ORIGINAL ARTICLE

Knowledge Formation in Systemic Counselling Trainees from Germany: A Pilot Study from a Competence-Based Perspective

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Abstract

This pilot study has two areas of focus. It examines how the knowledge and competences of twelve Master's-level systemic counselling trainees are connected, and how well their own assessment of their competence corresponds to external assessment. Methodologically, three instruments were used: first, an instrument to measure their explicit knowledge; second, videos of consultations with simulated clients to measure their competence in practice; third, a self-assessment measure to explore how externally assessed competence corresponds to self-assessment. The results show no indication that knowledge is related to externally assessed competence. Furthermore, their self-assessment did not show any systematic connection to the external assessment. The study concludes that the development of systemic counselling skills is a long-term process of theory acquisition, practise, and reflection. Important reflection processes can be stimulated by self-assessment. However, such assessments are not sufficient to capture the quality and scope of competence.

Keywords Knowledge formation · Competence · Expertise and competence research · Systemic counselling trainees · Professional development

Introduction

Counselling, defined as "a professional relationship that empowers diverse individuals, families, and groups to accomplish mental health, wellness, education, and career goals" (Kaplan et al., 2014, p. 366), is a complex practice which requires equal measures of knowledge and ability, when performed competently. The acquisition and measurement of counselling competences is at the core of counselling training (Little et al., 2005; Rousmaniere et al., 2017; Tate et al., 2014). The definition

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of competence used here follows a concept that goes back to Heinrich Roth (1971) and closely follows the tradition of education theory. Roth addressed an individual's competence as skills that not only encompass cognitive dispositions towards performance, but whose goal is a general practical ability that includes the affective-motivational domain (Roth, 1971). Examples of this component include epistemic beliefs or self-regulatory skills (Lau & Roeser, 2002). In this context, "competence" refers to individual dispositions to take action, which are not directly observable, but have to be inferred from how people act (perform) in specific situations (Blömeke et al., 2015; Fouad et al., 2009).

Problematically, however, the training of systemic counsellors has been little orientated on forms of knowledge that result in competent systemic counselling practice (Bauer & Weinhardt, 2020; Falender & Shafranske, 2004, 2012; Rousmaniere et al., 2017). Due to this lack of competence orientation, it was unclear for a long time how competences could be measured at all (Foster & McAdams, 2009; Swank & Lambie, 2012, 2016; Tate et al., 2014). But the ability to determine the counselling competence of master's level trainees counselling competence is essential, so that these trainees can provide ethical and effective counselling (ACA, 2014; APA, 2010). The ability to reflect on one's own level of competence development is the responsibility of every counsellor and should start in this early stage of professional learning (ACA, 2014). Accordingly, the use of self-assessment tools is particularly important in competence-oriented training.

Therefore, to improve training in systemic counselling, and to drive forward individuals' professional development through the acquisition of knowledge and competence, it is particularly relevant to answer the following questions: What is the relationship between knowledge acquired about systemic counselling and the development of competence in systemic counselling? What is the connection between self-assessment of that competence and external assessment?

The aim of the present pilot study is thus to play a part in improving competence-oriented training in initial and continuing education in systemic counselling. This objective has become even more important since the systemic approach was recognised under German law on social security in 2018. Germany's Federal Joint Committee (G-BA) recognises systemic therapy as useful and effective. It is categorised as the fourth approved psychotherapy method for adults funded by health insurance in Germany, alongside behavioural therapy, psychoanalytic therapy, and depth psychology. In this paper, adopting an inclusive understanding, systemic therapy is seen as a special form of systemic counselling, in line with most studies on common factor research (Grencavage & Norcross, 1990; Hubble et al., 1999; Wampold & Imel, 2015).

This study begins by describing the systemic counselling approach and the competences which systemic counsellors should have. A model of knowledge-building processes is presented that shows the specific characteristics of systemic counselling, and how the knowledge formation process works. Following this, different views on the relationship between knowledge and competence are discussed, and competence assessment measurements are introduced. Additionally, the sampling and data collection is explained, and the pilot study character is described. The methods used in this study are presented. Findings are then shown, and the paper

concludes with a discussion of the research findings and the study's limitations, as well as future research investigations.

