

Quality in e-learning: what should contain the definition?

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*Qualidade no e-learning: o que deve conter a definição?*

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*Calidad en el e-learning: ¿Qué debe contener la definición?*

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**Resumo:** Atualmente, existem muitas definições de qualidade na educação, mas poucas são específicas para o e-learning. As que existem são amplas, estão associados a diversos contextos, aos interesses de alguns autores, apresentarem-se incompletos ou com falta de rigor. Como consequência, a pesquisa nesta área é difícil quando se comparam estudos para obter conclusões, avançar com novas pesquisas ou entender com detalhe a definição. Nesse contexto, desenvolvemos uma investigação qualitativa, coletando dados empíricos de um conjunto de especialistas em e-learning, distribuídos por 17 países e complementamos com a bibliografia. Como resultado identificamos 4 áreas chave com 24 características que devem ser incluídas numa definição de qualidade para o e-learning. Elas podem ser úteis para universidades, gestores de e-learning, agências de qualidade e outros interessados que pretendam construir uma nova definição, ajustar as existentes ou implementar, melhorar e identificar a qualidade no e-learning.

**Palavras-chave:** *Características da qualidade. Definição de qualidade. E-learning. Qualidade no e-learning.*

**Abstract:** Today there are many definitions about quality in education, but few are specific to e-learning. Those it is broad, it is associated with different contexts, interests of some authors, incomplete and with lack of rigor. As a result, research in this area is difficult when comparing studies to get conclusions, advance new researches or understand the definition in detail. In this context, we developed a qualitative research, collecting empirical data from a set of e-learning experts of 17 countries and complementing it with the bibliography. As a result, we have identified 4 key areas with 24 characteristics that should be included in a definition of quality for e-learning. They can be useful for universities, e-learning managers, quality agencies and other stakeholders who want to build a new definition, adjust existing ones or implement, improve and identify quality in e-learning.

**Keywords:** Definition of quality. E-learning. Quality characteristics. Quality in e-learning.

**Resumen:** *Actualmente, existen muchas definiciones de calidad en la educación, pero pocas son específicas del e-learning. Los que existen son amplios, asociados con diferentes contextos, los intereses de algunos autores, incompletos o carecen de rigor. Como consecuencia, la investigación en esta área es difícil cuando se comparan estudios para sacar conclusiones, avanzar nuevas investigaciones o comprender la definición en detalle. En este contexto, desarrollamos una investigación cualitativa, recolectando datos empíricos de un conjunto de expertos en e-learning de 17 países y complementando con la bibliografía. Como resultado, hemos identificado 4 áreas clave con 24 características que deberían incluirse en una definición de calidad para el e-learning. Pueden ser útiles para universidades, gerentes de aprendizaje electrónico, agencias de calidad y otras partes interesadas que desean construir una nueva definición, ajustar las existentes o implementar, mejorar e identificar la calidad en el e-learning.*

**Palabras clave:** *Calidad en e-learning. Características de calidad. Definición de calidad. E-learning.*

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## INTRODUÇÃO

E-learning can facilitate access to courses, reduce the cost of education, and build more knowledgeable societies (GILBERT, MORTON e ROWLEY, 2007, p. 560–573). Many studies cite the advantages that technology offers e-learners. Many studies cite the advantages that technology offers e-learners (TARUS, GICHOYA e MUUMBO, 2015, p. 120-140). Others note that e-learning promotes student mobility (WACHTER, 2004, p. 265–273). Still others examine it as a network for educational content (TUUL, BANZRAGCH e SAIZMAA, 2016, p. 181-193) and collaborative learning (LYASHENKO e FROLOVA, 2014, p. 495–513), or praise its versatility in accommodating students online or offline (VAGARINHO, 2018, p. 269-287). Guri-Rosenblit (2005, p. 467–493) cites its attractiveness, which grows when it is connected to social tools (WARBURTON, 2009, p. 414–426). Alongside these benefits, the demand for and the growth of e-learning give universities an opportunity to gain competitive advantage, primarily by providing value to students, society, business, and government.

As yet, however, no previous research has defined what constitutes quality in e-learning. Studies have cited the merits of quality for stakeholder satisfaction (PONS, HILERA, et al., 2015, p. 477–488); for meeting the needs of business and society (LEIS YTE e WESTERHEIJDEN, 2013, p. 2-27); and for innovation, productivity, and economic growth (MILLÁN, CONGREGADO, et al., 2014, p. 612–632). Studies indicate the best route to quality is by meeting accrediting standards (HVORECKY, 2004, p. 1-3) (VAGARINHO, 2020, p. 13710-13734), opening an application process (DUGAROVA, KIMOVA e KALININA, 2015, p. 192-200), or appointing a capable director of e-learning (ALEXANDER, 2001, p. 240-248). These studies collectively imply that e-learning has characteristics differing from other types of instruction, but none of them defines quality in e-learning.

