly: from educational evaluation and learning in general to authentic, formative and competency evaluation. "It has come to be conceived as a procedure for advice, regulation and reorientation, it aims at a formative follow-up that involves a pedagogical work of continuous help" (Castillo and Cabrerizo, 2009, p.2). Likewise, its scope of application is increasing, not only learning, but also programs, teaching, curricula, educational institutions and national educational systems can be subjected to this process (Mateo, 2005, pp. 48 -275).

On the other hand, it is necessary to consider the interrelation between evaluation and the curriculum in institutional and national educational systems at all educational levels. From the scope of the evaluation, the evaluation of the curriculum, its components, execution and results are located. In this process is the evaluation of the graduation profile and its achievement in university degrees, an area that concerns us in this study.

The conception and evaluation of the graduation profile is based on the curricular model assumed by the university degrees. So it is necessary to take into account the changes and innovations that have been implemented.

In the international context, based on the Bologna Declaration and the Tuning-Latin America project, a series of innovations at the macro and microcurricular level are launched in higher education institutions (Cinda, 2017, p. 19). The undergraduate programs of many universities, in different countries, have moved towards a model based on competencies, redesigning through new academic-professional profiles (Carrera, Lara y Madrigal, 2019; Villa y Poblete, 2007).

Considering evaluation as part of the curriculum, "it is logical to deduce that if the curricular model shifted towards one based on competencies, the evaluation must follow the same line" (Champin, 2014, p. 566). However, one of the issues of greatest academic and scientific concern in many universities is that, despite having a competency-based curriculum, the evaluation process continues to be predominantly knowledge-based and without the procedural nature that should characterize the evaluative practice in this approach. Thus, the evaluation in higher education continues to be linked to disciplines, subjects and subjects, with little relation to the evaluation of the progress or achievement of the graduation profile (Möller and Gómez, 2014; Morales and Zambrano, 2016, p. 11; Tejada and Ruiz, 2016, p. 22).

When addressing the evaluation of the achievement of the graduation profile, several questions arise: how to evaluate? Who should evaluate ?, when to evaluate, during the training process or at the end ?, among others. These are concerns that have motivated this study, considering that "if the evaluation of learning is one of the most challenging aspects facing all teachers and institutions dedicated to the training of people, an even greater challenge constitutes the evaluation of the achievement of graduation profiles "(Cinda, 2017, p. 19).

In this regard, it is necessary to analyze some difficulties raised by various authors. "There is no exact knowledge of the potential level of job performance of the graduate, in the version of the graduate, the university; and the employer or company, interested in incorporating the new professional "(Izquierdo and Loarte, 2014, p. 46). "The changes made in higher education institutions have been insufficient, as they do not ensure the tracking of trajectories towards the declared graduation profiles" (Morales and Zambrano, 2016, p. 11).



These approaches require reviewing the conception and treatment of graduation profiles, taking into account that universities, due to their autonomy, determine the graduation profile of students and declare it in their official documents (Ortiz, Venegas and Espinoza, 2015, p .71).

The graduation profile is conceived as the set of knowledge, skills, values and feelings to be developed by students during their training process, which they will have internalized at the end of their university studies. For Hawes (cited in González, Mortigo and Berdugo, 2014), the concept of professional profile is defined as a “set of features and abilities that, appropriately certified by those who have the legal competence to do so, allow someone to be recognized by society as 'such' professional ”(p. 170). In the competency-based training approach, it is usually considered as the competencies that a graduate must achieve or show to face their professional practice (Ceballos, Ceballos, Cocca and Alfonso, 2015; Cinda, 2017).

In this sense, the graduate or professional profile is "the point of convergence between training and society" (Carrera et al., 2019, p. 1023). It constitutes the directional element, the structure on which the study plan and the evaluation must be designed. (Champin, 2014, p. 570).

In the curricular model by competencies, which is currently the prevailing trend in university degrees, the graduation profile materializes in generic or transversal competences and in specific or professional competences. Specific competences are those that are closely linked to the disciplines or areas of knowledge that distinguish one profession from another; General or transversal competences are common to most professions, so they exceed the limits of the disciplines and must be developed throughout the curriculum map (Jiménez, Gutiérrez and Hernández, 2019, p. 92; Villa and Poblete, 2011, p. 36)

The features and requirements of the evaluation of the achievement of the graduation profile share with those of the evaluation of competences insofar as they are designed and materialized in generic or specific competences in university education, especially in what and how to evaluate. In both cases it is required to use a variety of instruments and to involve different agents. The multivariate methods and instruments that allow the triangulation of the information and evidence of the object or subject evaluated are necessary, which facilitates decision-making to improve and ensure the achievement of competences (Morales and Zambrano 2016, p. 12).

