Educating the educators at the VEEs- examples/experiences of other related academic disciplines

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Introduction

Veterinary Education Establishments (VEEs) are charged with producing a proficient, innovative veterinary workforce to meet future societal needs. The VEEs' horizon is no longer local, but global, because veterinarians and national Veterinary Services (VS) must take the lead in animal health, food safety and veterinary public health to solve the looming challenges that face our planet. There is compelling evidence that veterinary education is highly variable in quality, making it a key constraint on the quality of the veterinary workforce and advancement of global animal health through Veterinary Services.

The OIE core curriculum and competencies have established an educational framework to lift and harmonise veterinary education standards globally for "One Health". They address animal health, management and welfare, food safety and veterinary public health. The OIE's competencies are being harmonised with the leading international standards through active collaboration of accreditation bodies (AVBC, AVMA, EAEVE, RCVS and others). VEE must embed and contextualise these competencies, and develop effective teaching, learning and assessment methods to ensure all new graduates demonstrate the required skills to protect animal and human health and food supply. The challenge is to "educate the educators", to translate aspirations into effective practice, to energise widespread curriculum change and assure quality outcomes.

Delivering student-centred learning experiences that effectively engage, challenge, inspire and build student confidence and capability is the key, and this requires effective teaching staff working within a cohesive curriculum framework. Improved veterinary educator expertise in design, delivery and leadership of teaching quality will accelerate progress towards the OIE goals. Fortunately there is a growing evidence base for teaching methods and curriculum design that enhance student learning and assure outcomes. Implementing effective professional development for university leaders and educators has improved student learning and achievement of professional outcomes in other disciplines, and these approaches are increasingly being applied to veterinary science.

Veterinary teachers, like their students, develop their professional expertise most effectively through immersion in educational theory as it is applied to their own experiences, with reflection. Professional university educators are grounded in theory, which provides a shared framework for learning design and managing curriculum. They develop their skills through individual and team experiences, undertaking projects, innovation and peer mentoring, becoming members of a community of practice[1]. The health professions have recognised and addressed the need for coordinated global efforts to improve health education in the developing world using these approaches[2], and the OIE encourages VEEs, VAs and VSBs to follow this lead.

The key obstacles identified, where staff development will have the greatest impact, are traditional didactic teaching and assessment methods, particularly where these form the accepted norms for university education in the institution. Experiential learning quality and quantity are insufficient in many veterinary programs, as provision of practical and clinical experiences is resource intensive. Staff may lack confidence, expertise and support to assess the full range of student outcomes and competencies, and to provide students with measures of their progress. Commitment of VEE leadership to change in curricula, learning and teaching approaches, reward for teaching quality and innovation, and support for the habits of reflective professional practice in teaching are required, but often lacking.

The desired, high quality, veterinary graduate outcomes can be achieved by institutional education strategies that start with the end in mind; a) curriculum design for student-centred learning, b) providing educators with skills, expertise and support, c) leadership for change, and d) outcomes assessment for continuous quality enhancement. The starting point is recognition that learning is what the student does, and that educators provide the "scaffold" for effective learning effort, and guidance, through assessment for students' "time on task", the education theory of constructive alignment[3].

Educating and supporting educators

Research shows that educators hold different ideas about the intended outcomes of education. They teach in a way that perpetuates their understandings of what matters in learning. Student approaches to learning can vary from superficial (rote learning) to deep (meaningful, quality learning). The teaching and course context impacts the approach students take to learning, and these are directly impacted by leadership of teaching[3].

Veterinary educators need to engage with the theory of student learning and to deepen their understanding by applying the theory to their own classroom. They need to experience learning differently. For staff who have come from a didactic tradition, this experience of being a learner again, and of learning in new and different ways, and reflecting on this, enables a conceptual shift in their approaches to teaching. Veterinary educators need opportunities to practise, applying ideas and theories to their own teaching, working in inter-disciplinary groups on common themes. They need guidance to reflect on this experience to link theory with practice, and to develop a stronger mental framework for further development. Staff need to be able to experiment, as success with experiential learning requires safety to innovate, to try and fail, and learn from their experience. Creation of a community of practice, working with other staff in developing teaching, makes this a supportive and enjoyable experience and supports ongoing innovation.

Curriculum design for quality learning

The curriculum is the framework for staff to put theory into practice through a roadmap for the whole veterinary program. It starts with a clear view of what future veterinarians will need to be able to do. Firstly, educators map the curriculum, not just content, and identify gaps between what is intended and what students actually learn. The taught curriculum can be managed, and made clear to all staff, through curriculum mapping software. Next, educators write clear learning outcomes and ensure these are achievable. Learning outcomes are what the student can do, or demonstrate as a result of quality learning. They must align with the graduate competencies and take into account accreditation, OIE competencies and University attributes. The trick is to make learning explicit and to design learning activities that align and engage students to construct their own learning[3]. Most importantly, educators align assessment and grading to achieve learning outcomes.

The assessment should test the level of achievement of the student against the learning outcomes and provide feedback on learning. The goal is to use multiple, robust assessment methods that are authentic, and aligned and evaluate the full range of outcomes, including clinical skills. Software is being developed, e.g. "skills tracker" to do this. The most important aspect of assessment is the feedback, because it has a major impact on student effort and achievement. Learning analytics provides immediate and personalised feedback, even in large class, to student and staff.

Leadership for change

VEE that lead and implement staff development for curriculum change in a cohesive way see best results. This starts with a commitment of the leadership. It requires selection of staff with an interest in teaching, providing an induction to principles and practices, mentoring to provide a supportive framework for growth as an individual and team, a framework for good practice on the design and management of teaching, curriculum and assessment design through workshops, online training and formal courses. With incentives staff will innovate, engage with the scholarship of teaching, provided there is clear reward and recognition of achievement, through performance review, promotion and awards.

Outcomes assessment

Finally, staff development in reflective teaching practice helps to support the VEE process of outcomes assessment. The VEE systematically reviews, reflects and makes changes to achieve its mission, both within and outside accreditation processes, to ensure all students achieve the required outcomes.

Conclusions

Improved rates of achievement of the OIE competencies by veterinary graduates, worldwide, can be accelerated by addressing the "gap" in veterinary educator capability. Capability can be built through; developing understanding of pedagogy, a well-designed curriculum framework, focus on student-centred learning, support for innovation, assessment that enables students to demonstrate achievement of learning outcomes, leadership and support. Reflective practice and assessment of outcomes provides the stimulus for continuing improvement.

[1] Steinert,Y et al. (2006) Medical Teacher, 28:497-526

[2] Mloka DA et al (2012) Health professions educators as agents of change in Tanzania: Creativity to implement new curricula. *J Public Health Policy 1:s171*

[3] Biggs, J and Tang, C (2013) *Teaching for quality learning at university.* Open University Press.

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