This research surveys 96 respondents on five continents and consolidates 24 characteristics they associate with quality e-learning. We do not construct a definition of quality, but our results advance understanding of what a definition might include. In doing so, they assist accrediting agencies in setting guidelines, help stakeholders construct or revise their understanding of quality e-learning, and aid directors of e-learning in identifying quality or its absence in their programs.

## 2 REFERENCE

Quality education prepares students to enter society and participate in the unfolding economy (GILBERT, MORTON e ROWLEY, 2007). Quality enhances universities' competitive advantage and reputations (ABIDIN, 2015, p. 185-192). It gives employers the confidence that their workforce is trained (LEEUWENKAMP, BRINKE e KESTERD, 2017, p. 94-116) and students the confidence in their ability to find jobs and earn a return on their investment in education (NABAHO, AGUTI e OONYU, 2017, p. 1-21). It reassures society that universities can support regional development (KETTUNEN, 2015, p. 56-65). The best way to achieve quality is through available standards and best practices. A list of agencies can be found in table 1, they are used across geographies to help universities implement their standards (most of these agencies were identified by us in previous work (VAGARINHO, 2020, p. 13710-13734).

Therefore, quality is a universal expectation among stakeholders in education (LYYTINEN, KOHTAMÄKI, et al., 2017, p. 35-49). Given its importance and stakeholders' expectations, the definitions of educational quality in the literature are disappointingly dispersed. For example, Belash et al. (2015, p. 344–358) define it as conformity of outcomes, processes, and environments to needs, objectives, requirements, norms, and standards. Moreover, the definitions of quality e-learning are nearly absent from the

literature. Inglis (2005, p. 1-13) identified quality processes; namely, adherence to standards, quality assurances, and continuous quality improvement. Santally (2016, p. 114-128), identified practices and de facto standards that improve the quality of e-learning. Martínez-Argüelles and Batalla-Busquets (2016, p. 1-16) surveyed students' perceptions of quality, and Amado-Salvatierra and Hilera (2015, p. 158-168) cite the quality-enhancing benefits of feedback from stakeholders. Vandenhouten et al. (2014, p. 1-14) argued that universities can achieve quality by affixing responsibilities and by requiring collaboration among human resource teams. Usoro and Abiagam (2009, p. 175-186) presented a nine-dimensional framework that influences quality in e-learning.

Paulsen (2009, p. 1-9) identified six indicators of quality e-learning and advocated dedicated departments of quality and regular internal and external audits to evaluate it. However, none of these works defines quality e-learning nor delineates its characteristics. In sum, the literature presents a consensus about quality e-learning, but it neither defines quality nor specifies its characteristics.

### 3 METHODOLOGICAL PROCEDURES

After reviewing the literature, we created an English language questionnaire (available in <https://forms.gle/1CqjWSpVaPzRueqX9>) with eight questions divided by two parts and distributed it electronically to prospective respondents. The survey contained closed-response (DRAAIJER, HARTOG e HOFSTEE, 2007, p. 1-29) (seven questions) and open-response questions (POWERS, 2010, p. 22-35) (one question).

The open-response question is necessary for elicit respondents' knowledge and experience (POWERS, 2010, p. 22-35), they provided broad data that allowed us to identify quality characteristics for e-learning. Answers to open-response question could be brief or lengthy (SMYTH, DILLMAN, et al., 2009, p. 325-337) and was inserted in part two of questionnaire.

Closed-response questions collected data about participants' nationality, roles, age, and type of universities in part one of questionnaire. In part two, we asked respondents if their universities were certified by an accrediting body, sought their opinions about the usefulness of quality in e-learning, and asked what they thought is the best way to achieve quality e-learning (for last two questions the respondents answered on a five-point Likert scale (AHMED, PATHMESWARAN e AOUAD, 2007, p. 115-135) (ASÚN, RDZ-NAVARRO e ALVARADO, 2016, p. 109-133).

