



OPEN ACCESS

To cite: Gaida S, Härtl A, Tipold A, *et al.* Communication identity in veterinary medicine: a grounded theory approach. *Veterinary Record Open* 2018;5:e000310. doi:10.1136/vetreco-2018-000310

Received 7 August 2018
Revised 4 November 2018
Accepted 9 November 2018

Communication identity in veterinary medicine: a grounded theory approach

Silke Gaida,¹ Anja Härtl,^{2,3} Andrea Tipold,⁴ Marc Dilly⁵

ABSTRACT

It is well established that communication skills are a core competence in veterinary medicine. Most studies in the field of veterinary medicine have focused on communication as an interpersonal skill. Much less is known about communication in the context of professional identity formation. Semistructured interviews with practitioners from companion and farm animal practice, veterinary industry, veterinary research and government service were conducted in Germany in 2016. A grounded theory approach as described by Strauss and Corbin was used to identify characteristics associated with professional communication identity formation in veterinarians. According to the current study, the identity formation process occurs in three steps: existing personal communication identity, socialisation and professional communication identity. Essentials of interpersonal communication, communication interaction experiences at work, acquisition of communication skills and subjective clarification of veterinary communication ability and skills are the key factors associated with this formation process. Since communication skills are of uttermost importance for all fields of veterinary medicine, communication education, and supporting undergraduate students in the process of communication identity formation, should be an important part of the veterinary curriculum. Furthermore, integrating communication skills training in continuing education courses could foster professionalism in veterinary medicine.

BACKGROUND

‘How we communicate is just as important as what we say’ is a guiding principle of Kurtz and coauthors (2016)¹ (p 14), supporting the view that communication is an important component in practising nursing, medicine and dentistry.^{2–4} Communication between physician and patients can influence the patient’s satisfaction,^{5,6} reduce patient anxiety and direct the choice of doctor.^{7,8} Furthermore, a good relationship between physician and patient increases physician satisfaction and results in stress reduction.⁹

The importance of communication skills has been studied in detail in human medicine: most of patient concerns are identified by only a minority of health professionals.¹⁰ Moreover, careful history taking contributes to the diagnosis even more than the physical examination.^{11,12} In addition, patients claim

that they would like to get more information from their physicians.¹³ It is well known that information, affection, building relationship, empathy and greater patient-centredness increase patient’s satisfaction.^{4,6} In contrast, patient anxiety rises with a lack of empathy and respect.¹⁴ Ineffective communication can even result in increased costs because of non-compliance regarding medication.¹

However, communication skills are not only important in human-related health-care professions, they are also a core competence in veterinary medicine.^{15,16} Science and technology skills alone are not sufficient to be a successful veterinarian. Additional important skills include working in a team, business expertise, understanding of cultural differences, and communication skills with clients, staff and colleagues.^{17,18} Furthermore, good working atmosphere and teamwork are important for the satisfaction of practitioners.¹⁹ Gelberg and Gedberg²⁰ mention that academic veterinarians need such skills as well in order to manage interpersonal relationships and business aspects.²⁰ Furthermore, veterinary medicine entails the complex relationship between veterinarian and client, animals, society and employers.²¹

There is overwhelming evidence that medical,^{22–28} dental,²⁹ nursing³⁰ and veterinary students (undergraduate and postgraduate)^{31–33} can learn different communication skills through specific training. After graduation, a variety of possibilities are open to veterinarians, including work in private practice, research, industry, academia and in government services. Communication skills are vital tools for all fields.³⁴

To prepare graduates for future careers, the North American Veterinary Medical Education Consortium mentioned communication as a professional competence in their road map for veterinary medical education in the 21st century,³⁵ identifying communication as one of nine core competences for career-ready veterinary graduates.³⁶ Likewise, the European Association of Establishments for Veterinary Education included effective



© British Veterinary Association 2018. Re-use permitted under CC BY-NC. No commercial re-use. Published by BMJ.

¹Clinical Skills Lab, University of Veterinary Medicine Hannover, Hannover, Germany

²Institute for Medical Education, University Hospital, LMU Munich, Munich, Germany

³Faculty of Medicine, University of Augsburg, Augsburg, Germany

⁴Department of Small Animal Medicine and Surgery, University of Veterinary Medicine Hannover, Hannover, Germany

⁵Scil Vet Academy, Scil Animal Care, Viernheim, Germany

Correspondence to

Silke Gaida; silke.gaida@tiho-hannover.de

communication with clients, public and colleagues with using an appropriate language in their recommended graduation competencies.³⁷

A goal of any professional curriculum should be to include guidance on professional conduct and behaviour, that is, forming a professional identity (PI). PI describes the awareness of oneself as a professional including the ethical principles important for interpersonal and human–animal interactions.³⁸ PI is formed during the educational process, and develops continually during a career. Therefore, the educational approach to development of PI is crucial.³⁹ Studies of veterinary graduates have shown a lack of professional skills.¹⁶ As a result, subsequently developed curricula⁴⁰ have included training in these necessary skills. Specifically, Mossop suggested, ‘this curricular component could be strengthened by including the teaching of professionalism as a concept.’⁴¹ (p.97) Beyond this, the concept of PI has been explored using web-based discussions with practising veterinarians. The results showed that communication skills within the team and with clients are an essential factor of veterinary PI.⁴² Participants in a study by May and Kinnison realised the benefit of communication skills, interpersonal relations and teamwork in veterinary practice while they completed a professional skills module.⁴³

Professional identity formation (PIF) in medicine was studied in the last decade.⁴⁴ Jarvis-Selinger *et al* describe the formation of identities as a process that occurs ‘at two levels: (1) at the level of the individual, which involves the psychological development of the person and, (2) at the collective level, involving socialization of the person into appropriate roles and forms of participation in the community’s work.’⁴⁵ (p.1186) Cruess *et al* oriented their description of PIF around the stages of identity formation of Kegan’s framework.⁴⁶

Most studies in the field of veterinary medicine have focused on communication as an interpersonal skill. Much less is known about forming a communication identity in veterinary medicine in the context of PIF.

Therefore, the current study aims to explore how veterinarians from several working fields in Germany are shaped by socialisation leading to their professional communication identity. This qualitative research question guides the analysis following the grounded theory approach. In contrast to other research methodologies, the theory arose from analysis of the data resulting from this research.