Although there are a variety of techniques and instruments for evaluating competencies, such as observation protocols, interviews, simulations, estimating scales, rubrics or evaluation matrices, evidence portfolios, concept maps, performance guidelines, problem solving, case study, teamwork, written exams (Cano, 2008, p. 10; Diaz and Barroso, 2014, p. 42; Pimienta, 2012, p. 47; Sepúlveda et al., 2018, p. 38), Although this diversity exists, as was said, there are no coherent and pertinent assessment instruments to assess the skills or competencies declared in the graduation profiles (Möller and Gómez, 2014; Morales and Zambrano, 2016; Villarroel and Burna, 2019); although they may be adequate or adapted to fulfill this purpose, as shown by various experiences evaluating the achievement of the graduation profile in various university degrees.

Universities in the international context have implemented curricular innovations in the design of programs by incorporating new approaches and methodologies, but an evaluation that shows the achievement of the graduation profile has been lacking (Carrera et al., 2019, pp. 1021-1022). The central purpose of the evaluation of the graduation profile and its achievement should be the continuous improvement of both the training processes in general and the individual processes of learning and development of competences, it must be a permanent cycle (Cinda, 2017, p. 34).

Given this problematic situation, the following objective was set: to analyze the main trends and challenges regarding the evaluation of the achievement of the graduation profile in various university degrees, according to the experiences published in scientific articles during the period 2009-2019.

## Method

A descriptive and interpretive study was carried out based on the documentary meta-analysis of publications identified in the following databases: Google Scholar, Scielo, Dialnet, Fuente Académica Plus and Ebsco. The inclusion criteria were: scientific articles that presented experiences of evaluation of the achievement of the graduation profile, diverse university degrees, published within the period 2009-2019. The key words used were: evaluation, achievement of the graduate profile, university degree. First, the title and abstract were analyzed according to the inclusion criteria; The full text was then accessed for analysis in a matrix in the Excel program.

Based on the above, 21 scientific articles were analyzed, which were grouped into five trends for evaluating the achievement of the graduation profile: a) coherence between the study plan and the instruments for evaluating subjects with the graduation profile; b) progressive during training; c) at the end of university studies; d) progressive and at the end of studies, and e) by graduates and employers. In each of these, the following variables were analyzed: number of publications, university degrees, graduation profile competencies evaluated (generic or transversal, specific or professional and disciplinary specific), sample, evaluation instruments and results. Based on this, the contributions, weaknesses and challenges that can serve for the implementation of policies and strategies that optimize the evaluation of the achievement of the graduation profile in the university degrees were identified.

## Results

21 publications were identified that present experiences in evaluating the achievement of the graduation profile in various university degrees. As already mentioned, they were grouped into five trends: three deal with the coherence between study plan and subject evaluation instruments with the graduation profile (14%); three deal with progressive evaluation during training (14%); two that make up the first two, progressive and at the end of the studies (10%); Three others present evaluation experiences by graduates and employers (14%), and 10 correspond to the evaluation at the end of university studies (48%), as can be seen in Tables 1 and 2.

**Tabla 1.** Tendencias en la evaluación del logro del perfil de egreso

<b>Tendencias</b>	<b>Autor</b>	<b>País</b>	<b>Grados/Titulaciones</b>	<b>Tipo de competencias del perfil de egreso evaluadas</b>
Coherencia entre plan de estudios e instrumentos de evaluación con el perfil de egreso	Möller y Gómez (2016)	Chile	Educación	Correspondencia entre instrumentos de evaluación y perfil de egreso
	Arribas, Manrique y Tabernero (2016)	España	Educación	Correspondencia entre instrumentos de evaluación y competencias del perfil de egreso
	Ortiz <i>et al.</i> (2015)	Chile	Odontología	Correspondencia entre asignaturas del plan de estudios e instrumentos de evaluación y perfil de egreso
Progresiva	Carrera <i>et al.</i> (2019)	México	Intervención Educativa	Competencia profesional
	Muñoz M. y Martínez C.(2016)	Chile	Ingeniería Civil	Competencias generales y profesionales
	Jiménez, Martínez, Sánchez, Juárez y Paredes (2009)	España	Ingeniería Informática	Competencias generales y específicas
Progresiva y fin de carrera	Ampuero <i>et al.</i> (2017)	Chile	Ingeniería, Educación y Salud	Siete con enfoque de competencias, dos por objetivos, cinco por resultados de aprendizaje y competencias
	Leiva e Iglesias (2017)	Chile	Educación	Competencias genéricas, específicas disciplinares y profesionales específicas