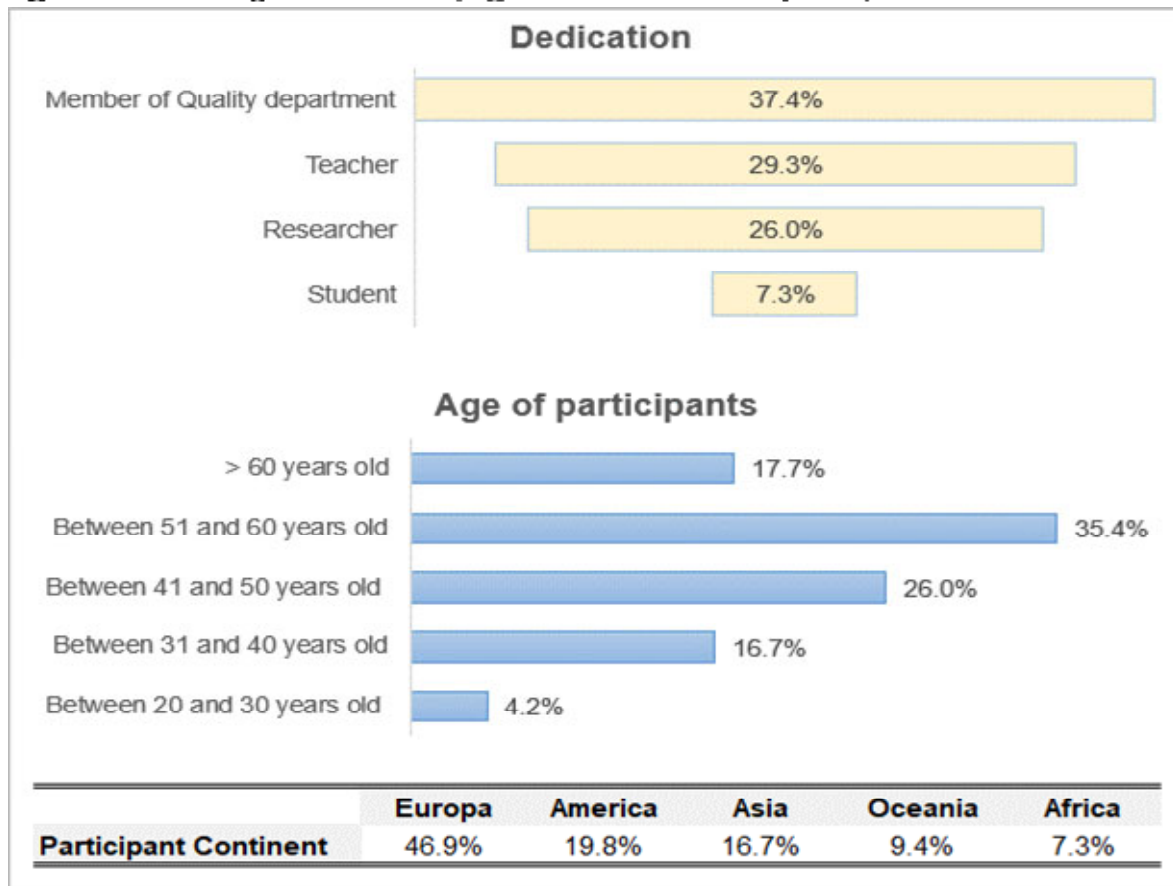
After the questionnaire design, we identified three conferences in 2017- one each in Europe, the US, and Asia—that addressed quality in distance education and invited their attendees to participate in this research. During the first half of 2018, 96 respondents from five continents completed our survey questionnaire.

We entered all the responses into an MS Excel worksheet. We applied simple statistical methods for closed-response questions. For open-response questions, we initially used open source code (WALKER e MYRICK, 2006, p. 547-559) and later axial code to synthesize.

### 4 RESULTS AND DISCUSSION

The Figure 1 shows the data about dedication, age and continent of participants.

**Figure 1 - Percentage of dedication, age and continent of all participants**

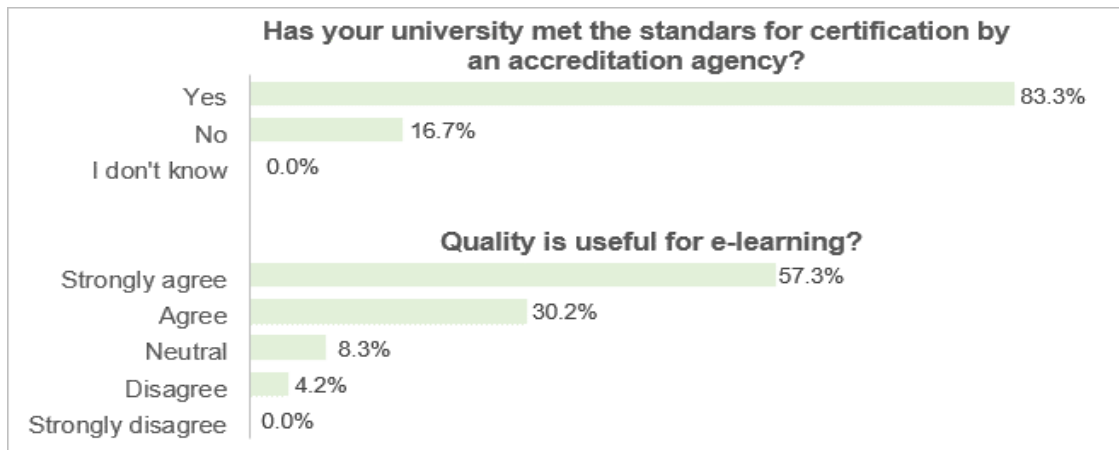


Source: Elaborated by the author (2019).

