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Professional Development in Conservation: An Effectiveness Framework

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Abstract Contemporary conservation professionals are part of a workforce focused on overcoming complex challenges under great time pressure. The characteristics of conservation work, and in particular the evolving demands placed on the workforce, means that these professionals require capacity development to continually enhance their skills and abilities to remain effective. Currently, there are no sector-wide guidelines to promote systematic professional development that addresses both individual and organisational learning. This study builds upon existing knowledge from other sectors by examining professional development in conservation through an in-depth qualitative content-analysis of interviews with 22 conservation professionals, utilising a framework derived from the education sector. Results indicate how individuals' motivation-to-learn, proactivity, and open-mindedness towards alternative information and views were considered preconditions for effective professional development. A balance between organisational goals and career ambitions was found essential to maintain this motivation-to-learn and vital for staff retention and preservation of institutional knowledge. Professional development plans may help distinguish between individual career aspirations and organisational objectives and aid a discussion on how to balance the two. Supportive leadership is fundamental to identify and mitigate any tension between people's professional goals and programme priorities. Leaders have the opportunity to respond quickly and in novel ways to balance and address staff needs and organisational goals while working to remove barriers to effective professional development. Solutions to overcome specific barriers are discussed, to promote an inclusive approach for diverse learners through provision of opportunities, effective learning design, and resource-distribution for professional development.

Keywords capacity, conservation workforce, human dimension, inclusion, leadership, learning, personal agency, professional development

Introduction

The Convention on Biological Diversity highlights the need for capacity development in its current re-drafting of strategy post-2020. One priority is to better understand how staff capacity inputs influence outcomes (e.g. ecological, social and organisational outcomes) to guide future policy (Bacon et al., 2019). To date, research addressing this knowledge gap predominantly focused on protected areas, where some studies identified staff capacity as a critical predictor of positive conservation impacts (e.g. Geldmann et al., 2018), while another study points towards contextual influences (e.g. law enforcement, corruption, and land title issues) as predictors of conservation success (Schleicher et al., 2019).

Capacity, whether individual or organisational, fluctuates according to context, so is more usefully considered over time, i.e. capacity development. Capacity development is defined as the intentional process whereby individuals, organisations or society build and maintain capacity over time (Simister & Smith, 2010). Capacity development can be considered an umbrella term that includes organisational development and individual development (Lusthaus et al., 1999). While acknowledging that capacity development may involve many participants and capacity includes more than an employees' knowledge and skills (Müller et al., 2015), our study focused on individual capacity development, in particular the development of conservation professionals (not including pre-entry education). As in the education sector (Campbell et al., 2017), we used the term professional development to denote the active process of growth and development an individual undertakes in their professional life, across their entire career, including a range of approaches, activities and interventions, as well as the surrounding context and available resources which support this process. It is important to distinguish professional development and professional learning. Professional learning refers to outcomes (what is learned, how learning is applied and the establishment of new behaviour) whereas professional development refers specifically to the process that prompts such changes (Killion, 2013).

No systematic reviews of professional development in conservation exist. Attempts to link professional development directly to conservation impact risk over-simplification, since there are many steps influenced by contextual factors and conservation success may not be attributed to a single professional development initiative (Fig. 1). Evidence of professional development outcomes in conservation is scarce, but other sectors offer useful insights. Research in the international development sector reveals that the further removed an impact is from the professional development intervention (e.g. organisational, beneficiary and/or biodiversity level), the more challenging is its attribution to that intervention (James, 2009). In Figure 1, we draw upon findings in education (Weiss et al. 2006) and training literature (Kirkpatrick, 1996) illustrating four levels of

professional development evaluation. The most immediate ‘first level’ of measuring change (Figure 1) is assessing the quality of intervention (short-term outcomes), followed by internal organisational changes (level 2: intermediate outcomes), external changes for beneficiaries (level 3: long-term outcomes) and external changes for biodiversity (level 4: impact).

Professional development needs in conservation

Studies on conservation capacity needs include evaluation of job advertisements, graduate programmes and capacity building initiatives, and perceptions of conservation professionals (Barlow et al., 2016; Blickley et al., 2013; Elliott et al., 2018; Lucas et al., 2017; Parsons & MacPherson, 2016; Robinson et al., 2018), which collectively highlight gaps in non-technical skills and knowledge (interpersonal skills, communication, project-management, interdisciplinary skills, strategic thinking, problem solving).