Evaluación por egresados y empleadores	Maldonado y Vidal (2015)	Chile	Tecnología Médica	Competencias profesionales
	Olivos <i>et al.</i> (2015)	México	Educación	Competencias ocupacionales, humanas y de mercado
	Cevallos y Rosales (2019)	Ecuador	Educación	Competencias profesionales

Fuente: Elaboración propia

**Tabla 2.** Tendencias en la evaluación del logro del perfil de egreso

<b>Tendencia</b>	<b>Autor</b>	<b>País</b>	<b>Grado/Titulación</b>	<b>Tipo de competencia del perfil de egreso evaluada</b>
Evaluación al final de los estudios	Álvarez y De Prada (2018)	España	Administración y Dirección de Empresas y Turismo	Competencias genéricas
	Barrera (2009)	Chile	Pedagogía	Competencias generales y específicas
	López, Molina, Rebolledo y Suárez (2017)	Chile	Enfermería	Competencias profesionales y genéricas
	Jiménez, Machado, Caso y Arrayales (2019)	México	Actividad Física y del Deporte	Competencias profesionales y genéricas
	Flores y Barajas (2018)	México	Técnicos superiores universitarios en Procesos Industriales	Competencias generales y específicas
	Murillo y Trujillo (2010)	Colombia	Medicina	Competencias profesionales
	Izquierdo y Loarte (2014)	Ecuador	Ingeniería Comercial	Competencias generales y específicas
	Jiménez <i>et al.</i> (2019)	México	Ingeniería y ciencias físico matemáticas, ciencias médico biológicas y ciencias sociales y administrativas	Competencias transversales

	Pucuhuaranga, Hilario y Huamán (2019)	Perú	Educación	Competencias profesionales
	Muñoz <i>et al.</i> (2010)	Chile	Enfermería	Competencias profesionales

Fuente: Elaboración propia

Regarding university degrees, as can be identified in Tables 1 and 2, nine publications present results in education (31%), seven in health (24%), three in engineering (10%), two in administration, computer engineering , physical activity and sport, four in others. Likewise, they come from universities located in different countries: nine in Chile (43%), five in Mexico (24%), three in Spain (14%), and the other four in Ecuador, Peru and Colombia. Regarding the competence aspect of the graduation profile, in these experiences the general or transversal, specific or professional competences declared in the graduation profile of the respective degrees have been evaluated.

**Tabla 3.** Instrumentos, muestra y resultados de evaluación del logro del perfil de egreso

<b>Tendencias</b>	<b>Instrumentos</b>	<b>Muestra</b>	<b>Resultados resaltantes</b>
Coherencia entre planes de estudios e instrumentos de evaluación con el perfil de egreso	Entrevistas, grupos focales y análisis documental	Profesores que imparten la asignatura	En todos los casos hay algún nivel de correspondencia en cuanto a los ámbitos del desempeño, los verbos y las dimensiones que aborda la competencia o habilidad y los indicadores de evaluación.
	Cuestionario estructurado de 63 ítems	199 alumnos, 67 egresados y 53 profesores	Todos los grupos señalan la participación en clase, los informes o trabajos escritos y los ensayos a partir de textos escritos y material audiovisual como instrumentos de evaluación con altos o muy altos niveles de coherencia para el desarrollo de las competencias.
	Encuesta de cinco ítems	30 académicos (docentes)	91 % de las competencias del perfil del egresado se desarrollan con los estudiantes en las asignaturas correspondientes. Se utilizan metodologías educativas-evaluativas que contribuyen al logro de las competencias.
Progresiva	Observación, entrevista y encuesta	50 estudiantes y 10 profesores	La principal barrera para el logro del perfil de egreso es la docencia, ya que los alumnos dominan los contenidos pero no asumen una postura reflexiva respecto a su proceso de formación, a los logros obtenidos y sobre todo a su papel como transformador social.
	Escala tipo Likert para cada resultado de aprendizaje	62 % de estudiantes de primer año y 100 % de tercer año	En las habilidades personales y profesionales se observa una mejor percepción de los niveles de logro en el segundo hito evaluativo, sin embargo, en las habilidades interpersonales, en el segundo hito evaluativo, los estudiantes se perciben en mayor porcentaje en los niveles de logro tres y cuatro.