Among the respondents, 42.7% were associated with traditional universities that offered courses via e-learning, 18.8% associated with traditional universities that offered courses in b-learning, 16.7% associated with open universities, 6.3% associated with virtual universities, 15.6% associated with traditional universities offering on-site and b-learning courses, and 0% others.

The Figure 2 shows that 83.33% of respondents said their university has met quality certifications. The quality useful for e-learning question implicitly asked respondents to assess their experiences with quality and e-learning. This closed-ended question offered five answers. Most of respondents (87.50% = Strongly agree + Agree) answered in the affirmative (Figure2).

Figure 2 - Percentage of quality accreditation and quality useful



Source: Elaborated by the author (2019).

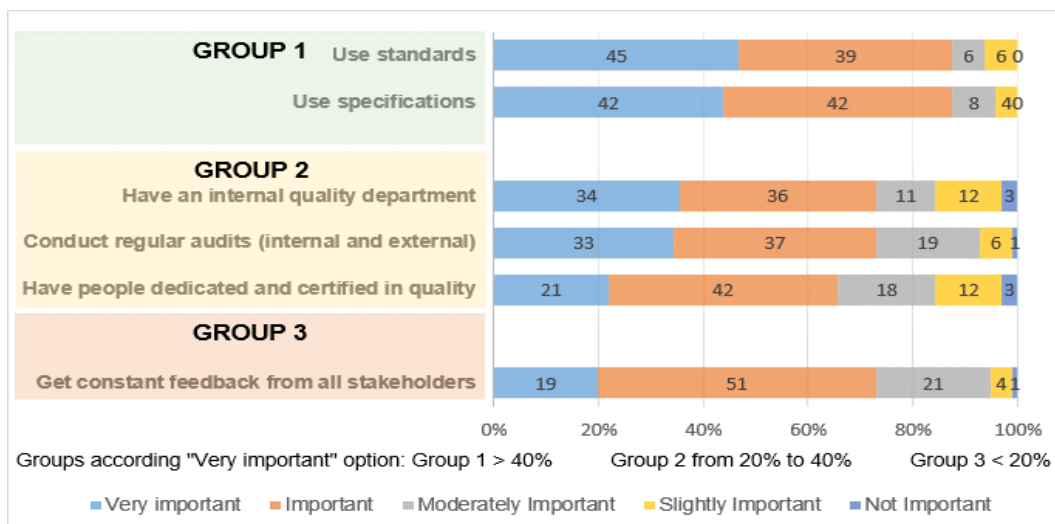
We presented participants a grid with six options for achieving quality: observe standards; meet specifications; establish an internal quality department; conduct regular audits; employ a dedicated HR quality department that implements, evaluates, and assures quality in the university; and obtain constant feedback from stakeholders. The respondents answered on a five-point Likert scale (HARTLEY, 2013, p. 83–86)(ASÚN, RDZ-NAVARRO e ALVARADO, 2016, p. 109–133).

In Figure 3 we can see the results in number of answers about the best way to achieve quality e-learning. According to the responses received, in particular, the "very important" option, we can establish three

groups. Group 1 are the options that get more than 40%, group 2 are those receiving from 20% to 40% and group 3 those receiving less than 20%.

The highest scores belong to group 1 are Use standards and Use specifications. The mean scores belong to group 2 are Have an internal quality department, Conduct regular audits and Have people dedicated and certified in quality. Group 3 has only one option in this category that is Get constant feedback from all stakeholders. For this reason, we can see that the definition of quality e-learning is most likely sought by respondents in group 1. This is preferably the support group for respondents.

Figure 3 - Best way to achieve quality e-learning



Source: Elaborated by the author (2019).

What Characteristics Enter the Definition of Quality?

