Erasmus+ Project

Developing Professional Qualifications and Training

for European Behaviour Analysts (EuroBA)

http://euroba.org/

Intellectual Output 5: EuroBA-Master's level qualifications

2023

EuroBA project partners.

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Project summary

This project is the result of cooperation between international partners from the United Kingdom, Czech Republic, Netherlands, Ireland, Greece, Sweden, and Italy. The project benefitted from a Professional Advisory Group (PAG) that included a further 16 European countries to ensure that the standards and competences developed in the project are acceptable to as many European countries as possible.

The overall objectives of the project were to facilitate transparency and recognition of qualifications for behaviour analysts in Europe. The profession of behaviour analyst started in the early 1970s in North America (Carr, 2011; Hughes & Shook, 2007). However, it is not formally recognised in the European Union (EU). For behaviour analysts to be able to practice within the EU with the same expectations surrounding knowledge, skills, and autonomy and responsibilities, it is necessary to create a clear range of competences for the profession.

The project has 6 Intellectual Outputs (IO). IO1 covers professional standards referenced to European Qualifications Framework (EQF). IO2 outlines the development of the behaviour analyst qualification in the context of the six partner National Qualifications Frameworks (NQF). IO3 provides a detailed glossary of terms in partner languages. IO4 outlines a competency framework for entry-level EuroBA-Technicians (EuroBA-T). IO5 is a competency framework for Master's-level EuroBA (EuroBA-M). IO6 is an online entry-level multimedia course in six partner languages.

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The purpose of this document **European Behaviour Analyst-Master's level (EuroBA-M)** is three-fold[1]. First, it provides brief background information concerning the establishment and development of the field of behaviour analysis, serving to explain the need for professional recognition for behaviour analysts in Europe. Second, it provides a guide for course developers at Higher Education Institutions (HEI) in Europe and further afield. Finally, the document defines basic, essential qualifications in terms of knowledge, skills, and responsibilities and autonomy to be utilised when developing courses in order to facilitate mobility and professional recognition in different countries.

The need for professional recognition of behaviour analysts

The aim of Applied Behaviour Analysis (ABA) is to employ the principles derived from the science of behaviour analysis to facilitate well-being and quality of life for individuals. It does this by addressing socially important behaviours in a variety of contexts, including environmental sustainability, workplace safety, drug abuse, education, sports, dementia care, social justice, and health and wellness (Heward et al., 2022). One area in which the field has made particularly significant contributions in both research and practice is in developing and evaluating supports and interventions involving persons on the autism spectrum (BACB, 2018a).

The roots of the science and practice of behaviour analysis are well over 100 years old (Skinner, 1953) and have their basis in both the psychology of learning and pragmatism (see Heward, et al, 2022). In the 1960's, the civil rights and disability rights movements in the USA and other countries generated an impetus on the closing of institutions for persons classified as being "mentally and physically disabled" (Governors Council on Developmental Disabilities, 2022). In 1968, Baer, Wolf and Risley defined what would become the "first formal definition of applied behavior analysis" (Heward et al., 2022, p.328) highlighting the importance of addressing socially significant behaviours in natural environments, thereby combining the natural science paradigm with humanism. Clinical applications of the scientific discoveries in behaviour analysis led to remarkable improvements in the lives of these persons, teaching them independent living skills that led to participation in community activities, obtaining work, and more generally, increasing their quality of life (Green, 2019; Johnston, 2018; Larsson, 2013), which led to a flourishing field of ABA-based practice. The rapidly growing need for professionals trained in the science and application of behaviour analysis meant that large numbers of professionals had to be trained quickly; however, this did not come without a cost (Garner et al., 2022). One of the challenges with the increased demand for ABA-based services was the short supply of well-trained staff (Fennell & Dillenburger, 2018). Consequently, persons with inadequate and very little training in ABA

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[1] In order to understand this document in the context of the European Qualification Framework (EQF, 2008), it should be used in conjunction with IO1: *Standardisation of EuroBA Competences referenced to EQF*.

who were lacking knowledge, skills, experience, and competence in the science and who were not bound by well-defined professional ethical obligations, obtained employment in private practices as well as state institutions. Not surprisingly, poorly implemented behavioural procedures led to accusations of unprofessional conduct which was justifiably criticized (Leaf el al., 2022). If not thoroughly addressed, there was a potential risk of jeopardising the application of the entire science of behaviour analysis (Keenan & Dillenburger, 2020; Leaf et al., 2021; Morris, 2009) at huge cost to those who most needed support (National Council for Severe Autism, 2022; Skolnik, 2022).