	Entrevista personal, examen teórico, informe técnico parcial y final de las prácticas	Profesores y estudiantes	Como resultado se da una calificación numérica de acuerdo a la legislación vigente además de un nivel de logro para cada una de las competencias generales y específicas, así como un nivel de logro de los bloques de competencias generales y de competencias específicas de la asignatura. Se presenta la Ficha de evaluación de competencias del estudiante en el Título de Grado
Progresiva y fin de carrera	Cuestionario	Jefes de carrera	En ingeniería: en dos carreras los estudiantes habían adquirido la capacidad de trabajo autónomo, trabajo en equipo y capacidad de emprender; entre el segundo y sexto semestre. En educación, evidencian un buen nivel de avance en el logro de competencias y que el trabajo de tutorías grupales o individuales refuerza el logro. En salud: han alcanzado un buen nivel de logro de competencias.
	Rúbricas analíticas y encuestas	Tutor, profesor mentor y evaluador externo	89% de los profesores en formación logran un desempeño competente-destacado y solo un 11% logra un desempeño básico-insatisfactorio. En las competencias 1 y 7 mayor grado de satisfacción en los egresados.
Evaluación por egresados y empleadores	Encuesta por correo, con una escala de respuesta de cero a siete.	31 egresados	En el dominio asistencial, 16 de los 25 indicadores han sido evaluados por sobre 75 % de los egresados en grado alto. En Administración, aparece como el más débil dentro de la formación: Reconocen deficiencias en herramientas de administración y gestión de laboratorio. En el dominio Educación, medianamente satisfactorios. En Investigación, los egresados manifiestan un logro alto de estas, en porcentajes superiores a 90 %.

	Entrevista abierta a egresados contratados	19 empleadores	Las zonas de oportunidad de institucionalización del saber se ubican en tres ejes: competencias profesionales, de formación humana y académicas. Como parte de los resultados, se identificó una necesidad de elevación del nivel de certificación de lengua, especialización de FOS (negocios y turismo), orientación a educación básica y media superior, relaciones públicas y comunicación y el manejo de <i>marketing</i> .
	Encuesta	13 graduados del 2010, 11 del 2011 y 12 del 2012	94.3 % de los graduados se encuentra empleados en su esfera de actuación; de ellos, 50 % laboran como entrenadores deportivos, 41.66 % como profesores y uno labora como árbitro deportivo. Hay una buena relación entre las competencias adquiridas y las requeridas.

Fuente: Elaboración propia

**Tabla 4.** Instrumentos, muestra y resultados de evaluación del logro del perfil de egreso en la tendencia evaluación al final de los estudios

Instrumentos	Muestra	Resultados
Encuesta elaborada por área empleo y emprendimiento	274 prácticas de alumnos de dos titulaciones, y 274 tutores de prácticas	La puntuación promedio de todas las competencias evaluadas es satisfactoria, pues en todos los casos es alta y superior a cuatro sobre cinco; hay que exceptuar de estos resultados a la creatividad, competencia que ha sido evaluada como la más baja. Las puntuaciones dadas por los tutores en las empresas para cualquiera de las competencias analizadas son siempre más elevadas que las calificadas por los alumnos.
Subprueba de Plan Común Universidad (PCU) y subprueba de Plan Común Educación (PCEDUC).	183 estudiantes de último semestre de nueve programas de pedagogía que se presentaron voluntariamente	53 % de estudiantes alcanza un nivel de logro en los planes comunes evaluados. Los estudiantes alcanzan un logro regularmente insuficiente en teología y ética, mientras que en desarrollo personal es menor. 48 % de estudiantes opina que fue satisfactorio y 18 % de estudiantes expresa su absoluta satisfacción.
Escala de apreciación de competencias	45 internos (enfermeros)	Alto porcentaje de los alumnos internos logran un desempeño efectivo. Las competencias generales lograron el mejor nivel, seguidas por la competencia asistencial
Prueba para egresados y cuestionario para el estudiante	193 participantes: 78 (40.41 %) egresados y 115	La mayor parte de los participantes (84.97 % insuficiente, 14.51 % suficiente) no alcanza a obtener un nivel de suficiencia bajo los estándares establecidos por la comunidad académica de la Facultad de Deportes. Los puntos de corte establecidos por la comunidad académica