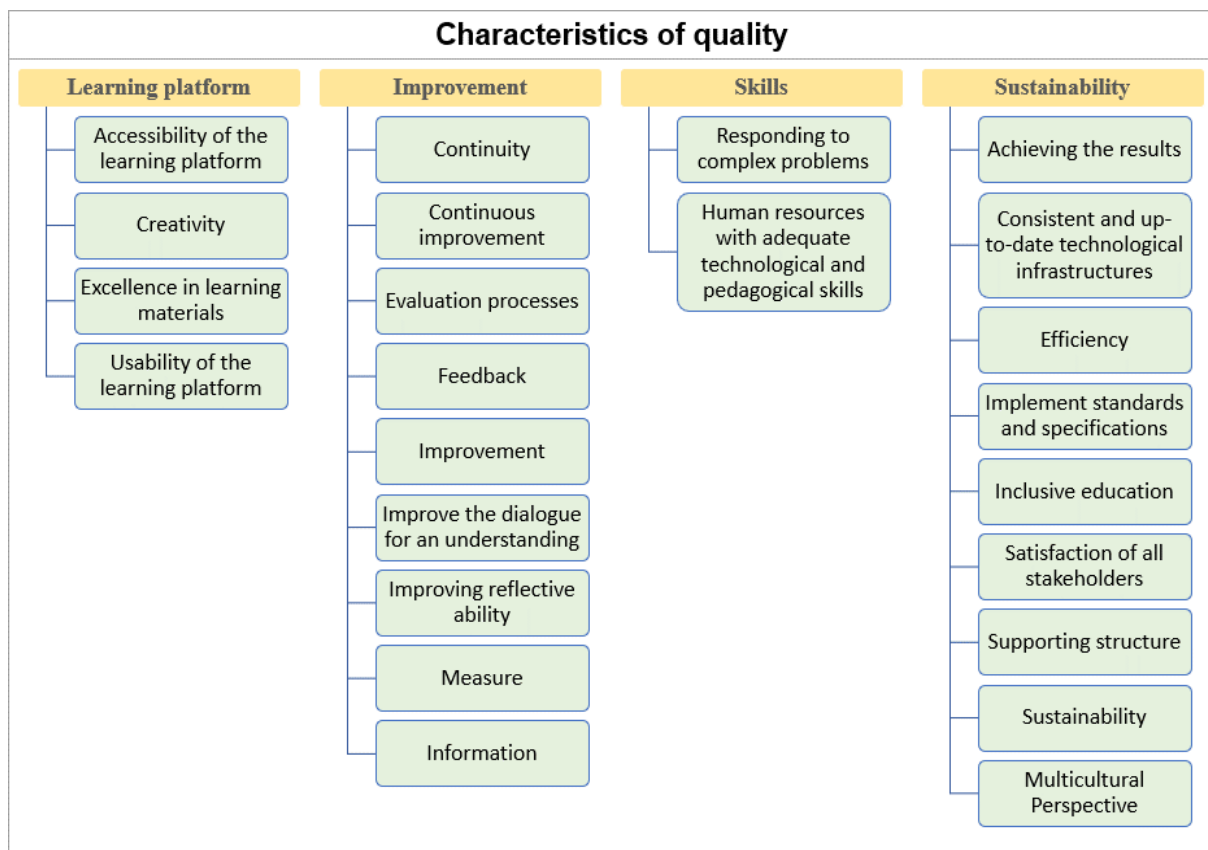
The final question required respondents to write the characteristics they associate with a definition of quality e-learning. We entered all open-response questions into an MS Excel worksheet (phase 1), later we grouped by themes and the characteristics appeared in the green rectangles (phase 2). The phase 3 was to join similarly themed rectangles in groups (yellow rectangles).

They identified 24 characteristics: accessibility of learning platform, achievement of results, improvement, continuity, creativity, efficiency, inclusive education, support structure, excellence of learning materials,

feedback, information, implementing standards and specifications, consistent and up-to-date technological infrastructure, measurements, improved reflective capacity, improved dialog, continuous improvement, multicultural perspective, evaluation processes, responding to complex problems, human resources with technological and pedagogical skills, satisfying all stakeholders, sustainability, and usability of the learning platform.

Figure 4 shows the results of the characteristics that are part of the quality definition for e-learning. Based on respondents' responses, we divided them into four groups, which are learning platform, improvement, skills, and sustainability.

Figure 4 - Characteristics of quality e-learning



Source: Elaborated by the author (2019).

After identifying the characteristics of quality e-learning, we categorized them as follows (Figure 4):

a) Learning platform

- Accessibility. All students should be able to access and use a learning system(AFT, 2000, p. 5-26)(MEC/SEED, 2007, p. 1-31). This includes navigating learning platforms(PARK, 2009, p.

150-162), accessing communication tools (SEALE e COOPER, 2010, p. 1107-1116), and understanding subject-matter content. Accessibility is attainable by meeting specifications prescribed by ISO/IEC 24751:2008 and IMS Access For All Meta-Data.

- Creativity. E-learning systems should stimulate cognitive abilities; namely, ability to make associations; combine categories of knowledge; entertain many ideas simultaneously (CROPLEY, 2000, p. 72-79); or to think of something new, valuable, or enriching (MALEY e BOLITHO, 2015, p. 434-436). Collaborative work stimulates creativity (AL-HAWARI e AL-HALABI, 2010, p. 8). Exercises with tools stimulate creative thinking (AL-ZAHRANI, 2015, p. 1133-1148), as do activities related to time-management skills (A. ZAMPETAKIS, BOURANTA e MOUSTAKIS, 2010, p. 23-32). Yeh and Lin (2015, p. 119-131) created a training program based on Knowledge Management to facilitate creativity in students.