A disconnect has been observed between formal pre-professional education received and the competences needed for complex demands in situations encountered in conservation practice (Lucas et al. 2017). These competence requirements also vary per employer type (Blickley et al., 2013), geographical location of employment, and the location of the professional development provision (Lucas et al., 2017; Barlow et al., 2016; Elliott et al., 2018). Professional development opportunities are therefore important for attracting and retaining staff (Nielsen, 2012) and have been positively associated with motivation, engagement, and job satisfaction (Purcell et al., 2003). Many factors come into play when seeking relevant knowledge, skills, abilities and other characteristics (KSAOs; also called ‘competences’), and needs change over time due to socio-economic and technological developments, altering the relevance of professionals’ existing competences. Standardisation of competences remains less common in conservation compared to other disciplines (e.g. health care and law) making it challenging to evaluate professional development initiatives and individuals’ skill levels, which may affect conservationists’ work and career progression (Barlow et al. 2016), but interest in standardisation is now growing as illustrated by the Global Register of Competences for Protected Area Practitioners (Appleton, 2016) and the Threatened Species Recovery Competence Register (TAC Loffeld/SA Black, pers. comm.).

Despite efforts to codify competences for conservation professionals, few studies have examined conditions (e.g. content, format, contextual factors) whereby professional development yields positive effects on individual capacity and work performance, which we call effective professional development, and this study addresses this research gap. We defined a conservation professional as an individual who is paid or receives compensation in exchange for work supporting nature conservation goals. The process of professional development and learning outcomes is largely dependent on professionals’ behaviour, such as participating in

professional development and applying newly acquired competences to work (Brekelmans et al., 2016). The availability of resources and opportunities also influence whether new behaviour will occur (Purcell et al., 2003). We aimed to explore professional development across a variety of contexts, rather than following common case-study approaches (examining specific resources or opportunities), so perspectives of conservation organisations are not examined, and organisation types were therefore not relevant to the scope of this study. Based on our research results, we nevertheless were able to make recommendations on how organisations can support employees in optimising their professional development and learning outcomes.

We used semi-structured interviews with conservation professionals to explore professional development needs and provision by looking beyond learning content. To achieve this, we adopted a three-dimensional definition of work performance from other sectors (Koopmans, 2014), which separates task performance, contextual performance and adaptive performance. Task performance is the competence where an individual performs core technical tasks central to their job (Campbell et al., 1990). Contextual performance involves competences addressing the psychological, social and organisational environment (Motowidlo & Van Scotter, 1994). Adaptive performance is the ability to adjust to changes in work roles or work environment (Griffin et al., 2007). Our findings are expected to help conservation organisations and donors assess the quality of professional development provision, or for professionals to consider the quality of development they undertake. By including insights from other disciplines, such as education and health care, this paper aimed to better inform approaches to capacity development in global conservation.

Methods

Participants and interview guide

We used a qualitative research methodology since this was an exploratory study, with limited prior empirical evidence, so that we could generate propositions for future research (Newing, 2011). We chose convenience sampling (Newing, 2011), recruiting participants from three sources: i) the University of Kent, UK, ii) attendees at an international conference of conservation professionals (University of Pune, India, 18-21 March 2017), and iii) the authors' professional networks, thereby drawing people across a range of ages, roles, and settings. All twenty-two respondents had professional experience working in high-biodiversity countries where capacity and access to resources are limited (Africa, Latin America and developing regions in Asia), and were interviewed by the first author (Table 1). The sample size was adequate to identify meta-themes across different sites and reach saturation, i.e. when new information results in little to no change to the codebook (Hagaman & Wutich, 2017). Prior to interview, respondents were informed by email of the research aims, assured anonymity and confidentiality, and freedom to withdraw from the study at any time. Interviews were conducted by the first author between March and June 2017 at a location convenient to the interviewee, with no non-participants, apart from one interviewee whose colleague was present. The semi-structured

interviews lasted an average of 74 minutes (range = 30-130 minutes). Questions followed an interview guide (Supplementary Material 1) and a checklist developed by Tong et al. (2007) to promote explicit and comprehensive reporting in qualitative research (Supplementary Table 1).

Analysis

Interviews were audio recorded, transcribed verbatim, and coded in NVivo 12 (QSR International 2019) using keywords underpinning positive and negative perceptions with conceptual links to identify patterns and themes. We followed Braun and Clarke's (2006) Thematic Analysis and used both the inductive development of codes as well as a deductive approach to identify factors purported to influence professional development and learning outcomes (Bradley et al., 2007). For the deductive approach, we used various start lists from previous research in other sectors, e.g. Campbell et al. (2017). Themes were identified, refined and/or expanded through comparison of data to identify theoretical saturation (Hagaman & Wutich, 2017). During transcription, participants were assigned ID numbers (used hereafter).