	(59.58 %) estudiantes de octavo semestre	permitieron identificar que altas proporciones de estudiantes no están alcanzando los niveles esperados al terminar su formación.
Cuestionario considerando las tareas durante la estadía de prácticas	153 estudiantes: 23 (2015), 50 (2016) y 80 de la generación mayo-agosto 2017	Un gran porcentaje está completamente satisfecho o satisfecho de las competencias desarrolladas. Ninguno manifestó estar insatisfechos, sin embargo, reconocen el menor de los desempeños en la variable “Interpretar información técnica en un segundo idioma” y en la variable “Dificultad en asumir el rol de líder dentro de un grupo de trabajo”
Una encuesta con 63 competencias basada en el proyecto Tuning complementada con la de la Asociación Colombiana de Facultades de Medicina	99 participantes: 50.5 % médicos internos, 10.1 % a profesores asignados para el internado, 6.1 % a enfermeras y 33.3 % a estudiantes del noveno semestre	Con respecto a la relación entre el perfil profesional del egresado con las mejor y las peor evaluadas se encontró coincidencia en “Comunicar la naturaleza y severidad del padecimiento”, “Identificar los factores sociales” y “Aprender y actualizarse permanentemente” (mejor evaluadas); mientras que dentro de las peor evaluadas: “Identificar y orientar programas dirigidos a comunidades en relación con control de enfermedades transmitidas de origen hídrico, aéreo, contaminación alimentaria por vectores, “Identificar y orientar programas dirigidos a comunidades en relación con pesticidas, herbicidas y matamalezas” y “Trabajar en promoción y prevención con adolescentes”. Se encontró una tendencia preferente hacia las competencias del saber y en menor grado a las del saber hacer y el ser.

<p>Encuesta para egresados, empleadores, docentes. Formato de competencias didácticas para docentes. Encuesta para estudiantes</p>	<p>207 estudiantes del último nivel: 145 de la sede Quito y 62 de la sede Cuenca. Organización es sociales, empresariales y empleadores</p>	<p>A nivel formativo, las competencias genéricas alcanzadas representan 76.1 % del estándar. En promedio, las competencias formativas específicas logradas representan el 74.0 % del estándar: competencias formativas genéricas alcanzadas: 76.1 %; competencias formativas específicas alcanzadas: 74 %, y competencias de desempeño profesional alcanzadas: 71.7 %</p>
<p>Cuestionario en dos partes: información sociodemográfica y las categorías de análisis</p>	<p>1903 alumnos (946 mujeres y 957 hombres), de los cuales 1138 fueron de Ingeniería y ciencias físico matemáticas (ICFM), 238 de Ciencias médico biológicas (CMB) y 527 de Ciencias sociales y administrativas (CSA)</p>	<p>La competencia “Plan de vida y carrera de los estudiantes” está ligada a una actuación autónoma. Hay diferentes grados de desarrollo de la competencia “Trabajo en equipo y liderazgo”, más desarrollada en estudiantes de CSA y menos en los de ICFM. En relación con la conciencia y apertura al cambio, el estudio muestra que en la conducta y valoración de diferentes actividades prevalecen roles y estereotipos.</p>