MATERIALS AND METHODS

Study design

In this explorative study, qualitative research methods according to the grounded theory approach of Strauss and Corbin were used, as seen in figure 1.⁴⁷ The report of this study is oriented on the Consolidated Criteria for Reporting Qualitative Research reporting guidelines.⁴⁸

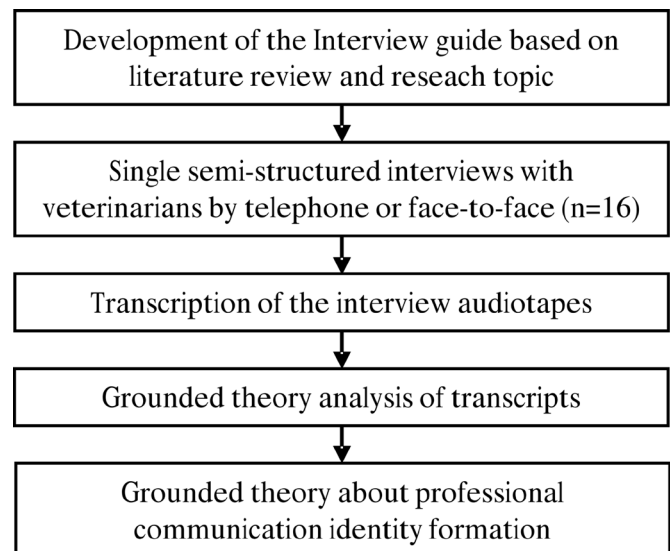


Figure 1 Study design with data collecting semistructured interviews and grounded theory approach.

Study population

The first author (SG) contacted nationwide veterinary practices, companies of veterinary industry and veterinary government service offices by telephone or email for participants who were selected purposively. Whenever someone agreed to participate in the study, further demographic information was collected and decided, if this participant fitted the sampling criteria. The sampling was discussed in the research team. It was emphasised that participation was voluntary. Veterinarians with at least five years’ work experience within one of the working fields of veterinary medicine were included (n=20). The single interviews were performed via telephone or face-to-face by SG. After 16 interviews, saturation was reached. Saturation is defined as the status when no new categories or important themes emerge and the properties and dimensions of the categories are well developed⁴⁹. Within our study no new aspects emerged out of the material after including interview number 15. Therefore, we defined the point of saturation after including 16 transcripts of interviews.

Demographic information was collected using a paper questionnaire. Half of the participants were male (n=8) and the other half female (n=8) (table 1) which represents gender distribution in Germany.⁵⁰ The mean age was 46 years (min 33 to max 63 years) (SD±8.66 years), the average working experience is 19.5 years (min 8 to max 34 years) (SD±7.75 years).

Research team

The research team consists of three persons (SG, MD, AH) with experience in the fields of veterinary medicine, higher education and communication.

Semistructured interviews

To collect information about the development of a professional communication identity of German veterinarians, semistructured interviews were conducted.^{51 52}

Table 1 Interview participants (n=16) divided according to different working fields

Working field	Shortcut	Participants		
		(total), n	Female	Male
Companion animal practice	(CAP 1–3)	3	1	2
Farm animal practice	(FAP 1–4)	4	0	4
Veterinary industry	(VI 1–3)	3	3	0
Veterinary research	(VR 1–3)	3	3	0
Government service	(GS 1–3)	3	1	2

An interview guide was used to provide a consistent structure of all interviews. Applying the SPSS (collecting, considering, sorting, subsuming) principle to develop an interview guide, the authors reviewed questions and optimised the structure of the interview guide in an interactive process until consensus was reached.⁵³ The interview guide consisted of seven main questions (box 1) and multiple questions for detailed information.

At the start of each interview the format of a semi-structured interview was explained, and the interviewer motivated the participants to add special ideas. In semistructured interviews, mainly open-ended questions are used.⁵⁴ The mean of the interview duration was 36 minutes with a minimum of 20 minutes and a maximum of 50 minutes, all interviews were audiotaped. The interviews were conducted in German and verbatim transcripts were anonymously performed by SG. For transcription, the MAXQDA software V.12 (Verbi, Berlin, Germany) was used. All interview citations in this paper were translated verbatim. With regard to the interview guide, every interviewee was asked the same questions.

Analysis

The data (transcripts) were analysed by SG using the grounded theory approach by Strauss and Corbin.⁴⁹ Grounded theory is a method characterised by simultaneous data collection and analysis, based on comparative methods and aims to build a theory grounded in the data.⁵⁵ In contrast to most other methods and methodologies used in veterinary medicine education research, the theory is the result and not the starting point. Additionally, the leading question for the research will be developed during the process, following the steps of the grounded theory approach. We started with the question: 'How are competencies in professional communication

in veterinary medicine used in several fields of work?'⁴⁹ The analysis consists of three types of coding: open coding, axial coding and selective coding. Inductive category building as in figure 2 by Strauss and Corbin was conducted to analyse the data.⁴⁹

Starting the analysis with open coding, inductive categories were created out of the data. After finishing the open coding, axial coding was performed including the comparison between the subcategories to potentially connect the categories.⁴⁷ During the selective coding, analyses of conceptual level, the main categories were connected with the core category 'professional relationship', and the final framework was developed step by step, including new aspects and insights. During the whole analysis process, memos were written and diagrams were created. Formulation of the main question became more and more concrete. In each step of analysis, meetings with the entire team were conducted and emerging categories were critically discussed and ambiguities or disagreements in coding were resolved by consensus. This procedure ensures constant reflection of the first author (SG). Finally, the emerged framework was compared with the findings from the literature and was integrated in existing theories about PIF.

RESULTS

In the current study, the understanding of veterinarians about competences in veterinary communication was analysed to provide new information about the development of a professional communication identity in veterinarians from several working fields. Our core question is: How do veterinarians develop a professional communication identity? The analysis demonstrated that most of the participants had no precise perception or detailed definition about their communication competences. Nevertheless, the majority had an implicit understanding of communication competences. When interviewees were asked about their understanding of competence in communication, they often became concerned about their true understanding of the term: for example, one interviewee stated, '*[...] but so the wording [competence in communication] does not make sense for me right now*' (CAP 1). In the following section, we would like to point out the identified themes instrumental in helping veterinarians create their professional communication identity, as seen in figure 3.

Box 1 Main questions of the interview guide

- ▶ What do you understand by veterinary competence in communication?
- ▶ Which communication skills do veterinarians need on your perspective?
- ▶ When you think back, what influenced your communication skills most?
- ▶ When you receive the opportunity to decide, how and when should communication skills be learned?
- ▶ What are the challenges for graduates in your working field in the future?
- ▶ Do you see a connection/link between your communication skills and your salary?
- ▶ From your point of view, do you see a connection/link between your communication skills and your satisfaction at work?