Knowledge and Competence

Systemic Counselling Approach and Competences

Systemic counselling has been selected as the most frequently chosen theoretical approach in counselling the system of the family (Roth & Fonagy, 2005). This is not surprising because the systemic approach focuses on changing interactions and relationships; it does not view reality as objective and independent of the observer. This approach is difficult to define more precisely, as it again breaks down into many different sub-schools (Tickle & Rennoldson, 2016; Von Schlippe & Schweitzer, 2014). These do, however, all agree on a certain view of the world and the human being. The debate about how to define "systemic" is itself part of the approach and a question that is constantly posed due to the multitude of schools (Levold & Wirsching, 2016; Von Schlippe & Schweitzer, 2014).

In literature, different areas of counselling competences are described: nonverbal, verbal and facilitative conditions (Swank & Lambie, 2016). Non-verbal communication includes, for example, body language, voice, facial expressions, and gestures. Verbal language encompasses, for example, the extent to which the counsellor asks helpful questions or stimulates reflection processes. Facilitative conditions are the basic conditions proposed by Rogers (1957): unconditional positive regard, genuineness, and empathy (Swank & Lambie, 2016; Tepper & Haase, 1978). In addition to these general counselling competences, systemic counselling has specific competence requirements. Von Schlippe and Schweitzer (2014) named the following core competences in systemic counselling and therapy: (1) focus on communication, (2) multi-person settings and multiple setting changes (therapy with individuals, couples, families, groups or networks), (3) defining the context and mission, (4) respect for the autonomy of the system, (5) making people feel valued, (6) optimism about change and a positive acceptance of non-change, (7) breaking down constricting beliefs, theories of illness, emphasis on what might be possible versus what really is possible, (8) focus on cooperation. Especially in multi-person settings, taking action can be a challenge for trainees in systemic counselling and therapy. In order to establish a constructive therapeutic relationship in a multi-person setting, it is important for the counsellor to actively establish a respectful, appreciative relationship with all members of the system. During this process, they must ensure that people who are initially absent from the counselling session are also integrated at an early stage. This requires the counsellor to follow particular procedures and apply specific fields of competence which are expressed in a systemic attitude of impartiality and neutrality (Lang et al., 1990). The setting affects the intimacy of the therapeutic relationship. In individual therapy, the client has the counsellor´s undivided attention during the session. The multi-person setting, on the other hand, permits far less intimacy in the therapeutic relationship in most cases. The counsellor must focus equally on both clients, and challenge both clients equally to make personal changes

during the therapy (Heatherington et al., 2005). Forming a relationship is one of the most important factors in counselling and therapy (Lambert et al., 2013), making it important for counsellors and therapists to acquire this field of competence at an early stage and, in particular, for trainee systemic counsellors to gain experience in forming relationships in multi-person settings.

Acquisition of Competence in Relation to the Process of Knowledge Building

When gathering information on systemic counsellors' knowledge-building processes from the perspective of competence, two fields can be consulted: research into expertise and research into competence. This dual research perspective has only recently been used in counselling research. Strasser and Gruber (2008, 2013) established the knowledge-building processes that enable teachers to develop counselling competence, Strasser (2006) identified those for counsellors working in education, Bredl (2008) outlined those for management consultants and Henrich and Weinhardt (2018) identified knowledge structures for systemic counsellors and therapists in further education. Research into both expertise and competence thus employs a concept of competence in which knowledge encompasses not only declarative knowledge, such as knowledge of facts and terms, but also encompasses experience that is accrued in practice. These different knowledge types in professionalisation processes relate to a construct of competence that focuses on different forms of knowledge, drawn from concepts found in vocational pedagogy, as described by Neuweg (2004). One of his proposals is to combine explicit and implicit learning with explicit and implicit knowledge. Here, declarative, conscious knowledge is subsumed under "explicit knowledge," while "implicit knowledge" is understood as the practical skills demonstrated by a person acting spontaneously, but unable to verbalise the knowledge behind a said action (Neuweg, 2004, 2015). Implicit knowledge is not knowledge that is needed in addition to action; it lies in action itself. It is hard to explain and impossible to teach. It can only be acquired by doing. The architecture of implicit knowledge is based on experience and a large repertoire of case patterns which enable people to recognise similar situations. Hayes and Broadbent (1988) distinguished between a selective mode of learning ("S Mode") and an unselective one ("U Mode"), which correspond to the terms "explicit learning" and "implicit learning." In the unselective mode, awareness takes the form of unfocused attention that is devoted to accomplishing the task and not to learning itself (Weinhardt, 2018a). It is the passive accumulation of information and is unavailable for verbal reporting. From this perspective, S-Mode learning primarily takes place in low-salience settings; complex situations in which it is not possible to deal with a few distinct by prominent issues, and learners instead have to cope with a confused flood of requirements, which are sometimes contradictory. For this reason, S-Mode learning is seen as slow but sustainable knowledge which is produced as a side effect when practicing complex activities (Weinhardt, 2018a). Weinhardt (2018a) illustrated the diversity of learning processes described by Neuweg (2004) by developing a heuristic and applying it to counsellors' professional development (Weinhardt, 2018a, 2019b, 2020) (see Fig. 1). By crossing the knowledge types with the modes of knowledge acquisition, different