<p>Rúbricas para evaluar: proyectos de investigación, informe de tesis, sesiones de aprendizaje, proyecto educativo institucional, y escala de actitudes pedagógicas e investigativas</p>	<p>76 estudiantes: 44 de educación inicial y 32 de educación primaria (promoción 2018),</p>	<p>Al aplicar el modelo de evaluación del perfil de egreso, los estudiantes de educación inicial y primaria, promoción 2018, egresan con un nivel aceptable y destacado en la competencia pedagógico-didáctica y de gestión, en tanto que, en las competencias investigativas, orientadora axiológica, promoción educativa, sociocultural y de especialidad alcanzan un nivel aceptable.</p>
<p>Rúbrica con 14 actividades de enfermería para evaluar la competencia asistencial</p>	<p>67 estudiantes en diferentes centros hospitalarios con pacientes reales.</p>	<p>41 % de los estudiantes tuvo un desempeño efectivo; 31 % desempeño excepcional, y 28 % requiere mejoramiento. El sistema de evaluación fue validado, la rúbrica facilitó la categorización del nivel de desempeño. Las actividades donde los estudiantes lograron el desempeño con porcentajes de 95 %, considerando el desempeño efectivo y el de excelencia, fueron “Utilizar principios de asepsia y antisepsia” y “Aplicación de precauciones estándar”. En las actividades, “Elaborar objetivos”, “Realizar registros” y “Realizar evaluación” hay un porcentaje mayor de alumnos que requiere mejoramiento.</p>

Fuente: Elaboración propia

## Discussion

The experiences of evaluation of the achievement of the graduation profile of the university degrees presented in the publications show great contributions and diversity of approaches. Although they were grouped into five trends, they have no defined limits between them because they are interrelated and complementary.

As a starting point, it is necessary to align or correspond the graduation profile with the study plan, teaching and evaluation procedures, as can be seen in Tables 1 and 3. Precisely, in the first trend, Ortiz et al. (2015) found 91% correspondence between the competences and contents of the study plan to acquire the competence of the graduate profile in the Dentistry degree. Likewise, they point out that all the subjects use educational-evaluative methodologies that contribute to the achievement of competences. The studies by Möller and Gómez (2014) and Arribas et al. (2016) conclude, for their part, that there is some level of correspondence regarding the areas of performance of competences with assessment skills and indicators; Assessment instruments such as class participation, reports or written works, and essays based on written texts and audiovisual material have high levels of coherence for the development of competences. These experiences present very important contributions: the use of interviews, questionnaires, and surveys as instruments for collecting information, applied to teachers, students, and graduates as reporting actors to assess and establish whether correspondence exists. From the technical curricular point of view, every subject of the study plan must contribute in some way to the advancement or achievement of the graduation profile. In other words, subject matter and final goal must be properly aligned. Likewise, the teaching-learning and evaluation strategies applied during the training should be. This constitutes a responsibility and an institutional challenge for universities and teachers.

The second trend corresponds to the evaluation of the achievement of the graduation profile progressively during the studies (Tables 1 and 3). Muñoz and Martínez (2016) evaluated students at the end of the first and third year (first and second milestone, the third is in the fifth year), using a Likert-type scale for each learning result declared in the general and specific competences. of the graduation profile: in personal and professional skills a better perception is observed in the second evaluation milestone. Although the use of a single instrument (the Likert-type scale) and a single actor may be debatable, the student, who expresses his or her self-perception, is a significant experience evaluating the progress of two

competencies in the graduation profile in the first years of training. In the same sense, Jiménez et al. (2009) evaluated the transversal and specific competences that are developed through the subject, the evaluation indicators (performances), milestones, actions and agents; They propose various instruments (personal interview, theoretical exam, partial and final technical report of practices) and an evaluation form that presents results in numbers and by levels of achievement of the general and specific competences, as well as the subject. Also Carrera et al. (2019), with an interpretive approach, they applied observation, interview and survey to collect the perceptions of teachers and students regarding the achievement of the graduation profile with eighth semester students. Among the results, it is noteworthy that of the eight competencies evaluated, there are several competencies valued as minor achievement and one as not achieved. As it can be seen, the contribution of these studies is in the use of various instruments, actors and, above all, that evaluate the progress of the achievement of competences of the graduation profile in first, third and fourth year students, that is, before that they finish their university studies.

Therefore, it is necessary to organize and apply the design of a subject evaluation system that includes not only its competences, but also the general and specific competencies set out in the graduation profile, so that its evaluation can be evidenced. progressive during training, since it is not so much about making a judgment at the end of the journey as following the progression of skills development (Cinda, 2017; Fernández, 2010). This is also a challenge for university degrees.