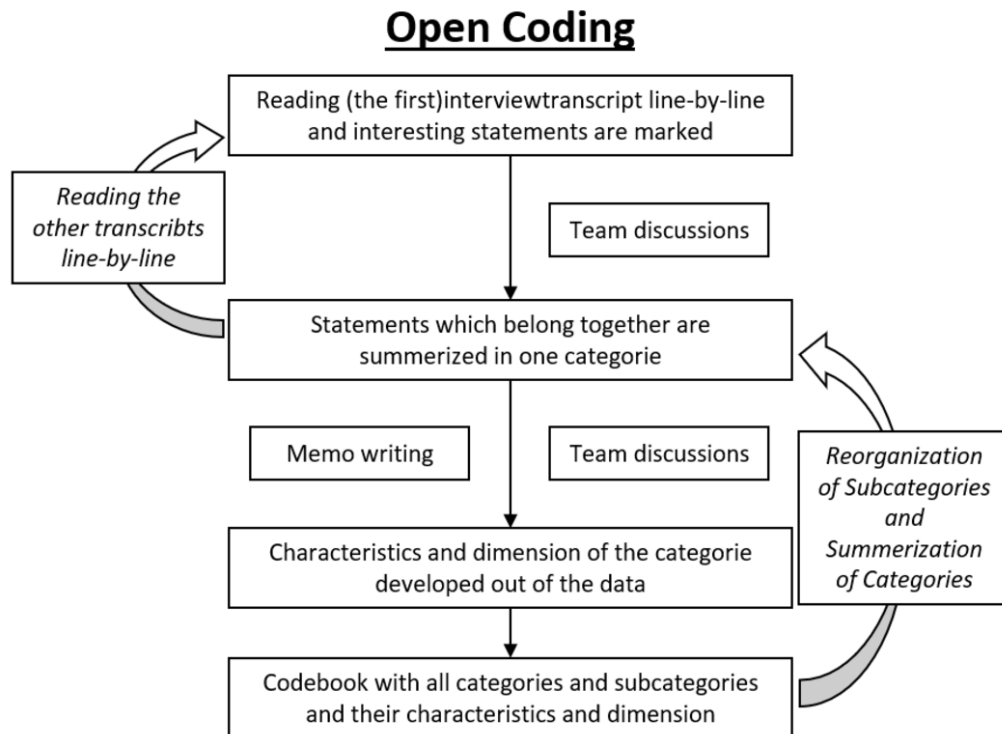


Figure 2 Inductive category building (open coding) adapted from Strauss and Corbin.⁴⁷

Existing personal communication identity

The existing personal communication identity is influenced by family and social environment as well as education and experiences in school. It is developed largely during childhood. Participants pointed out that experiences during this life period became the cornerstone of their contemporary communication. ‘Of course, my parents’ home was the basis’ (VI 2), a finding already identified by the research of Schwartz *et al.*⁵⁶

Socialisation

The next step of the formation of communication identity is called ‘Socialization’. Socialisation belongs to the process when a person is influenced by persons or institutions outside the family,^{45 56} such as school and higher education institutions. It progresses when contacting role models and professionals. For instance, telephone communication training during the veterinary nursing apprenticeship period was mentioned as a core factor in this development stage. “During my training period for veterinary assistant I was sent to two seminars on ‘phone skills” (CAP2). Completion of communication training led to a more focused view on communication in daily veterinary medicine. ‘I can only recommend such training to anyone who works a lot on the phone [...]’ (CAP2).

Furthermore, any experiences during veterinary study can influence the socialisation process. In this regard, participants described communication with different types of persons (eg, extroverted, excited) as challenging. Similar experiences were reported relating to an examination. ‘...as a student, I did so poorly in the first oral exam, but much better in the second with another [examiner].

[...] You get an idea that communication [...] can run differently and that you can influence it...’ (VII). Additionally, similar experiences while working with different types of persons on their doctoral thesis were reported. ‘...already during the dissertation, [...] I already noticed that there are different types of people who have to be treated differently’ (VII). Correspondingly, an adaptation of one’s communication style is needed to communicate equally and effectively to different people.

As seen above interpersonal communication influences socialisation. This interaction of two individuals is further described in the category ‘basic essentials of interpersonal communication’ (figure 4). The characterising properties as shown in figure 4 describe all factors of communication that relate to personal properties of the conversational partners together with communication behaviour and attitudes.

The properties of this category are described with the following themes: characteristics of the dialogue partner, way of behaving, communication attitude, relationship of the conversational partners, as well as choice of language, communication channels and non-verbal communication. All properties of this category are connected as described below.

Professional behaviour as a veterinarian describes the interaction of veterinarians with conversational partners. The dimension of this behaviour can range from professional distance to an amicably close relationship. These manners are directly influenced by their relationship to the conversational partners (hierarchical to equal). This correlation was highlighted by one leader

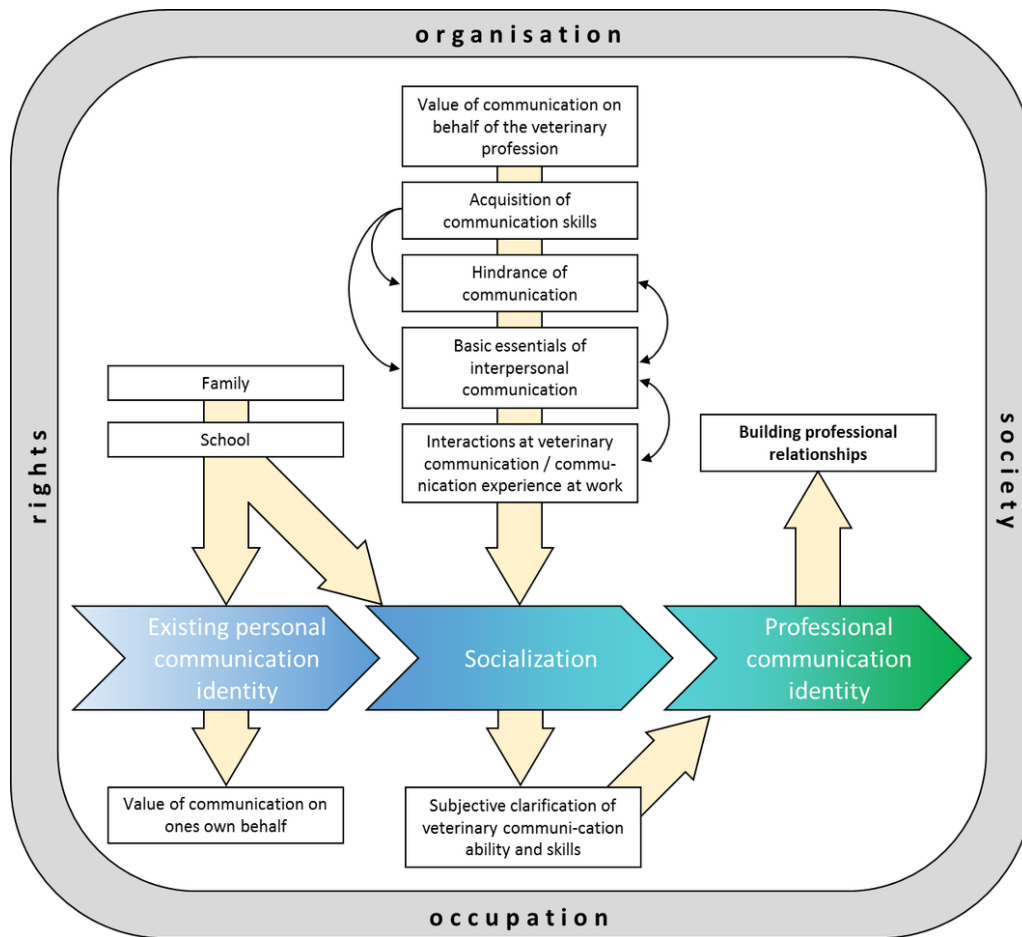


Figure 3 Professional communication identity formation and influencing factors sorted in categories in the context of the environment veterinarians belong to.