Results

Participant characteristics

All interviewees had recent (<6 months before interview) experience of employed work in conservation ($X=8.5$ years; $SD=5.47$). Half the participants were professionals in conservation roles at the time of interview ($n=11$). University-based participants included two Senior Lecturers, two Lecturers, one Post-Doctoral Researcher, one Doctoral student and five Master of Science students (Table 1).

Characteristics of Effective Professional Development

All interviewees shared experiences covering at least one identified theme (component); 86% (19/22) of respondents reported experiences in four or more components. We identified seven components of professional development (Tables 2-4) that participants experienced, to form our professional development effectiveness framework (Fig. 2).

Learner-centred: The first component comprised learner-centred descriptions of effective professional development reflecting adult learning theories, including experiential learning (i.e. learning from doing), and direct application of learning to work practice (Table 2). Some respondents highlighted the role of supervisory coaching and support to integrate newly acquired competences, while others mentioned learning with peers. Most interviewees described social learning experiences in organisations or wider professional networks.

Some respondents stressed that structured and sustained follow-up after the development intervention (e.g. workshop) improves the effectiveness of learning.

Evidence-informed and data driven: Few people reported evidence-based learning initiatives and few initiatives were prompted by data. Professional expertise and judgement were mentioned as important when assessing people's effectiveness (Table 2) but performance analyses at employee and/or organisational level were rarely reported. Respondent 1 mentioned that a range of indicators of conservation and professionalization outcomes is important, including quality and quantity. A starting point for developing qualitative indicators, according to this respondent, is to explore how knowledge exchange is influenced by context (e.g. national culture, organisational norms).

A focus on both technical and contextual skills: A third identified component is a focus on both technical and contextual skills. Most comments addressed non-technical activities, termed contextual competences (Koopmans, 2014), such as communication and interpersonal skills (Supplementary Table 2). Several respondents emphasised that a professional has to maintain up-to-date skills and knowledge, known as adaptive competence (Koopmans, 2014). Motivation-to-learn, proactivity and open-mindedness (to new information and others' viewpoints) were perceived to enhance the ability to learn (Table 3).

Balance between employee voice and organisational goals: A fourth component relates to development offerings which balances both employee needs and organisational goals (Table 3). A skill-gap analysis was said to help identify discrepancies between employees' competences and those required for the job. Several respondents highlighted that development initiatives should address urgent and current needs. Some said that professional development plans could help balance career aspirations with organisational objectives, which people felt would enhance relationships with employers. Where an imbalance occurred, interviewees reported decreased motivation and increased intention to leave.

Sufficient and equally distributed resources and opportunities: A fifth component places importance on sufficient and equally distributed opportunities and resources (e.g. funding) for professional development (Table 4). Respondent 12 shared that in 20 years of receiving international funding for conservation, none was invested in building relevant expertise in-country, resulting in significant project delays when external experts could not enter the country due to natural disasters and political difficulties. Interviewees were supportive of needs-based approaches, yet the experience of three professional development providers suggested that requests for needs tended to generate long undeliverable lists. People did, however, want independence in

building their own capacity, including conservation leadership and fundraising capability, especially in biodiversity-rich countries with limited resources (Table 4).

Supportive leaders engaged in learning: Leaders' roles in facilitating a learning culture was highlighted, with an emphasis on leaders' supportiveness and engagement in learning. Interviewees mentioned that leaders should actively value professional development, e.g. providing development to staff and communicating openly about development opportunities and decisions (Table 4). Five respondents provided a leaders' perspective, commenting that one's professional development is never wasted (Respondents 7 and 13) and "to be okay with staff attrition" (Respondent 8). Contingency plans are crucial in addressing staff turnover (Respondent 5), whereas Respondent 10 highlighted motivational approaches to prevent staff losses. Leaders' resourcefulness and flexibility were important in creating cost-efficient development opportunities and to stabilise organisational capacity, such as attracting retired professionals as advisors.

Strategic and aligned professional development: The last component concerned strategic capacity development aligning individual, organisational and wider interests (e.g. region, sector). Overall, respondents noted that priorities for learning were driven by (external) funding rather than organisational strategies (Table 4). Where capacity development strategies were present, these were generally not integrated in organisations' overarching strategic processes, and donor interests influenced implementation. Some participants noted the importance of individual and organisational "readiness to change" (Table 4). For example, Respondent 8 observed a conservation organisation sending staff for external training, but afterwards gave people the same work and no career progression, which impeded the organisation's sustainability and many of its programmes failed. Multiple interviewees recommended gathering evidence on effective capacity development to share between organisations (Table 4).