Over time, the need for professional regulation became clear. As a first step in the process of securing professional regulation, a statewide Task Force was set up (initially in Florida, USA) that set out content specific coursework criteria for three levels of certification for practitioners (at Bachelor, Master's, and Doctoral levels) and specified a clear code of ethics for these professionals (Hughes & Shook, 2007). In 1998, the Behavior Analyst Certification Board (BACB, 2018b) was established in the USA to complement state regulations, promoting quality assurance, and the mobility of behaviour analysts between States. BACB certification (i.e., Board Certified Behavior Analyst; BCBA) was based on completing a specified number of coursework hours, supervised practice, and a detailed exam. . Requirements for certification are reviewed periodically via consultation with subject matter experts in the field. Currently in 2023, the BCBA Task list is in its 5th Edition. The coursework is delivered by those with appropriate academic backgrounds. Requirements for certification are reviewed periodically via consultation with subject matter experts in the field. Currently in 2023, the BCBA Task list is in its 5th Edition. The coursework is delivered by those with appropriate academic backgrounds. Certification eligibility requires not only formal university-based behaviour analytic coursework but also a specified number of hours of practice that are supervised by a qualified behaviour analyst. Maintaining certification requires evidence of the accumulation of continuing education units/credits (CEU), including a specified number of CEUs in ethics and supervision. By 2022, there were 517 universities throughout the USA that offered Master's level course sequences that met Association for Behavior Analysis-International (ABAI) standards (ABAI, 2022). While certification is recognised across the USA, more than half of states within the USA have introduced licensure for behaviour analysts (LBA).

Development of behaviour analysis within Europe

In comparison to the USA, the understanding and recognition of the science and practice of behaviour analysis across Europe and the rest of the world has spread much more slowly. In broad terms, and probably due at least in part to the lack of language barriers, the interest of behaviour analysis spread from the USA in the 1960's -1970s, initially to the UK (Arntzen &

Pellon, 2021; Keenan et al., 2014; Kelly et al., 2018). Since the 1990's, there has been an unprecedented growth and demand for behaviour analytic interventions primarily through parental advocacy (Yell & Drasgow, 2000; Keenan, Kerr, & Dillenburger, 2000; Kingsdorf & Pancocha, 2023) supported by professionals and academics who are aware of the extensive evidence base demonstrating unique developmental, learning, and participatory milestones noted among autistic children who had received behaviour analytic early interventions compared to those who received traditional special education (Eikeseth, et al 2007; Eikeseth, et al., 2012; Eldevik et al., 2012; Eldevik et al., 2020; Howlin et al., 2004, 2014). This led to the demand for ABA services and the development of university courses aligned with BACB criteria concerning content, competence of instructors, and ethical guidelines (Hughes & Shook, 2007).

The first European ABA course sequence was set up in 2001 by a co-operative of UK and Irish behaviour analysts (Hughes & Shook, 2007). The first University-based Master's level course sequence meeting BACB criteria was approved in 2003 at Bangor University in Wales. By 2007, there were 16 institutes of higher education in 11 countries with approved Master's level course sequences and by 2018, 34 were approved in 19 countries across Europe (Martin & Carr, 2020). As of 2022, there are 58 institutes of higher education in 16 countries within the European area that have Master's level course sequences verified by the Association for Behavior Analysis International (ABAI), with some countries having doctoral programs specifically focused on behaviour analysis. These developments clearly demonstrate the need for professional recognition and regulation of behaviour analysis as a profession in its own right (Brodhead et al., 2018) within Europe and the European Higher Education Area.