Fig. 1 Four forms of implicit and explicit learning (based on Weinhardt, 2018a)

	Learning Implicitly (IL)	Explicit Learning (EL)
Implicit Knowledge (IK)	Socialisation Enculturation Habitus	Encapsulation Routinization Automation
Explicit Knowledge	Reflection	Classical institutional education

combinations can be made tangible. The first combination, Implicit Learning/Implicit Knowledge (IL/IK), describes a learning process in which implicit knowledge is very closely linked to enculturation, socialisation, and habitus. Bourdieu's concept of habitus, learned through socialisation, also emphasises the process of its embodiment (Bourdieu, 2003). Learning takes place pre-consciously and pre-reflectively; knowledge is incorporated and enables the body to act. The second combination, Explicit Learning/Implicit Knowledge (EL/IK), is a learning process that leads to implicit knowledge, and is closely connected with concepts of proceduralisation and encapsulation. Encapsulation is a knowledge restructuring process in which basic knowledge is integrated into higher-level structures (Boshuizen & Schmidt, 1992; Strasser, 2006). Experience leads to a qualitative change in knowledge and the development of a form of procedural knowledge, as in knowing how to perform specific series of actions in practice. Declarative knowledge is not lost in the process but can be called up when facing complex problems. Encapsulated knowledge has the advantage that it is available quickly and flexibly. A narrative structure then develops, referred to as "scripts" (Schank & Abelson, 1977). Scripts are action sequences in the form of experience based knowledge structures. The third combination, Implicit Learning/ Explicit Knowledge (IL/EK), can be initiated by reflecting on the implicit learning process. Dewey (1910) defined reflection as "active, persistent, and careful consideration of any belief or supposed form of knowledge in the light of the grounds that support it, and the further conclusions to which it tends" (Dewey, 1910, p. 6). This is an essential part of developing competence (Schön, 1983). The fourth combination— explicit learning which leads to explicit knowledge (EL/EK), is in turn the expected normal case of learning. The resulting knowledge plays a particularly important role in formal educational processes in classical education institutions which require knowledge to be tested (Weinhardt, 2018a, 2019b, 2020).

How Do Knowledge and Competence Relate to Each Other?

The question of how knowledge and competence relate to each other is disputed in literature. For example, Nickolaus et al. (2016) designated three views. First, there are theories that assume that people have rational control over their actions, such as action regulation theories (Zacher & Frese, 2018). Second, there are theories that dispute any rational regulation of action (Neuweg, 2004, 2005; Polanyi, 1985).

Third, there are theories that assume that two cognitive systems or processing modes exist, which are important for the regulation of action depending on the situation (Kahnemann, 2011).

Another distinction is made by Ryle (1969). Ryle used the mutually exclusive terms "knowing how" and "knowing that." Ryle explained that knowledge does not always imply ability, and that ability does not always presuppose knowledge. For example, if someone can recite the rules of counselling, that is no guarantee that they will be good at counselling, while someone may be good at counselling without being able to state what theories they follow. Ryle opposed any theory proposing that our intelligent actions are always preceded by conscious planning. Ryle does not deny that individuals sometimes think first to ensure that they take the right actions but points out that people often perform intelligent actions without consciously planning them beforehand. However, not every successful action is preceded by action-guiding knowledge resources. It is characteristic of implicit forms of knowledge that people find it difficult to explain the performance of those practical processes; they only know the rules in their application (Ryle, 1969). Therefore, the relationship between knowledge and action can be described as complex processes in which knowledge is on the one hand necessary for action and on the other hand also a result of action, as shown in Fig. 1. It can also be presumed that knowledge and competence differ in the different phases of the acquisition of expertise. For example, it can be assumed that novices' knowledge bases are not yet connected to each other, which means that they find their knowledge difficult to rationalise ex post facto, or to develop routine knowledge through experience (Dreyfus & Dreyfus, 1986). It can be supposed that a connection only develops between the knowledge bases at the expert stage, when proficiency in a profession is achieved; an elaborate and lengthy process.