Discussion

Our findings reflect previous research in the education sector (Campbell et al., 2017). Based on a sample of conservation professionals, our findings indicate seven key components for effective professional development (Fig. 2). There is considerable overlap between components so our discussion addresses three higher order themes; learning designs and implementation, quality of content, and support and sustainability.

Learning designs and implementation

There are many approaches to professional development (e.g. training, mentoring); however, no single approach will suit all individuals under all conditions. Our findings are congruent with constructivist theories (Mathieson, 2015) and demonstrate that professional development interventions should be: grounded in adult

learning theory, learner-centred, tailored to learners' previous knowledge and experiences, suited to engage with participants' various learning styles, and focused on integration of newly acquired competences into work. Most respondents highlighted the importance of social learning experiences, reflecting both social learning theory (Bandura, 1971) and empirical evidence (Campbell et al., 2017; Kainer et al., 2019). The success of any method will depend on the competences being developed. Learning cycle theories and competence frameworks can offer guidance in the design of learning processes, including which activities and techniques develop specific competences (e.g. Gibb, 2002; Kainer et al., 2019).

Our study revealed that few reported professional development initiatives were evidence-informed, similar to health care and education (Campbell et al., 2017; Schostak et al., 2010). Our findings suggest quantitative indicators of capacity development may obscure what drives success, and poorly reflect the true complexity of practice (Schostak et al., 2010). Qualitative indicators of success, combined with quantitative measures, e.g. Most Significant Change approach (Davies and Dart, 2005), may address this, especially for harder-to-measure contextual and adaptive competences. Before implementation, a professional development initiative should have a clear purpose (what) and rationale (why), in addition to measurable learning outcomes, progress indicators and a method of evaluation (Guskey, 2000). Evaluation should consider the time required to practise and integrate newly acquired competences on the job and for changes in the wider organisation to occur (Kainer et al., 2019). Evaluations should include details of the pedagogical activities implemented (process) and the theory that both pedagogy and outcomes were based upon, in order to measure professional development quality and to attribute any improvements (Payler et al., 2008).

Quality of content

Conservation professionals need contextual skills, e.g. interpersonal and communication skills, as identified in this study and previous research (e.g. Blickley et al., 2013; Parsons & MacPherson, 2016). Continuous learning is important for organisations focussed on innovation (Psarras, 2006), so it is unsurprising that interviewees indicated keeping knowledge up-to-date as a key skill. Characteristics supporting this ability were motivation-to-learn, proactivity (i.e. initiating change) and open-mindedness (e.g. towards viewpoints of others). These findings agree with research in healthcare; increased motivation-to-learn encouraged nurses' participation in professional development (Brekelmans et al., 2016). Open-mindedness enables work across science, policy and practice boundaries, an identified capacity gap within conservation (Elliott et al., 2018). Van Woerkom and Meyers (2018) found self-efficacy to be a prerequisite for engaging in personal growth activities; proactivity towards personal growth followed belief in one's abilities to master challenges and achieve desirable outcomes. We recommend measurement of self-efficacy in future research on professional development.

Adaptivity is imperative in contexts of uncertainty or when not all roles can be formalised (Griffin et al., 2007). Our findings underline the importance of including contextual and adaptive competences (Supplementary Table 2), alongside technical/task competences, in any conservation competence register or professional development initiative. Researchers in other disciplines have already recognised that all three performance dimensions (task, contextual and adaptive) independently influence an employee's value for the organisation (Griffin et al., 2007). The work performance model adopted in this study offers a way for conservation organisations to integrate developmental behaviours to influence outcomes on an individual, organisational, and societal level. Additionally, a framework like this can compare capability of individuals across a variety of roles and situations.

Our results indicate that a combination of organisation-directed and self-directed professional development is required to balance career aspirations with organisational goals. Learners are better able to direct their growth by participating in the design of relevant learning processes (Calvert, 2016) thereby increasing their motivation to participate. Several helpful tools were suggested by some of our interviewees, e.g. professional development plans, return-on-investment contracts, and needs assessments. However, needs assessments must identify underlying problems at work and barriers to wider sharing of learning, or there is a risk the approach will simply generate superficial 'wants' (Guskey, 2000). Collectively, the findings highlight another priority area for professionals: building agency in one's own learning, namely the capacity to effectively direct one's professional growth and enable growth in others (Calvert, 2016).