Another trend is the evaluation of the achievement of the graduation profile at the end of the studies in various university degrees (tables 2 and 4), where the greatest number of publications is grouped (11). Five articles describe the experiences in contexts of carrying out pre-professional practices in the company (Álvarez and De Prada, 2018; Flores and Barajas, 2018) and, in the case of health, in boarding schools (López et al., 2017; Muñoz et al., 2010; Murillo and Trujillo, 2010). The use of a variety of instruments and various informants, such as surveys of students and internship tutors, scales of appreciation for inmates, questionnaires for students and graduates, and even a rubric for nursing care competence in hospital centers, are part of its contributions. Along these lines, the work of Murillo and Trujillo (2010) stands out due to the variety of participants in the evaluation: internal doctors, teachers assigned to the boarding school, nurses and students of the eleventh semester, which allows data triangulation. Regarding the general and specific competences



evaluated in pre-professional practice, effective and satisfactory performance is reported in most of the students.

Five publications describe evaluation experiences in the last cycle or semester of studies: three in education (Barrera, 2009; Jiménez, Machado et al., 2019; Pucuhuaranga et al., 2019) and two in engineering (Izquierdo and Loarte, 2014; Jiménez et al., 2019). Among the instruments used are tests, surveys, questionnaires and rubrics, applied to final semester students, but also to graduates, and in one case, to employers. The results are varied. In most cases, there is between 50% and 70% satisfaction with the achievement of the general and specific competencies of the graduate profile; in few cases achievements of an acceptable and outstanding level are reported. Here highlights the work of Barrera (2009), who reports the evaluation of the common plan of university and education (general competencies) in nine pedagogy programs, with an achievement level of 53% of students. Likewise, the results analyzed by Pucuhuaranga et al. (2019) regarding the professional competences of education, since they found an acceptable and outstanding level in the pedagogical-didactic and management competences, and an acceptable level in the investigative, axiological guidance, educational promotion, sociocultural and specialty competences. And contrary to this, in Jiménez, Machado et al. (2019) 84.97% of the students do not reach a sufficient level "under the standards established by the academic community" (p. 136) upon completion of their training, which may be debatable because eighth semester students also participated.

As it can be seen in the results, there is always a group of students who do not achieve the satisfactory level, or even having achieved the competences foreseen in the graduation profile, there may be demands in the labor market that are not assumed in the curriculum, therefore that it is necessary to propose a leveling or incorporation strategy. These studies contribute with the diversity of instruments applied and from the participation of various agents, as recommended Cano (2008).

There are other experiences of progressive evaluation and at the end of university studies that integrate the two previous trends (tables 1 and 3). The study presented by Ampuero et al. (2017) constitutes a significant contribution. Through a questionnaire applied to the heads of programs of five professional careers in Chile (linked to education, health and engineering), these authors analyze the progressive evaluation of the achievement of the graduation profile in the itinerary from the second to the tenth semester. As part of the results, in engineering, in two majors the students had acquired the capacity for autonomous work,

teamwork and the ability to undertake; Between the second and sixth semester, in education, they show a good level of progress in the achievement of competences and in the work of group or individual tutorials, and in health they have reached a good level of achievement of competences, although in this they suggest the need of greater integration of theory and practice.

While in the experience presented by Leiva and Iglesias (2017) it was evaluated in achievement from three levels: key evaluations (subjects), integrated evaluations (in milestones) and evaluation of practices, with multiple evaluators: tutor, teacher, external mentor and evaluator, whose results were processed using the Seprad technology platform. In the end, 89% achieve a competent-outstanding performance and only 11% achieve a basic-unsatisfactory performance. The authors propose the need to implement a quality assurance system for the achievement of skills in vocational training from the entry profile to the exit profile. These studies have a transcendental contribution because the integration of the progressive evaluation and at the end of the university studies express the ideal form of a system of evaluation of the competences of the subjects and of the competences declared in the graduation profile, and better still, within a quality assurance system for vocational training.