of a farm animal practice. When one is of or is treated as having equal professional status with another person, more effective feedback is possible. *‘We have a very flat hierarchy [...]. If something is not going well and you discuss*

potential problems, this request remains much more impressive than instructions by an imperious boss’ (FAP 4). Additionally, the aspects of non-verbal communication skills are emphasised regarding face-to-face communication. Such

Basic essentials of interpersonal communication

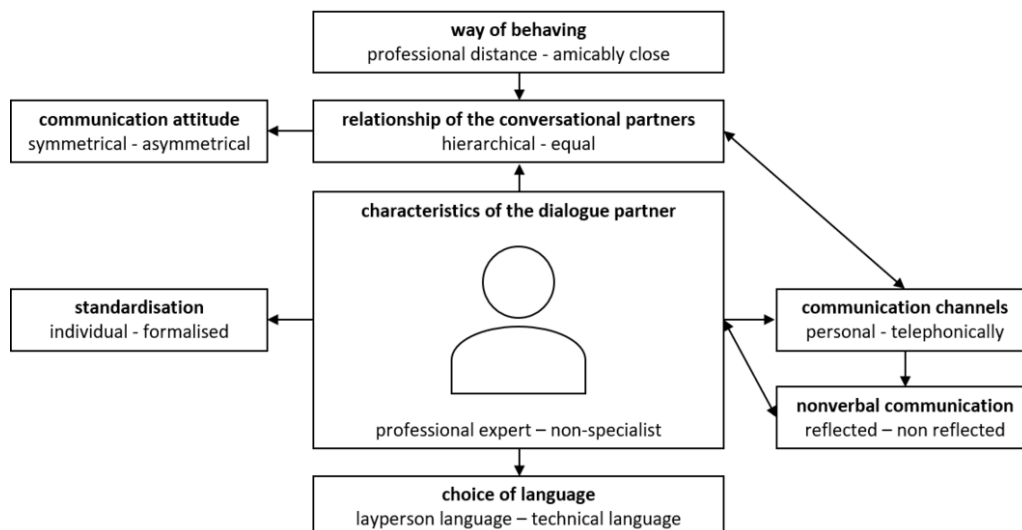


Figure 4 ‘Basic essentials of interpersonal communication’ and properties with dimensions of this category.

Communication interaction experiences at work

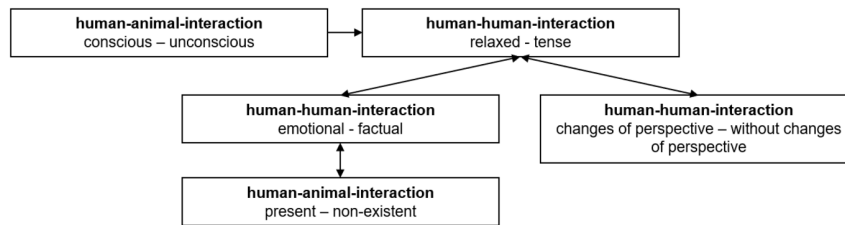


Figure 5 'Communication interaction experiences at work' and properties with dimensions of this category.

skills are not only important in the communication with clients, it is also important for scientific lectures or other forms of public communication (eg, interviews). 'Communication is, of course, linguistic and physical. So, communication begins with one's appearance, communicating a certain level of competence as I appear before the owner. [...] how do I open, for example, lectures? How do I behave in public situations? How can I present myself there?' (CAP 2). One other important property for the interpersonal communication is the choice of language. Therefore, an adaptation of language consistent with the conversational partners is required. 'In practice I was working with the farmer and had to seek a very different level of conversation than that used at the university. I realized, that I had to explain factual relationships in a simpler manner, so that they are ultimately understood by the pet owner' (GS1).

'Communication interaction experiences at work' is another category that refers to socialisation. This includes interpersonal interactions as well as the interaction of persons and animals at work, as shown in figure 5. Interestingly, participants mentioned little comments about the interactions with animals when they were asked about their communication during work.

Nevertheless, the importance of interactions with animals and the influence on the human-human interaction was emphasised by one participant when a memory of his internship was described:

So, I've watched [...] how the vet [...] deals with the animals and with the pet owners. [...] The interesting thing was to see people delighted when the vet said, 'what a pretty animal, it looks great' and that's made people (owner) so proud that they (vets) get everything they want. (CAP 1)

Much more suggestions were made about the interactions between veterinarians and other people at work. On the one hand, these interactions were often described as stressful particularly in emotional situations (eg, euthanasia). 'If you have to tell unpleasant things to the pet owner, whether the animal is seriously ill or if it comes to the point to talk about putting the animal to sleep. You learn to deal with it over time but ((inhales)) this is ((exhales)) not always so easy' (CAP 1). On the other hand, constructive interactions were perceived as relaxed interactions. 'I do not work alone, but in a team and the exchange with colleagues is very important and I say the friendlier and more constructive and smoother that works the easier it is to work and the more fun it is' (VR 2).

'Acquisition of communication skills' is an additional factor during the socialisation of veterinarians and their communication identity formation. Such acquisition could proceed in different ways, as shown in figure 6.

The analysis differentiates between intentional and unintentional acquisition of communication skills. Courses where communication skills are the central outcome are summarised as intentional acquisition of communication skills. All participants had no explicit communication education during their veterinary study. However, often, these courses are taken as part of continuing education. On the contrary, interviewees who had participated in one or more training courses on communication skills found it helpful for the rest of their career helping them to develop their communication identity. '[...] If one recognizes the importance of communication, almost everyone comes sometime in his professional career to the point [...] that 'I have to work on my communicative abilities because then I have more joy in my job dealing with people and

Acquisition of communication skills

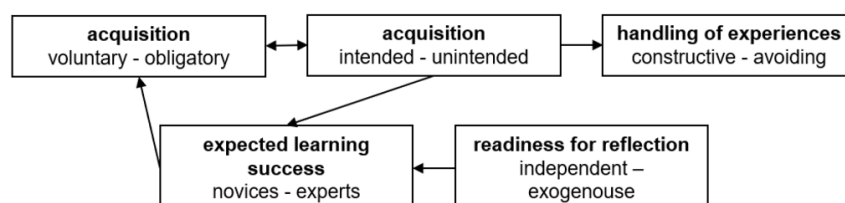


Figure 6 'Acquisition of communication skills' properties and dimensions of this category.

reach my goal more easily” (VI 1). The other type of training can be the unintentional acquisition of communication skills such as learning by watching others or learning by doing it. ‘Of course, it is also plenty of learning by... watching others...’ (VR 1).