Support and sustainability

The majority of interviewees reported professional development occurring episodically, mostly due to project-limited funding, and some suggested that development follows external agendas, e.g. donor requirements. In a similar vein, Nielsen (2012: 302) previously reported that in 832 protected area assessments (24 countries) training was "haphazard, ad hoc and inappropriate to the needs of the staff". Professional development which is externally driven (and top-down), may merely address fashionable topics (Guskey, 2000) so people may not acquire competence and expertise needed to solve complex challenges. Biodiversity-rich countries with limited resources (e.g. lack of information and human capacity) are commonly also under-funded for conservation work (Waldron et al., 2013). It is unsurprising that our respondents, all who had worked in biodiversity-rich yet resource-poor countries, reported unequal opportunities for professional development and our findings suggest that this decreased both morale and staff retention, matching previous research (Nielsen, 2012). Our interviewees reported greater satisfaction and engagement at work when they felt invested in by their employers, mirroring other sectors (Purcell et al., 2003). Leaders hold significant power over resource and opportunity allocation; so clear communication and decision-making can influence employee perceptions of fairness. Leaders have important roles in promoting a learning culture, and should

commit to the development of all who affect conservation outcomes, including staff, communities, and external beneficiaries, thereby promoting engagement, staff retention and fruitful partnerships (Psarras, 2006). Successful alignment of capacity development requires stakeholder buy-in, as well as fitting programmes within wider country-specific workforce strategies, including long-term (>5 years) support (Aring & DePietro-Jurand, 2012; Santy et al. 2020). Sectoral leaders (e.g. donors) can demonstrate how they value learning and improvement by prioritising issues related to learning, enabling participation and co-design of professional development (Marsick & Watkins, 2003; Santy et al. 2020), and providing both consistent funding and time. They can also provide sector-wide coordination of knowledge exchange, evaluation, and policy development (Aring & DePietro-Jurand, 2012).

One definition of successful professional development that emerged from this study concerns how a learning opportunity will help improve conservation practice and benefits the wider environment, whether organisationally, across society, geographical area or sector. According to Guskey (2000), the effectiveness of professional development initiatives should be measured against two criteria: quality (merit) and value (worth). The quality of an initiative is measured against its intended goal, e.g. learning objectives (inputs, Fig. 1). The value of an initiative is determined from fulfilment of needs, e.g. the needs of an individual professional, or delivery of the conservation organisation's mission, or contribution to the public good (outcomes and impact, Fig.1). Quality and value should be considered in selection and evaluation of professional development initiatives.

The active process of growth and development of a conservation professional, as a set of behaviours, largely depends on an individual's beliefs (e.g. attitudes, values and norms), self-perception of their abilities, intention to perform a certain behaviour (Ajzen, 1985), and perceptions of their work environment (Purcell et al., 2003). In this study, we solely focussed on the individual level, i.e. data concerning the individual's perspectives on professional development. The availability of resources and opportunities to support professional development also influence whether this process delivers valued learning outcomes. Future research would usefully include measures of organisational mechanisms, resources and opportunities.

Implications for conservation organisations

This paper provides guidance on designing professional development initiatives and assessing the quality of professional development in conservation, the first such study in the literature. Our framework includes recommendations covering planning, design, implementation and evaluation, going beyond common assessments that solely measure learner satisfaction. We recommend involving interested parties and advisers from the outset of a professional development initiative, to ensure a collaborative approach that is socially

relevant and builds learner agency. We also conclude that more research is needed on the effects and causality of professional development on short-term, intermediate and long-term outcomes. Taking an interdisciplinary approach to this kind of research may help establish quantitative and qualitative evidence of transformed conservation practice, organisational sustainability, higher quality beneficiaries' experiences and improved conservation impacts. Internal factors for any conservation organisation (e.g. management, resources, culture) and external contextual influences (e.g. economic, social and political factors) should be considered.

Learning and working are interconnected. Organisations involved in conservation activities will not improve outcomes for biodiversity unless employees grow professionally, improve practice and build organisational memory and expertise. This study identified organisational and systemic changes required to accommodate and facilitate these individual improvements. Although there is no single approach to creating effective professional development, we hope that the framework presented serves as a timely contribution to the literature on capacity development.

Author contributions

Conceptualisation, design, writing and revision: all authors; Data collection, analysis and interpretation: TL.

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Conflicts of interest

No conflicts of interests exist.

Ethical standards

This research was supported by a Vice Chancellor's Research Scholarship of the University of Kent, Canterbury, UK, and has been approved by the Research Ethics Advisory Group of the School of Anthropology and Conservation, University of Kent (Ref no 0401617). All authors have abided by the Oryx guidelines by following the British Sociological Association Statement of Ethical Practice 2017.