Ongoing developments in behaviour analysis

There are a number of professional and academic organisations that promote behaviour analysis within Europe. Apart from national organisations, there are two main pan-European organisations. The Experimental Analysis of Behaviour Group (EABG) was founded 1963 in the UK. This group arranges high-quality conferences taking place in London every other year organised through Bangor University, attracting European and international attendees. The European Association for Behaviour Analysis (EABA) was formally established in 2001 and arranges behaviour analytic conferences every other year; most recently, the 10th EABA conference took place in Tampere, Finland, in 2022. In 2021, there were 20 organizations or groups for behaviour analysis in Europe (Arntzen & Pellon, 2021). The subscription of the *European Journal of Behavior Analysis* (EJOBA), a Francis & Taylor peer-review journal, is included in EABA membership.

As with other sciences, behaviour analysis develops and evolves constantly as a result of accumulating research as well as changing societal and cultural paradigms. For example, pandemics, migration, war, and a significant displacement of many individuals around the

world have required a continued emphasis on compassionate care and the values of diversity, equity and inclusion (Dillenburger et al., 2008; Heward, et al., 2022).

International demand for behaviour analytic knowledge and competence requires Higher Education Institutes to maintain not only high academic standards but also keep abreast of the needs of the populations their graduates are going to serve. This requires that behaviour analytic competences and qualifications are of the highest standard and transferable across Europe and further afield. This can only be achieved via the country-specific authorised national procedures that differ in each country,

Once a country has officially recognised a profession, mutual mobility agreements can be negotiated between countries as is the case, for example, across the European Union for psychologists, a range of medical professionals, pharmacists, veterinary surgeons and architects. The recognition of professional qualifications laid down in Directive 2005/36/EC enables the free movement of these professionals within the EU (European Commission, 2022). The long-term goal of this Erasmus+ funded project is that the harmonised minimum training requirements consisting of EQF based learning goals described in terms of knowledge, skills and competencies presented in this document, will enable behaviour analysts to be added to this list of recognised professional qualifications across Europe.

Guiding principles and alignment of EuroBA-M

The competences were developed in collaboration with the project team and the Professional Advisory Group (PAG) (Keenan et al., 2022). In total, representative behaviour analysts from 21 countries reviewed these competences as constituting the basic requirements for Master's-level behaviour analysts. We estimate that EuroBA-M equates to Level 7 of the European Qualification Framework (EQF) (for details see IO1; cf., Bohlinger, 2019; Bouder, 2008; Elken, 2015).

The terminology used in the EQF (2008) to describe the requirements for students to achieve certain levels of qualifications has engendered debates and modifications (EQF, 2018), especially around the terms of learning outcomes, competences, knowledge, skills, and responsibility and autonomy. In the context of the IO5, the term "competence" is used to describe general areas of knowledge, skills, and responsibilities autonomy that the student should be competent in, both professionally and personally, after completion of a course aimed at EuroBA-Master's Level training.

The learning outcomes outlined in this document allow course developers to adapt their courses to their local, structural, and cultural diversity. Course developers can use the competence descriptors (Table 1) as guides to develop specific learning outcomes that

indicate how they intend to ensure that their students meet the competences outlined in the table.

The EuroBA-M competences were framed in language to match terms used in the EQF. As such, some of the terms used in Table 1 stem directly from the EQF (2008). Behaviour analytic definitions are provided in the table and in the Glossary (see IO3).

The competence profile for EuroBA-M covers behaviour-analytic knowledge and skills, client-centered competences and responsibilities, which include skills such as ensuring social validity, cultural sensitivity and, when appropriate, cultural adaptations (see Lee et al., 2022). The importance of knowledge-based competences covering concepts and principles understood by professional and ethically competent behaviour analysts cannot be overstated (see Leaf et al., 2021). These areas are targeted to ensure that behaviour analysts are clear about their scope of practice and to build their personal scope of competence, and as such, be able to contribute to the overall objectives of the United Nations Convention for Persons with Disabilities (UNCRPD, 2006) and related European and international disability rights action plans (EQF, 2008).