The acquisition of communication skills further could influence ‘hindrance in the communication’. If somebody is aware of the possibilities of hindrance which can arise during a communication interaction, the hindrance could be prevented. These hindrances may regard to people (eg, misunderstanding), the environment (eg, loudness) or animals (eg, aggressiveness). Their manner of handling hindrances in interpersonal interactions shapes the future communication interactions in a positive or negative way. These hindrances of communication could be minimised. ‘...that could also be conflicts in the practice team or so. I think I could also reach improvement in the whole work environment, if there were more communication skills among the vets’ (VI 1).

The ‘value of communication on behalf of the veterinary profession’ is an important factor. In all interviews, the majority of people agreed that communication is one of the most important skills in all areas of veterinary medicine. ‘Not all veterinarians are in practice, and communication skills are also important in other areas of the facet of this profession. Without communication, nothing works’ (VR 2). Communication plays a central role for veterinarians working in private practice, especially in taking history and giving information after diagnostic examinations. ‘I consider it absolutely essential for a correct diagnosis or even for a proper history-taking’ (GS 2). Interestingly, the communication with clients was evaluated more seriously than the examination of the animals. ‘We can take care of the animals and examine animals, but we have to talk to the people that belong to it (animal) otherwise we will not achieve anything’ (FAP 1).

Professional communication identity

Starting with an existing personal communication style in combination with complex socialisation processes, the professional communication identity arises. This communication identity defines the individual professional communication style. The aim/result of the professional communication identity is to build professional relationships with the persons you work together in every field of veterinary medicine. If this is neglected, it can have negative consequences. ‘We are depending on [team conversation] that we take note of certain undesirable developments and this essentially happens through the conversation’ (GS 1).

The ‘subjective clarification of veterinary communication ability and skills’ develops from socialisation of the veterinarian. The professional communication identity is an expression of the subjective communication skills. Furthermore, the subjective clarification of veterinary communication skills can be seen in the interaction with the public. For example, the professional commitment is easier to manage with a well-formed professional communication identity as shown in the following citation.

‘[...] in our case, in livestock practice with our relationship to agriculture [...], socially relevant positions are about the use of antibiotics and animal welfare aspects [...] this does not affect everyone, but our positions [...] we have to communicate facts with the public’ (FAP 4).

Finally, building a good relationship with clients and colleagues is the basis of a successful communication interaction and results in greater satisfaction at work. ‘The work is fun, one is satisfied about treatment success [...] additionally the working climate with colleagues is important’ (FAP 3).

DISCUSSION

In this study, using the grounded theory analysis allowed the development of the first framework of formation of professional communication identity in the various fields of veterinary medicine. The methodology was chosen to find coherences between single-coded categories to build up a theory grounded in the data.⁴⁷

This analysis explored how individual veterinarians understand competence in communication and how their development of communication identity is influenced by socialisation. Furthermore, this study highlights the veterinary curricular importance of development of identity.

The current study offered one possible explanation of how veterinarians in various working fields build their PI of communication. An initial objective of the project was to identify the meaning of competence in communication for veterinarians. Recognising that most respondents did not have an implicit understanding of communication competence, the focus on the development of a communication identity arose gradually for most participants, taking place in the context of the profession and work organisation with its duties and limits and society with its values. This professional communication identity can be formed in a process which is characterised by three main influencing factors. Starting with the personal communication identity in early childhood, continued with the socialisation during studies and on-the-job training, and finalised with the formation of a PI during the whole career. Similar findings are reported for the PIF in teaching.⁵⁷ There were social experience, role models and teaching environment mentioned as influencing factors during the formation of teaching identity.⁵⁷ These findings are consistent with the findings of Cruess *et al* and Bebeau who described the identity formation in medicine and dentistry.^{58 59}

The findings of this study showed that the veterinarian behaviour is directly influenced by the relationship with the conversational partner. Therefore, it seems crucial to train behaviour skills for a good professional relationship which is required as a goal for an effective conversation.⁶⁰ There are similarities between the behaviour as a veterinarian professional and perceptual communication skill (what you are thinking and feeling),¹⁷ both describing the attitude and respect of the veterinarian.⁶¹

Furthermore, perceptual skills incorporate values, integrity and personal capacities for compassion.⁶¹ Thus, it can be suggested that teaching communication skills effectively, equal attention to perceptual skills as to content and process communication skills are essential.⁶² Additionally, language choice was identified as one important property of basic essentials of interpersonal communication in our study. Depending on different conversational partners an adaptation of language is necessary. This finding correlates with the skills-based approach to communication, in particular process skills (how you communicate) which are part of the Calgary Cambridge Guide.⁶⁰ Another interesting finding is the influence of veterinary–animal interaction on relationship of veterinarian and client. If the veterinarian pays attention to the animal and interacts with it in a friendly way, the client will show confidence in the veterinarian which is essential for a good/close relationship. Surprisingly, in contrast with the study of Hamood *et al*, the relevant factor of communication between the veterinarian and the animal was not often highlighted nor mentioned in this study. The previous study pointed out that communication with animals is specific for veterinary medicine in comparison to human medicine.⁶³ A possible explanation might be that the interviewees in this study were unaware of their communication with the animals and did not focus on this topic during the interviews.

Another interesting finding was the influence of interactions with different types of persons during and after graduation. This important socialisation factor of human–human interactions supports further the idea of learning from models proposed by Bandura.⁶⁴ Considering that, an adaptation of the ‘hidden curriculum’, that is, unstated but training associated with the learning environment, is important.⁶⁵ Students are highly influenced by role models and peers; therefore, it is suggested that implicit teaching should correlate with explicit teaching goals or learning impact will be diminished.²¹ Adams and Kurtz emphasised acceptance by the faculty at large as an important need for successful communication training.⁶⁰ According to the result of the study by Engelskirchen *et al*, explicit instruction on history taking communication was more effective than assuming that such skills will be conveyed implicitly.^{32 33}

Furthermore, the value of communication in the veterinary profession was emphasised as very important for all working fields and could be as important as the examination of the animal supporting the fact that mandatory communication skills training is crucial in a curriculum.^{1 62 66} A curriculum should support the beginning of the development of professional communication identity in a constantly changing working environment and society. Therefore, it seems necessary to support students during their studies in order to facilitate their development of a professional communication identity. For this support, the author recommends an integrated longitudinal (from the first day on) communication training in which all three types of communication skills

are taught and trained using role-playing with constructive video feedback.^{32 60 67 68} With a longitudinal curriculum combined with increasing complexity in skills, a greater overall effectiveness will be achieved.^{69 70} With this approach, it is possible to harmonise the knowledge and communication skills of students. Furthermore, by creating an effective communication training, a realistic environment and different learning types should be considered. Therefore, an experiential learning theory approach by Kolb can serve as a basis that combines different learning styles.^{71 72} Additionally, formative assessment for the successful verification of training and students’ development of communication skills is necessary.