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Conservation Capacity Model

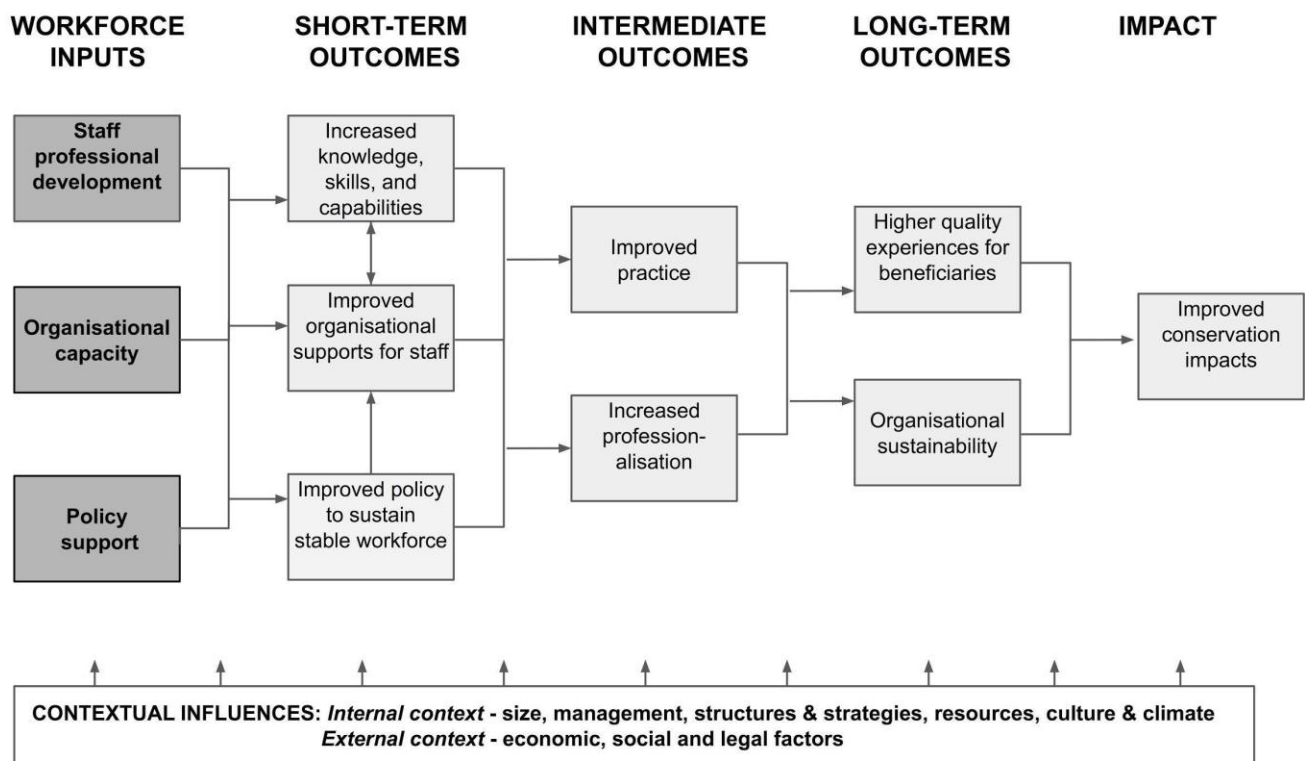


Figure 1: Conservation capacity model, adapted from a previous education model (Weiss et al., 2006). Beneficiaries are recipients of improved conservation practice and may, for example, include landowners such as communities, government, and private companies. Inputs, outcomes and impact are not all encompassing and are provided here as examples.

TABLE 1 Demographic characteristics of twenty-two conservation professionals, across twelve different nationalities, participating in semi-structured interviews in 2017.

Characteristics	Total Sample (n = 22)	Female Professionals (n = 12)	Male Professionals (n = 10)
Demographics			
Average professional experience in years ($\pm 1SD$)	17.5 (± 9.8)	16.1 (± 10.1)	19.1 (± 9.8)
Average age in years* ($\pm 1SD$)	41.3 (± 9.9)	38.9 (± 10.5)	43.3 (± 9.5)
Employer			
University	5	1	4
Students	6	4	2
Non-Governmental Organisation (NGO)	4	3	1
Government	1	0	1
Charitable organisation or trust	2	2	0
Non-Profit corporation	2	2	0
Not-for profit company	2	0	2

*Average age based on 8 female and 10 male professionals (n = 18)