- Excellence in learning materials. Content supports teaching and learning. Courses are presented in an approachable manner. The language level of materials is appropriate and accommodates difficulties of distance learning. Learning objectives are defined and study time estimated so students can adopt study plans. Digital materials are simple, clearly designed, and paginated. Instructional information is relevant and has an established life cycle, which is the duration in which a learning material is considered relevant. Pre-production tests identify errors (AFT, 2000, p. 5-26) (DEC, 2009, p. 19-39) (MEC/SEED, 2007, p. 1-31) (WELCH e REED, 2010, p. 3-21).

- Usable learning platform. The learning platform meets content-specific objectives, is easy to use, error free, efficient, attractively designed, motivating, interactive, collaborative, and cooperative. In addition, it is easy for students to send

feedback (DAVIDS, HARVEY, et al., 2015, p. 1051-1055) (ALTURKI, ALDRAIWEESH e KINSHUCK, 2016, p. 33-44).

b) Improvement

- Continuity. Continuity appears in stakeholder satisfaction. Quality management should detail procedures, follow written specifications, and document controls. Quality management requires devotion to continuous improvement, fact-based decisions, robust supplier relationships, and involvement of all stakeholders (MANSVELT, SUDDABY, et al., 2009, p. 233-249) (JUNG, 2011, p. 445-464) (PRIYOGI, SANTOSO, et al., 2017, p. 23-35). Standards create a culture of quality in university processes (ENDER S e F. W. E. STERHEIJDEN, 2014, p. 167-176) (PRISACARIU, 2015, p. 119-126). Butter et al. (2017, p. 266-292) proposed a recursive four-stage process of quality assurance: self-regulation, self-improvement, and accreditation obtained on the basis of three elements: theoretical, mathematical, and technological.

- Continuous improvement. Universities must continuously improve quality through specific programs and reviews of all practices, procedures, and mechanisms. These are to be based on comprehensive collection of information from all formal and informal sources (AFT, 2000, p. 5-26) (MQA, 2019, p. 4-26).

- Evaluation process. Internal and external evaluations must follow defined processes, methods, and procedures. Internal evaluations are conducted by the university's quality department. External evaluations are conducted by credentialing agencies. All should focus on what they intend to evaluate and report nonconformities (CHED, 2005, p. 1-19) (WCET, 2001, p. 1-16).

- Feedback. Universities should give students feedback about their progress and solicit their feedback about all aspects of an e-learning course. They should seek feedback from all stakeholders about curriculum quality,

instruction, learning assistance, technical support, and evaluations (DEC, 2009, p. 19-39)(MQA, 2019, p. 4-26)(JUAA, 2004, p. 1-13)(OAQ, 2007, p. 7-10)(ODLQC, 2005, p. 1-5).-

- Improvement. Improvement requires auditing all services with the objective of soliciting feedback and implementing a culture of quality(MAHAFZAH, 2012, p. 27-31)(SUNG, CHANG e YU, 2011, p. 1615-1627). For example, universities could implement continuous improvement for a specific e-course, in student support mechanisms, or for a learning platform. Information regarding continuous improvement is available in Marshall (2010, p. 143-166) and Chipere (2017, p. 36-55). Studies by Vilcea (2014, p. 148-152) and Barbulescu (2015, p. 1923-1927) discuss the culture of quality, and Eryilmaz et al.(2016, p. 60-69) and Bourke and Roper(2017, p. 1505-1518) discuss quality management.

- Improve dialog. Dialog establishes relationships, creates insights into appropriate options, and builds understanding of change. Dialog among all stakeholders assures quality processes (EFQM, 2013, p. 10-20).

- Improving reflective ability. Reflection aided by current information generates knowledge. By sharing competencies stakeholders stimulate knowledge and theories applicable to teaching and society. Space for reflection is necessary for awareness and clarification of ideas (BALDRIGE, 2011, p. 27-57)(LOHR, 2015, p. 1-20).

- Measurement. Quality e-learning entails measuring students' results, teachers' performance, complaints, and feedback from all parties. It includes measuring companies' assessments of courses, involvement by university employees in continuous improvement, and costs of instruction versus benefits to stakeholders (AQA, 2013, p. 3-12)(MEC/SEED, 2007, p. 1-31)(DEC, 2009, p. 19-39)(MQA, 2019, p. 4-26)(JUAA, 2004, p. 1-13)(WCET, 2001, p. 1-16).