The most obvious finding of the analysis was that directed acquisition of communication skills is important for the formation of a PI. This result seems to be consistent with other research which found that communication skills are learnable and a core clinical skill for veterinarians.^{1 17 31 73} However, participants without experience in directed acquisition of communication skills often acquired communication skills indirectly. This might be not as effective as explicit learning approaches as it is well known that watching experts and knowing about a skill is not enough to improve one’s own skill.⁶² Furthermore, communication sessions during clinical practice are needed to develop clinical communication skills to a professional level.⁶⁷ In addition, communication is an essential part of PIF and means of expression of professionalism.³⁹ If communication skills are taught and learned, consequently it will result in a professional communication style, itself an expression of professionalism. PIF, although a lifelong process,^{46 74} is not a gradual process enhanced by crisis or clinical experiences.⁴⁵ Therefore, formation of a professional communication identity in veterinary medicine could not be expected at graduation.⁵⁸ Correspondingly, postgraduate communication training is helpful to support the formation process during the veterinary career. Therefore, specific training with main emphasis on authentic role-plays should be provided. Adams and Kurtz⁶² described the learning and teaching of communication skills as an ever-increasing helix.⁶² Furthermore, they emphasise that appropriate curricular and postcurricular design of programmes could emanate from the established guides for veterinary communication.^{62 68} Wald *et al*⁷⁵ stressed two teaching models for PIF to bridge from theory to practice. They pointed out two learning courses: on the one hand, ‘resilient responses to difficult clinical interactions’ and, on the other hand, ‘mindful clinical practice’.⁷⁵ Both modules promote clinical reasoning, communication with patients and development of a reflective PI. Moreover, they discuss the importance of supporting students during study to prevent work-related stress.⁷⁵ Furthermore, mental health could be influenced positively when a veterinarian is confident with communication skills in difficult situations. Additionally, education and practice can provide PIF but there is hazard for damaging

a healthy PI resulting in high burnout rates.^{76 77} Moreover, it is suggested that the appropriate state of mind is as important as practical competence for preparing students for the world of practice.⁷⁸ Today's practitioner must pay greater attention to their clients' needs, and adjust to the change from small one-man practices to bigger specialised clinics. In this situation, cooperation and communication is much more important regarding teamwork and cooperation between specialists.⁴²

Strengths and limitations

Interviews via telephone have limitations in recognising non-verbal signals of the interviewees which can be important for interpretation of meaning. Optimising interpretation was reached by adding paraverbal signals into transcription. However, using single interviews via telephone enabled a nationwide selection of interviewees which enhance the sampling of participants. One strength of this study is the grounded theory analysis by a deliberately mixed research team that systematically ensured both consistency and diversity of analysis of the collected data in team discussions. The aim of the study is not the development of a general empirical proved theory. The aim is to develop one possible theory to explain how the development of the professional communication identity of veterinarians happens. The generalisability of the findings may be limited and will probably depend on the working fields and duties of veterinarians as well as the education of veterinary students by that time. The gender sampling of the interviewees in each working field may lead to limitations. Relating sampling to the statistic of German veterinarians, in farm animal practice the majority of veterinarians are male and the other way round in the industry the women make up the majority.⁵⁰ However, in this study, no gender differences occur in the gender mixed working fields and over all participants genders are equally represented. Nonetheless, this is the first framework of professional communication identity formation in veterinary medicine and further research would be necessary to prove this theory. Additionally, communication differs personally, this theory might not be appropriate for every individual veterinarian.

CONCLUSION

The results of this study indicate that a communication identity formation is an important process for all veterinarians. The professional communication identity arises during a lifelong process and is influenced by, among other things, acquisition of communication skills, essentials of interpersonal communication and experiences at work. This process can be supported during the study time by explicit training on communication skills. A longitudinal integrated communication curriculum with experimental learning strategies in an authentic environment and video-based feedback is required to prepare veterinary students for work-life. It is essential to revise curricula lacking communication skills training to include

enhanced reflection on communication within the profession. Despite existing communication curricula in veterinary medicine, this study suggests greater emphasis could be placed on development of perceptual skills in communication in all stages and fields of the veterinarian's career. Veterinary academia should pay attention and adjust aspects of the 'hidden curriculum' to conform with the explicitly taught communication curriculum to maximise impact for better veterinary medicine.⁶⁵

Acknowledgements The authors thank all the participating veterinarians for their contribution to this study. In addition, all authors thank Professor Duncan C Ferguson, University of Illinois at Urban-Champaign, for his valuable support in reading and editing the paper for proper English.

Funding The research was partly funded by the German Federal Ministry of Education and Research. This publication was supported by the Deutsche Forschungsgemeinschaft and University of Veterinary Medicine Hannover, foundation within the funding programme Open Access Publishing.

Competing interests SG is a research assistant at Clinical Skills Lab, University of Veterinary Medicine, Foundation. Her interests include communication skills, clinical skills and simulation. AH is a research assistant at the Medical Faculty of Augsburg University. She is responsible for faculty development and is experienced in workshops and courses for faculty and students in the areas of medical education, communication and basic research skills. AT is a professor for veterinary neurology at the Small Animal Clinic, University of Veterinary Medicine, Foundation. Her interests include veterinary neurology and education, e-learning, continuing education and assessments. MD is head of the scil vet academy, scil animal care. His interests include clinical skills and simulation, continuing education, mental health in veterinary medicine and learning strategies.

Ethics approval This study was reviewed and approved by the University of Veterinary Medicine Hannover doctoral thesis committee, ensuring procedures met ethical guidelines regarding research with human participants. Furthermore, the data protection officer of the University of Veterinary Medicine Hannover verified the observance of the data protection law. All participants gave written informed consent to be part of this study and to accept the audio recording.

Provenance and peer review Not commissioned; externally peer reviewed.

Data sharing statement The Interview guide in detail (in German) and additional data can be made available by the corresponding author on request.