Effective professional development framework: Seven key components

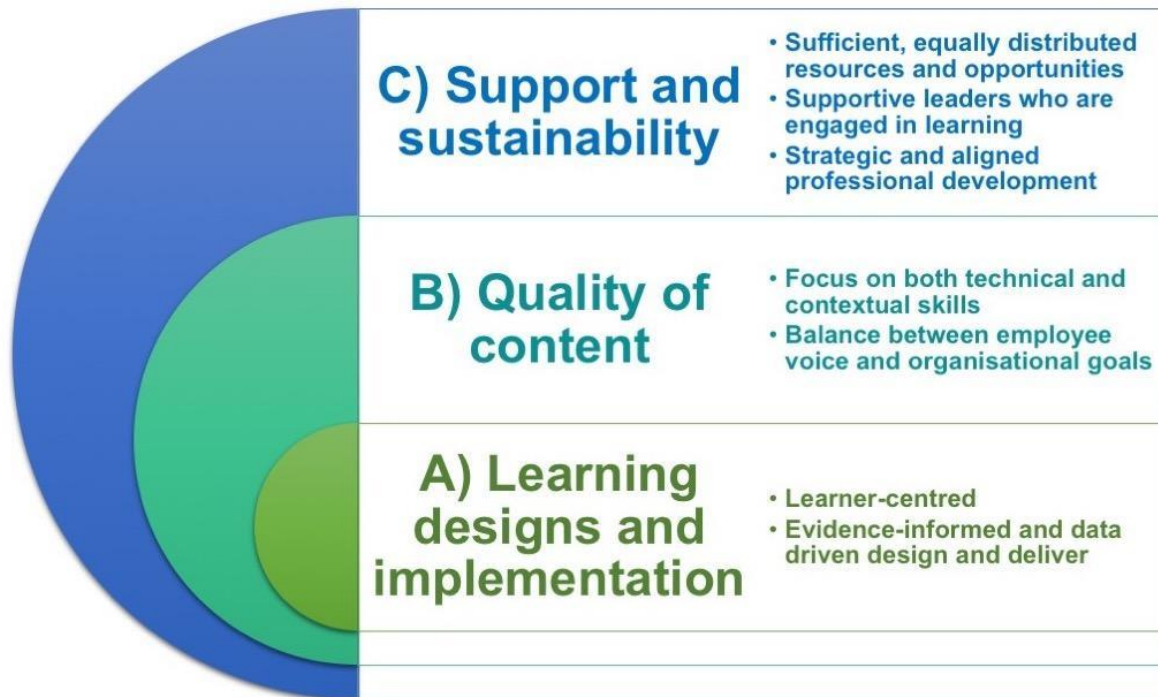


Figure 2. Effective professional development framework consisting of seven key components and three higher-order themes (A-C), indicating how higher level components encompass, and set pre-requisites for, effective professional development. This explanatory model is derived from interviews with 22 conservation professionals.

TABLE 2 Quotes from interviews with conservation professionals (n = 22), during March – June 2017, illustrating key components and features of effective professional development related to learning design and implementation.

Major and sub-component(s)	Illustrative quote from interviews
1. Learner-centred	
Application of competences	“People need to be given the space to put what they are learning into practice. Either they first learn the theory and then they do the practice or they are doing it as they are going along.” (Respondent 2)
Facilitating various learning styles and social learning	“I learn from seeing and trying to copy it. Only reading does not really work for me. To work together and then practice it straight away is more beneficial to me.” (Respondent 3)
Different levels of advancement	“You are recognised officially and internationally that you are certified as a practitioner at a certain level. Then there are different levels and this is motivating you to improve.” (Respondent 4)
Structured and sustained follow-up	“Normally we provide training, but it is not one short training, there is also refresher training after 6 months.” (Respondent 5)
2. Evidence-informed and data driven	
Empirical evidence from research, evaluation and data	“A lot of times it’s just training because they just need to tick the box [...] to say that we trained 50 people in this. There is no real follow up to make sure that people actually learned something new.” (Respondent 6)
Professional judgement	“A lot of it is intuitive, a lot of it is trial and error [...] I don’t need a full formal written evaluation to know whether it [training] is working.” (Respondent 7)
Qualitative and quantitative indicators of success	“How do you measure capacity development when so much of it is about relationships and not necessarily about how many times somebody went to a workshop? [...] You are not looking at the real lessons [learned], you are looking at what is feasible to be counted. And often the things that are feasible to be counted are not what drive success. A lot of resources are put in the wrong place, because of those disconnects.” (Respondent 1)

TABLE 3 Quotes from interviews with conservation professionals (n = 22), during March – June 2017, illustrating key components and features of effective professional development related to quality of content.