The fifth trend in the evaluation of the achievement of the graduation profile is through consultation with graduates and employers (tables 1 and 3); it constitutes a necessary way to ensure external relevance and coherence. The work of Olivos et al. (2015), with an open interview to employers of different levels and educational modalities of French teaching, consulting on the strengths and weaknesses of the graduates hired; found three axes of competences to be developed in this program: professionals, human education and academics, and concludes that various demands and needs of French teachers are not incorporated in the graduation profile, which correspond to the new historical-social changes in the current context. Along these same lines, Maldonado and Vidal (2015) applied a survey by mail to 31 graduates of Medical Technology in four domains of professional competence. The results indicate a high degree of satisfaction in the care domain (75%) and in research (90%); in education, moderately satisfactory, and the weakest was in administration and laboratory management. Cevallos and Rosales (2019) applied a survey to graduates after three years of graduation. 94.3% of them are working in their sphere of action, there is a high level of employability and they conclude that there is good coherence between the skills

acquired and those required. Lastly, Álvarez and De Prada (2018) found high results in the competences evaluated, except for creativity, where they obtained the lowest scores in the Business Sciences and Tourism program. Therefore, this trend poses the challenge of external evaluation of the curriculum, and particularly of the graduate profile in light of social and labor demands, and always having the opinion of graduates and employers.

The evaluation of the graduate profile in professional careers is an institutional task and responsibility; it must be addressed and carried out in its various units, by the actors involved and at each of the moments or stages of the training, with mechanisms and standards that guarantee verifying the progress, achievements and difficulties that the students show about the required competences and committed in the graduation profile. This process must be understood and applied as a quality assurance system for the achievement of competences in vocational training from the entry to the exit profile, with a focus on continuous improvement, maintaining coherence with the social and labor demands of the context. in each degree and professional title.

The experiences presented in the five trends (tables 1, 2, 3 and 4) are consistent with the approaches of authentic assessment and competencies (Ahumada, 2005; Brown, 2015; Díaz, 2005; Tobón 2013; Tobón et al., 2010; Villarroel and Bruna, 2019); They make it possible to configure and propose the need to organize a system for evaluating the achievement of the graduation profile in tune with the evaluation of the competences of the subjects, during the training and at the end of the studies, complemented with the opinion and suggestions of the graduates and employers to make continuous improvement decisions. To achieve this purpose, proper correspondence between the study plan, the teaching-learning strategies and the evaluation of the subjects with the requirements of the graduation profile is vital, which must be guaranteed from the curricular design of the university degree.

However, the studies do not delve into the improvement actions implemented, such as the revision of the curricula or improvement of the training and evaluation strategies as a consequence of the analysis of the results obtained, because in most cases the level of achievement the graduation profile, especially at the end of university studies, is not optimal.

There is a need to deepen and broaden the study in the following aspects: a) carry out empirical studies about the evaluation of the achievement of the graduate profile in various university degrees by areas of professional training and in various international contexts; b) carry out validation studies of the instruments for evaluating the achievement of the graduation profile, with quantitative and qualitative approaches; c) systematize and evaluate the trends and contributions of studies at the undergraduate and postgraduate thesis level with respect to the evaluation of the graduation profile and its achievement, and d) carry out studies on the proposals and advances on the comprehensive and progressive management system of the evaluation of competences and the graduation profile in the degrees at the institutional level.

## Conclusions

The documentary meta-analysis of publications referring to the evaluation of the achievement of the graduation profile has allowed us to draw some conclusions.

There are experiences evaluating the achievement of the graduation profile in various degrees and universities with a wealth of contributions regarding the definition of the graduation profiles, the use of evaluation instruments applied during training and at the end of university studies, the participation of various actors, such as students, graduates, teachers and employers.

The experiences of the evaluation of the achievement of the graduation profile in various university degrees can be grouped into five trends: a) coherence between the study plan and the instruments for evaluating subjects with the achievement of the graduation profile; b) at the end of university studies; c) progressive during training; d) progressive and at the end of university studies, and e) evaluation by graduates and employers.

There is a need to implement a progressive, comprehensive and participatory system for evaluating the achievement of the graduation profile in university degrees, based on knowledge, experience and the challenges posed to the university.

To guarantee a successful and competent training of graduates, university degrees must address and overcome some challenges, including: a) ensuring internal alignment and coherence between the graduate profile and the study plan, b) ensuring and monitoring that strategies of teaching-learning, the criteria and assessment instruments of the subjects or

equivalents are aligned to the requirements of the graduation profile competences, c) ensure the progressive and participatory evaluation of the progress and achievement of the graduation profile competences during the training and d) organize a system for evaluating the achievement of the graduate profile within the system of evaluation of vocational training at the institutional level.

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