Open access This is an open access article distributed in accordance with the Creative Commons Attribution Non Commercial (CC BY-NC 4.0) license, which permits others to distribute, remix, adapt, build upon this work non-commercially, and license their derivative works on different terms, provided the original work is properly cited and the use is non-commercial. See: <http://creativecommons.org/licenses/by-nc/4.0/>

REFERENCES

1. Kurtz S, Silverman J, Draper J. The 'why': a rationale for communication skills teaching and learning. In: Kurtz S, Silverman J, Draper J, eds. *Teaching and learning communication skills in medicine*: CRC press, 2016:14–27.
2. Ha JF, Longnecker N. Doctor-patient communication: a review. *Ochsner J* 2010;10:38–43.
3. Woelber JP, Deimling D, Langenbach D, et al. The importance of teaching communication in dental education. A survey amongst dentists, students and patients. *Eur J Dent Educ* 2012;16:e200–e204.
4. Chant S, Jenkinson T, Randle J, et al. Communication skills: some problems in nursing education and practice. *J Clin Nurs* 2002;11:12–21.
5. Okullo I, Aström AN, Haugejorden O. Influence of perceived provider performance on satisfaction with oral health care among adolescents. *Community Dent Oral Epidemiol* 2004;32:447–55.
6. Williams S, Weinman J, Dale J. Doctor-patient communication and patient satisfaction: a review. *Fam Pract* 1998;15:480–92.
7. Baron RS, Logan H, Kao CF. Some variables affecting dentists' assessment of patients' distress. *Health Psychol* 1990;9:143–53.

8. Vick S, Scott A. Agency in health care. Examining patients' preferences for attributes of the doctor-patient relationship. *J Health Econ* 1998;17:587–605.
9. Ramirez AJ, Graham J, Richards MA, et al. Mental health of hospital consultants: the effects of stress and satisfaction at work. *Lancet* 1996;347:724–8.
10. Maguire P, Faulkner A, Booth K, et al. Helping cancer patients disclose their concerns. *Eur J Cancer* 1996;32A:78–81.
11. Hampton JR, Harrison MJ, Mitchell JR, et al. Relative contributions of history-taking, physical examination, and laboratory investigation to diagnosis and management of medical outpatients. *Br Med J* 1975;2:486–9.
12. Peterson MC, Holbrook JH, Von Hales D, et al. Contributions of the history, physical examination, and laboratory investigation in making medical diagnoses. *West J Med* 1992;156:163–5.
13. Jenkins V, Fallowfield L, Saul J. Information needs of patients with cancer: results from a large study in UK cancer centres. *Br J Cancer* 2001;84:48–51.
14. Abrahamsson KH, Berggren U, Hallberg L, et al. Dental phobic patients' view of dental anxiety and experiences in dental care: a qualitative study. *Scand J Caring Sci* 2002;16:188–96.
15. Bristol DG. Using alumni research to assess a veterinary curriculum and alumni employment and reward patterns. *J Vet Med Educ* 2002;29:20–7.
16. Brown JP, Silverman JD. The current and future market for veterinarians and veterinary medical services in the United States. *J Am Vet Med Assoc* 1999;215:161–83.
17. Shaw JR, Adams CL, Bonnett BN. What can veterinarians learn from studies of physician-patient communication about veterinarian-client-patient communication? *J Am Vet Med Assoc* 2004;224:676–84.
18. Chadderdon LM, King LJ, Lloyd JW. The skills, knowledge, aptitudes, and attitudes of successful veterinarians: a summary of presentations to the NCVI subgroup (Brook Lodge, Augusta, Michigan, December 4–6, 2000). *J Vet Med Educ* 2001;28:28–30.
19. Kersebohm JC, Lorenz T, Becher A, et al. Factors related to work and life satisfaction of veterinary practitioners in Germany. *Vet Rec Open* 2017;4:e000229.
20. Gelberg HB, Gelberg S. Perspectives on academic veterinary administration. *J Am Vet Med Assoc* 2001;219:734–40.
21. Mossop LH, Cobb K. Teaching and assessing veterinary professionalism. *J Vet Med Educ* 2013;40:223–32.
22. Rutter D, Maguire G. History-taking for medical students: II—evaluation of a training programme. *The Lancet* 1976;308:558–60.
23. Maguire GP, Clarke D, Jolley B. An experimental comparison of three courses in history-taking skills for medical students. *Med Educ* 1977;11:175–82.
24. Schreier A, Dub B. Teaching interpersonal communication skills in paediatrics with the help of mothers. *S Afr Med J* 1981;59:865–6.
25. Evans BJ, Coman GJ, Goss B. Consulting skills training and medical students' interviewing efficiency. *Med Educ* 1996;30:121–8.
26. Evans BJ, Stanley RO, Mestrovic R, et al. Effects of communication skills training on students' diagnostic efficiency. *Med Educ* 1991;25:517–26.
27. Campbell E, Weeks C, Walsh R, et al. Training medical students in HIV/AIDS test counselling: results of a randomized trial. *Med Educ* 1996;30:134–41.
28. Maguire P, Pitceathly C. Key communication skills and how to acquire them. *BMJ* 2002;325:697–700.
29. Dunning DG, Lange BM. The effect of feedback on student use of interpersonal communication skills. *J Dent Educ* 1987;51:594–6.
30. Daniels TG, Denny A, Andrews D. Using microcounseling to teach RN nursing students skills of therapeutic communication. *J Nurs Educ* 1988;27:246–52.
31. Latham CE, Morris A. Effects of formal training in communication skills on the ability of veterinary students to communicate with clients. *Vet Rec* 2007;160:181–6.
32. Shaw JR, Barley GE, Hill AE, et al. Communication skills education onsite in a veterinary practice. *Patient Educ Couns* 2010;80:337–44.
33. Engelskirchen S, Ehlers JP, Tipold A, et al. Vermittlung kommunikativer Fertigkeiten im Tiermedizinstudium am Beispiel der Anamneseerhebung während des Praktischen Jahres an der Klinik für Kleintiere der Stiftung Tierärztliche Hochschule Hannover. *Tierärztliche Umschau* 2016;71:270–6.
34. Humble JA. Improving listening skills of food animal practitioners. *J Am Vet Med Assoc* 1996;209:1067–8.
35. Andrews K. *Roadmap for veterinary medical education in the 21st century: responsive, collaborative, flexible*, 2013.
36. Hodgson JL, Pelzer JM, Inzana KD. Beyond NAVMEC: competency-based veterinary education and assessment of the professional competencies. *J Vet Med Educ* 2013;40:102–18.
37. EAEVE EAoEVE. *List of subjects and day one competences*, 2016.
38. Allister R. Questions of identity. *Vet Rec* 2015;176:431–2.
39. Apker J, Eggly S. Communicating professional identity in medical socialization: considering the ideological discourse of morning report. *Qual Health Res* 2004;14:411–29.
40. Lloyd JW, King LJ, Mase CA, et al. Future needs and recommendations for leadership in veterinary medicine. *J Am Vet Med Assoc* 2005;226:1060–7.
41. Mossop LH. Is it time to define veterinary professionalism? *J Vet Med Educ* 2012;39:93–100.
42. Armitage-Chan E, Maddison J, May SA. What is the veterinary professional identity? Preliminary findings from web-based continuing professional development in veterinary professionalism. *Vet Rec* 2016;178:318.
43. May SA, Kinnison T. Continuing professional development: learning that leads to change in individual and collective clinical practice. *Vet Rec* 2015;177:13.
44. Cruess RL, Cruess SR, Boudreau JD, et al. A schematic representation of the professional identity formation and socialization of medical students and residents: a guide for medical educators. *Acad Med* 2015;90:718–25.
45. Jarvis-Selinger S, Pratt DD, Regehr G. Competency is not enough: integrating identity formation into the medical education discourse. *Acad Med* 2012;87:1185–90.
46. Kegan R. *The evolving self*: Harvard University Press, 1982.
47. Strauss AL, Corbin JM, Newiarras S. *Grounded theory: grundlagen qualitativer sozialforschung*. Beltz: Psychologie-Verlag-Union, 1996.
48. Tong A, Sainsbury P, Craig J. Consolidated criteria for reporting qualitative research (COREQ): a 32-item checklist for interviews and focus groups. *Int J Qual Health Care* 2007;19:349–57.
49. Corbin J, Strauss A, Strauss AL. *Basics of qualitative research*: Sage, 2014:65–86.
50. Statistik B. Tierärzteschaft in der Bundesrepublik Deutschland. *Deutsches Tierärzteblatt* 2017;5:616–21.
51. Brinkmann S, Kvale S. *Interviews: learning the craft of qualitative research interviewing*, 2015:147–61.
52. Liamputtong P, Serry T. The In-depth interviewing Method in Health. In: Liamputtong P, ed. *Research methods in health: foundations for evidence-based practice*, 2013:39–53.
53. Helfferich C. Konstruktion von Instrumenten – der Weg zu einem Leitfaden. In: Helfferich C, ed. *Die Qualität qualitativer Daten*. 4th edn: Springer, 2011:178–89.
54. Ng S, Lingard L, Kennedy TJ. Qualitative research in medical education: methodologies and methods. In: Swanwick T, ed. *Understanding medical education: Evidence, theory and practice*: John Wiley & Sons, 2013:371–84.
55. Charmaz K, Thornberg R, Keane E. Evolving grounded theory and social justice inquiry. In: Denzin NK, Lincoln YS, eds. *The SAGE handbook of qualitative research*: SAGE Publications, 2017:411–43.
56. Schwartz SJ, Luyckx K, Vignoles VL. Toward an integrative view of identity. In: Schwartz SJ, Luyckx K, Vignoles VL, eds. *Handbook of identity theory and research*: Springer, 2011:1–23.
57. Beijard D, Meijer PC, Verloop N. Reconsidering research on teachers' professional identity. *Teach Teach Educ* 2004;20:107–28.
58. Bebeau MJ. *Chapter 4: evidence-based character development. Lost virtue*: Emerald Group Publishing Limited, 2006:47–86.
59. Cruess RL, Cruess SR, Boudreau JD, et al. Reframing medical education to support professional identity formation. *Academic Medicine* 2014;89:1446–51.
60. Adams CL, Kurtz SM. Building on existing models from human medical education to develop a communication curriculum in veterinary medicine. *J Vet Med Educ* 2006;33:28–37.
61. Silverman J, Kurtz S, Draper J. Defining what to teach and learn: an overview of the communication skills curriculum. In: Silverman J, Kurtz S, Draper J, eds. *Skills for communicating with Patients*, 2005:7–21.
62. Adams CL, Kurtz S. Communication. In: Hodgson JL, Pelzer JM, eds. *Veterinary medical education: a practical guide*. 1st edn: Wiley, 2017:357–77.
63. Hamood WJ, Chur-Hansen A, McArthur ML. A qualitative study to explore communication skills in veterinary medical education. *Int J Med Educ* 2014;5:193–8.
64. Bandura A. *Lernen am modell: Ansätze zu einer sozial-kognitiven Lerntheorie*: Klett, 1976:229.
65. Mossop L, Dennick R, Hammond R, et al. Analysing the hidden curriculum: use of a cultural web. *Med Educ* 2013;47:134–43.
66. Bok HGJ, Jaarsma DADC, Teunissen PW, et al. Development and validation of a competency framework for veterinarians. *J Vet Med Educ* 2011;38:262–9.