- Information. All information transmitted must be clear, transparent, and presented efficiently. Given that the three components

must be mandatory in the content of the information, it is divided into several areas and its content can be in the scope of (a) admissions and transfers; (b) quality audits to be carried out at the university; (c) assessments to students or results of evaluations of audits carried out; (d) a course manual, comprising course description, course purpose, target audience, requirements, the means necessary for its technical requirements, estimated dedication time, expected difficulties, degree of knowledge of the English language, objectives, timetable and schedules, deadlines for students to complete the course, costs for the course, the nature of the course, the general organization of the course, the expectations, the performance, the evaluation method, the characteristics of the e-learning, the expected learning outcomes, the student satisfaction index in previous years, the students' duties, teaching/learning strategies, agreements with trainees and/or employers, applicable standards, the degree of the course, and the types of learning resources available; (e) the organizational structure of the course ("Who is who"); and (f) the calendar of events applied to each course (conferences, workshops, seminars and lectures)(AFT, 2000, p. 5-26)(AQA, 2013, p. 3-12)(CHED, 2005, p. 1-19)(DEC, 2009, p. 19-39)(MQA, 2019, p. 4-26)(ODLQC, 2005, p. 1-5)(TEQSA, 2015, p. 2-27).

#### c) Skills

- Responding to complex problems. E-learning should prepare students to solve complex problems and develop competences in extra-curricular contexts. Students should be stimulated to address difficult and unexpected problems with determination, effectiveness, and efficiency. Periodic discussions, cooperation, and collaboration should be encouraged to overcome these problems(ASAPH e RAJA, 2016, p. 7-10)(MUNOZ-ORGANERO, RAMIREZ, et al., 2010, p. 542-546).



- Qualified personnel. Universities need competent and trained collaborators able to plan, manage, and evaluate courses across disciplines. All employees must have experience, competence, and training appropriate to their jobs. For example, teachers should have the knowledge to teach the course, the various technologies involved in the course, the methodology of EaD, and also research capacity. Administrative staff must be qualified to support courses and perform administrative tasks. All employees should know their objectives and roles, the sense of cooperation and collaboration, and be a part of the school project and have planning capacity. The renumbering of teachers, tutors, and coordinators is essential, in that it takes time to create and develop the entire teaching/learning process. The university's training department should survey needs and create plans to meet them (AQA, 2013, p. 3-12)(DEC, 2009, p. 19-39)(JUAA, 2004, p. 1-13)(MEC/SEED, 2007, p. 1-31)(MQA, 2019, p. 4-26)(OAQ, 2007, p. 7-10)(TEQSA, 2015, p. 2-27).
- d) Sustainability
  - Achieving results. Rigorous evaluations confirm whether results are achieved (ODLQC, 2005, p. 1-5). One method of evaluation is to examine quality indicators (DEC, 2009, p. 19-39) published by credentialing agencies BUTTER, AGUILERA, et al., 2017, p. 266-292. These indicators incorporate metrics for financial performance(DEC, 2009, p. 19-39), customer satisfaction(CHED, 2005, p. 1-19), social indicators(MEC/SEED, 2007, p. 1-31), employee satisfaction(JUAA, 2004, p. 1-13), management processes(OAQ, 2007, p. 7-10), and pedagogical indicators(IMS, 2013, p. 2-6).
  - Reliable and current technological infrastructure. Technological infrastructure must be modern, functional, and appropriate for management, staff, and faculty. Tech infrastructure includes managerial, scientific, and support software ERP, digital libraries, tickets, and software for information repositories (DEC, 2009, p. 19-39)(JUAA, 2004, p. 1-13)(OAQ, 2007, p. 7-10).
  - Efficiency. Efficiency is the ability to achieve goals by optimizing resources. Again, monitoring and internal audits are essential (AQA, 2013, p. 3-12).
  - Inclusivity. All students, including those with special educational needs, should have equal opportunity to learn and integrate into society. The entire e-learning system must prepare to serve them(AMADO-SALVATIERRA e HILERA, 2015, p. 158-168)(NACHEVA-SKOPALIK e GREEN, 2016, p. 21-34).
  - Implement standards and specifications. The best way to assure and maintain quality e-learning is to consult standards (HVORECKY, 2004, p. 1-3). The standards allow the measurement of the state of quality based on defined criteria (JUNG, WONG, et al., 2011, p. 63-83). With so many standards available, directors of e-learning should consult their country's accrediting agencies or regional websites in Europe (EADTU, ENQA), Asia and Oceania (AAOU, APQN), the Americas (ECAC, CHEA, CADE), and Africa (AADLC). Table 1 lists national and regional entities that can provide information about quality e-learning.
  - Satisfaction of all stakeholders. It is vital that universities understand and meet the needs of the labor market, society, students, and government in course offerings, curricular content, and projects. A strategy that goes through the implementation of a university certification promotes continuous improvement of the internal education system with the participation of stakeholders and will lead to recognition. Criteria can be defined to measure and achieve stakeholder satisfaction—for example, satisfaction with the university, with university work, communication, and relationships among stakeholders (CHIPERE, 2017, p. 36-55)(SHEE e WANG, 2008, p. 894-905).
  - Support structure. E-learning programs should supporting students with admissions and transfers, academic counseling, operations, and technology (JUAA, 2004, p. 1-13)(WCET, 2001, p. 1-16).