The competence profile for EuroBA-M lays the foundation for Higher Education Institutions to develop Master's courses in behaviour analysis across Europe (Roll-Pettersson et al., 2010, 2020a, 2020b). These courses should be aligned to local National Qualifications Frameworks and the EQF. They will target students with various professional backgrounds, including psychologists, speech and language therapists, and special educators, to become qualified as behaviour analysts.

Guide for EuroBA-M course developers at Higher Education Institutions

The courses that are developed on the basis of the EuroBA-M competences will be delivered through higher education institutions. These courses should sufficiently prepare students for pursuing a subsequent practitioner or academic career in behaviour analysis. The competences are to be achieved through theoretical training, supervised practice and assessed using a variety of assessment formats, e.g., case studies, reports, written exams (essay questions and/or MC), oral presentations, and thesis. Course developers, leaders, and teachers of courses developed according to EuroBA-M competences should be qualified behaviour analysts themselves, trained in ABA to Master's or Doctoral level.

It is important to note that the EuroBA-M competences listed in Table 1do not represent a stand-alone professional certification, credentialing, or accreditation. They provide core content guidelines for postgraduate training programmes in behaviour analysis in the European context, and this includes language germane to the EQF.

The knowledge, skills, and responsibility and autonomy provide a basis for the recognition of the profession of "Behaviour Analysts" within Europe, thereby promoting mobility between countries, consumer protection, and basic pre-requisite for ethical and professional conduct among practitioners and researchers.

Table 1. EuroBA-Master's Level Competences

KNOWLEDGE
Knowledge is defined as being able to engage in critical reasoning, on the basis of comprehensive understanding of facts, principles, and theories.
General background
1. Discriminate between science, pseudoscience, and anti-science; evidence-based interventions and those not supported by empirical evidence.
2. Explain and apply cultural responsiveness in relationship to diversity, equity, and inclusion as it relates to the provision of behaviour analytic services.
3. Explain and apply clinical sensitivity in relation to people who have experienced trauma and how these factors might impact the provision of behaviour analytic services.
4. Explain and apply social validity: socially significant goals, socially acceptable procedures and socially important outcomes of behavioural interventions.
5. Identify applicable legal and regulatory requirements for confidentiality, including data management and documentation.
6 Identify applicable educational, health, employment, and service users' rights laws that pertain to behavioural services.
Behaviour analysis and philosophical foundations
7. Explain the history and philosophical underpinnings of behaviour analysis (e.g., mentalism; prediction and control; methodological and radical behaviourism; selectionism; determinism; empiricism; parsimony; pragmatism; contextualism).
8. Explain the scientific foundations of the experimental analysis of behaviour.
9. Identify the seven dimensions of applied behaviour analysis.
Behaviour analytic concepts and principles
10. Identify, explain, and discriminate between:
a.   Response and response class
b.   Stimulus and stimulus class
c.   Respondent conditioning
d.   Operant conditioning
e.   Stimulus control
f.   Positive and negative reinforcement
g.   Schedules of reinforcement
h.   Shaping
i.   Matching law
j.   Positive and negative punishment
k.   Unconditioned, conditioned, and generalised reinforcers and punishers
l.   Extinction
m.   Motivating operations and setting events
n.   Generalisation and maintenance
o.   Behavioural cusps and pivotal behaviours
p.   Behaviour momentum

q.		Rule-governed and contingency-shaped behaviour
r.		Verbal operants
s.		Derived stimulus relations

11. Ethical and professional responsibilities relevant to behaviour analytic practice.

a.	With a basis in client dignity and well-being, explain the complexity of ethical dilemmas and decision making.
b.	Critically reflect on professional, including ethical, issues.
c.	Plan, implement, and systematically evaluate ethical actions.
d.	Monitor and evaluate intervention outcomes.
e.	Apply the professional and ethical code of practice for behaviour analysts.