67. Adams CL, Kurtz S. Coaching and feedback: enhancing communication teaching and learning in veterinary practice settings. *J Vet Med Educ* 2012;39:217–28.
68. Silverman J. Teaching clinical communication: a mainstream activity or just a minority sport? *Patient Educ Couns* 2009;76:361–7.
69. van Dalen J, Kerkhofs E, van Knippenberg-van den Berg BW, et al. Longitudinal and concentrated communication skills programmes: two dutch medical schools compared. *Advances in Health Sciences Education* 2002;7:29–40.
70. Dalen J, Zuidweg J, Collet J. The curriculum of communication skills teaching at Maastricht Medical School. *Med Educ* 1989;23:55–61.
71. Kolb DA. *Experience as the source of learning and development. Experiential learning*. Englewood Cliffs, NJ: Prentice-Hall, Inc, 1984.
72. Meehan MP, Menniti MF. Final-year veterinary students' perceptions of their communication competencies and a communication skills training program delivered in a primary care setting and based on Kolb's experiential learning theory. *J Vet Med Educ* 2014;41:371–83.
73. McDermott MP, Tischler VA, Cobb MA, et al. Veterinarian–client communication skills: current state, relevance, and opportunities for improvement. *J Vet Med Educ* 2015;42:305–14.
74. Forsythe GB, Snook S, Lewis P, et al. Making sense of officership: developing a professional identity for 21st century army officers. In: Matthews LJ, ed. *The future of the army profession*, 2002:357–78.
75. Wald HS, Anthony D, Hutchinson TA, et al. Professional identity formation in medical education for humanistic, resilient physicians: pedagogic strategies for bridging theory to practice. *Academic Medicine* 2015;90:753–60.
76. Jennings ML. Medical student burnout: interdisciplinary exploration and analysis. *J Med Humanit* 2009;30:253–69.
77. Hatch PH, Winefield HR, Christie BA, et al. Workplace stress, mental health, and burnout of veterinarians in Australia. *Aust Vet J* 2011;89:460–8.
78. Dornan T, Boshuizen H, King N, et al. Experience-based learning: a model linking the processes and outcomes of medical students' workplace learning. *Med Educ* 2007;41:84–91.