- Sustainability. Sustainability entails meeting current needs without exhausting resources for the future. Doing so requires long-term planning. Sustainability entails following standards for efficient management and adopting performance-oriented methods (ŠKRINJAR, ŠTEMBERGER e HERNAUS, 2008, p. 738-754). It results from optimizing the entire organization (PARRISH e LINDER-VANBERSCHOT, 2010, p. 1-19), responding quickly to customers, and improving results for students and society (MARJANO VIC, 2005, p. 66-82). Sustainability requires adapting services to customer demands and thereby reducing costs (MEIDAN, GARCÍA-GARCÍA, et al., 2017, p. 71–86). Adjusting policies to intended effects is advisable. For example, research should link the university to business (AQA, 2013, p. 3-12) to attract financial support (MQA, 2019, p. 4-26).
- Multicultural perspective. E-learning programs should provide all students equal educational opportunity through policies and curricula that emphasize equality, tolerance, collaboration, and respect among cultures (NETO, SMITH e PEDERSEN, 2014, p. 1060-1068).

Table 1 - Agencies Offering Information and standards about Quality in E-learning

Continent	Name	Designation
AFRICA	ADLA	African Distance Learning Association
	DEATA	Distance Education Association of Tanzania
	GHADEA	Ghanaian Distance Education Association
	NADEOSA	National Association of DE Organizations of South Africa
	ODEAMA	Open and Distance Education Association of Malawi
	PIRADE	Pacific Islands Regional Association for Distance Education
	Saide	South African Institute for Distance Education
AMERICA	ADEC	Distance Learning Consortium
	AFT	American Federation of Teachers
	ABED	Brazilian Distance Education Association
	CADE	Canadian Association for Distance Education
	CEAC	The Latin American Distance Learning Association
	CHED	Commission on Higher Education
	CeLEA	Canadian e-Learning Enterprise Alliance
	C-RAC	Council of Regional Accrediting Commissions
	DEC / IGNOU	Distance Education Council
	IHEP	The Institute for Higher Education Policy
	MEC/SEED <sup>2</sup>	Ministério da Educação/Secretaria de Educação à Distância
ASIA	AAOU	Asian Association of Open Universities
	IDEA	Indian Distance Education Association
	JUAA	Japan University Accreditation Association
	MQA	Malaysian Qualifications Agency
EUROPE	AQA	Academic Quality Agency
	BAOL	British Association for Open Learning
	EFODL	European Federation for Open and Distance Learning
	FIED	Federation Interuniversitaire de l' Enseignement à Distance
	NADE	Norwegian Association for Distance Education
OCEANIA	ODLQC	Open and Distance Learning Quality Council
	QAA	Quality Assurance Agency for Higher Education
	ACODE	<del>Australasian Council on Open, Distance, and E-learning</del>
	DEANZ	The Distance Education Association of New Zealand
	ODLAA	Open Distance Learning Association of Australia
TEQSA	Tertiary Education Quality and Standards Agency	

Source: Elaborated by the author (2019).

## 5 FINAL CONSIDERATIONS

This research surveyed respondents from five continents to investigate a specific part of quality in e-learning. Only 83.33% of the respondents' universities were accredited by some agency. Work remains to assure quality e-learning. The respondents acknowledge as much 87.50% affirm that quality is useful in e-learning. They would rather seek quality through standards and specifications. Greater dynamism by quality agencies and governments, which set e-learning standards, could better clarify their benefits and encourage their adoption.

Meeting the standards required for accreditation improves a university's internal processes, its recognition, and its service to all stakeholders. To do so, the agencies which are responsible for e-learning need a generalized definition of quality that is the same throughout the literature. Most of the standards analyzed by us in a previous work show that the definition does not exist, or the definition does not contain all the characteristics found in this work (VAGARINHO, 2020, p. 13710-13734) and the literature consulted by us has not yet been provided to them on that definition, but this research has enhanced their understanding of quality by compiling 24 characteristics from respondents' answers. Our collation of characteristics aids researchers or accrediting agencies to building or rebuilding a rigorous and objective definition of quality e-learning in the future, and helps universities to identify weaknesses in quality culture system.

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