12. Conduct staff training and supervision within a behaviour-analytic framework.

Experimental design

13. Knowledge of single-case experimental designs (SCED) to include:

a.	Explain the essential characteristics of SCEDs.
b.	Discriminate between dependent and independent variables.
c.	Explain the differences between internal and external validity.
d.	Explain the need for experimental control.
e.	Discriminate between SCEDs, case studies, and group designs.
f.	Explain the different types of SCEDs (e.g., reversal, multiple baseline, alternating treatment, changing criterion).
g.	Explain parametric, comparative, and component analysis.

SKILLS

Skills are defined as cognitive (private) and practical (public) behaviours involved in the selection, implementation, and completion of relevant tasks.

General skills

14. Demonstrate sensitivity to the diversity of service users and stakeholders.

15. Work in partnership with service users and other stakeholders.

16. Explain behavioural concepts in non-technical language that is devoid of mentalistic terminology.

Skills related to measurement

17. Operationally define behaviour.

18. Observe and measure occurrence, topography, strength, and temporal dimensions of behaviour.

19. Develop solutions for recording/graphing data to facilitate communication with colleagues and stakeholders.

20. Use data-based decision making, based on visual analysis of data graphed using correctly selected visual displays.

Skills related to assessment

20. Develop appropriate participatory assessment procedures related to service user consent/assent and by reviewing records and available data to determine and identify the need for behaviour analytic services.

21. Design and implement assessments (i.e., descriptive assessment, functional assessment including functional analysis, strength-based assessment, preference assessment).	
22. Develop solutions for assessing conflict of interest.	
23. Develop solutions for assessing treatment integrity and progress.	

Skills related to intervention

24. Develop observable and measurable intervention goals based on factors such as assessments, user preferences, supporting environments, risks, and social validity.
25. Design and implement antecedent interventions to change behaviour and plan for any negative side-effects that may arise.
26. Design and implement consequence-based interventions to change behaviour and plan for any negative side-effects that may arise.

27. Design and implement behaviour change procedures using:

a.	Task analysis and chaining
b.	Shaping
c.	Prompting and fading procedures
d.	Positive and negative reinforcement
e.	Conditioned reinforcement
f.	Behaviour skills training
g.	Modelling and imitation training
h.	Contingency contracts
i.	Token economies
j.	Premack principle
k.	Motivating operations and discriminative stimuli
l.	Fluency-based training
m.	Direct Instruction
n.	Verbal rules
o.	Equivalence-based instruction
p.	High-probability instructional sequence
q.	Personalised System of Instruction
r.	Self-management
s.	Discrete trial teaching and incidental teaching
t.	Differential reinforcement
u.	Functional communication training
v.	Extinction
w.	Behaviour reduction procedures (e.g., response cost, time-out from positive reinforcement, overcorrection)
x.	Generalisation and maintenance procedures
y.	Group contingencies
z.	Respondent conditioning

28. Develop and apply solutions for transferring control from contrived to natural schedules of reinforcement.

29. Develop individualised teaching procedures based on the service users changing needs within a life-span perspective (e.g., social competence, leisure, and vocational skills).
30. Develop, implement, and evaluate collaborative solutions with stakeholders, identify relevant goals and procedures.

RESPONSIBILITY & AUTONOMY

The application of knowledge and skills autonomously and with responsibility.

31. Work within personal scope of competence, including identifying own limitations and strengths and accessing continuous professional development.
32. Demonstrate culturally responsive practices reflective of values of diversity, equity and inclusion.
33. Demonstrate professional code of conduct (e.g., professional courtesy, time management, record keeping, supervisory practice).
34. Identify conditions under which behaviour analytic services or supports should be discontinued and define steps to be taken in transition process.
35. Design safety and emergency protocols that should be in place to protect all stakeholders.
36. Identify and address ethical issues within the context of behaviour analytic standards of practice and in accordance with national ethical guidelines.
37. Promote evidence-based practice when collaborating with other professionals.
38. Review and develop the performance of personnel according to organisational behaviour management principles.
39. Identify and prevent discriminatory practices and do no harm.
40. Disseminate accurate information about behaviour analysis and identify potential sources of misrepresentation (e.g., social media, legal, and policy contexts).

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