Major and sub-component(s)	Illustrative quote from interviews
3. A focus on both technical and contextual competences	
Motivation-to-learn	“There are always new things to learn. The minute you say ‘I know everything and I am done with everything’, that is when you start stagnating.” (Respondent 8)
Proactivity	“The education system is very teacher-centred, so they wait for the teacher to tell them what to do. [...] Whereas [in] more modern education systems, it’s centred around the child, and so that, when the child grows up and gets into real life and gets a job, they are not waiting for their boss to do anything; they can actually generate work for themselves. It makes it much easier for an organisation to grow when you have people that are self-motivated and very confident, that can generate ideas.” (Respondent 2)
Open-mindedness	“We’re nowadays required to be able to transit in different cultures and perform well, even though the culture is different. We need to be open-minded, we need to understand that people and cultures are different.” (Respondent 9)
4. Balance between employee voice and organisational goals	
Identifying needs and priorities	“We have a training needs analysis at the start of the year for every staff. The staff pick the courses that they want to do for their own professional development and then discuss the courses with their line manager or reporting officer to agree why these courses are taken.” (Respondent 10)
Professional development plans	“If you work for an organisation, you will need a career development plan, so they would invest in you. And that way you might stay with them.” (Respondent 11)
Return on investment	“Now people have started [...] actually signing up on legalised papers saying that after getting this training I am putting in 3 years of work.” (Respondent 8)

TABLE 4 Quotes from interviews with conservation professionals (n = 22), during March – June 2017, illustrating key components and features of effective professional development related to support and sustainability.

Major and sub-component(s)	Illustrative quote from interviews
5. Sufficient and equally distributed resources and opportunities	
Developing leadership in the global south	“If you would talk to someone on my team and ask ‘what are your professional development needs?’, you will get a huge list [...] But the point is that is just a list, [...] my main challenge is: how do I grow conservation leaders? [...] I need people who will inspire and drive and motivate others.” (Respondent 7)
The need for sufficient and equal opportunities to grow	“I got in[to] a university but I couldn't get a scholarship because I was not affiliated with academia [...] I spent almost two years in the field: I went to the national park that is in the middle of nowhere, is there more motivation than that? [...] You don't get the chance to just expand [grow]; that is not fair.” (Respondent 14)
Working towards equal funding opportunities in conservation	“What I've always heard is: ‘We need people to be able to manage their resources’. And it's true, but how are we going to get there? Funding is very ad-hoc right now. It's very much about who is ‘in the know’. And I think that is where we want to break the cycle; everybody has to be able to be part of it.” (Respondent 13)
6. Supportive and engaging leadership	
Leaders commit to professional development (values)	“There is a recognition within the organisation that professional development is important and once they identify the need, they will try to find means to make it happen.” (Respondent 9)
Leaders' characteristics and thinking (attitude)	“One problem is staff turnover [...] but I don't see it as a problem. For me, if someone gets a good opportunity [...] we have helped them gain knowledge from our project. That is fine. We always have a contingency plan.” (Respondent 5)
Leaders provide opportunities for professional growth (behaviour)	“I can learn many things and my boss also gives me more responsibility. Even if it's out of my comfort zone, I am willing to do it and they can see that.” (Respondent 3)
Leaders discuss professional development with their employees (communication)	“Where I felt that people tend to leave and go [is when] there is no growth potential for them [...] [A] needs assessment of the organisation and also of the individual. [...] That transparent and open communication environment that is there, so formal and informal mechanisms of filling this information in.” (Respondent 8)
7. Strategic and aligned professional development	
Need for strategic capacity development	“There's no strategy. [...] From my experience in the NGO, instead of being like: ‘right, what capacity do we need for our staff in X, Y and Z positions and how are we going to build that capacity?’, it's a case of ‘I got an email [...] they are offering training how to be a good community facilitator for climate change adaptation. That guy working with communities in his park, let's send him there and he can get that training.’ (Respondent 15)
Readiness for change	“I think that professional development is effective when the individuals in the organisations are ready for change, they recognise what that change

	needs to be or ready for maintaining what seems to be working.” (Respondent 1)
Gather and share evidence on capacity development initiatives	“Standardised evaluations to whatever extent is possible. Because otherwise we are spending all of our time tweaking, when we could be spending all of our time expanding our reach. So I think that that’s very important and I think we need to share relentlessly.” (Respondent 16)
The role of donors in strategic and aligned professional development	“If you wanted to make policy for increasing capacity in NGOs, all you need to do is get the donors to write it in their requirements and it would be in every proposal. But it’s not what is necessarily required now.” (Respondent 17)