Measuring Competence

Counselling is a complex integration of knowledge, values and behaviours, that is best assessed through several performance based assessment methods (Schiersmann et al., 2013; Swank & Lambie, 2016; Tate et al., 2014). Schiersmann et al. (2013), based on Iller and Wick (2009), revealed the usefulness of certain survey instruments in terms of the extent to which they assess competence and the information they capture (see Fig. 2). Written and verbal surveys or tests primarily ask for explicit knowledge, while observations are most likely to target competence, defined as a combination of knowledge and practical ability in a particular context (Schiersmann et al., 2013). Competence can best be measured by observation and reflection (Iller & Wick, 2009; Schiersmann et al., 2013). To map competence as a whole, and to avoid jumping to conclusions, it is necessary to combine methods of competence assessment (Swank & Lambie, 2016). For example, a person who performs an action competently may not have transformed any knowledge in an observation situation and might only act competently by chance. Equally, the scenario is conceivable that a counsellor has a lot of knowledge, but that this does not allow any automatic
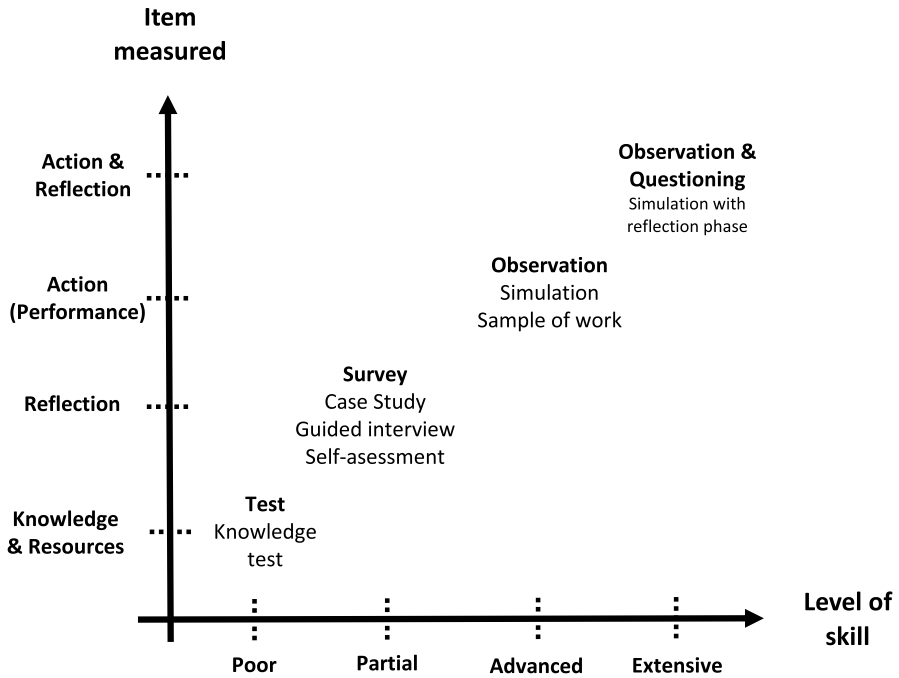
Item measured

Fig. 2 Competency assessment (Schiersmann et al., 2013; based on Iller & Wick, 2009)

conclusions to be drawn about their counselling competence. Explicit knowledge is therefore easily measured by a test, while implicit knowledge can only be measured by observation and questioning.

To measure subjects' ability to reflect, self-reporting tools are appropriated (Schiersmann et al., 2013). In line with Andrade (2019), self-assessment is seen as a form of self-reflection, in which a student monitors their own development. The aim of this feedback is to make adjustments, to deepen learning and to enhance performance (Andrade, 2019). Furthermore, monitoring and reflecting one's own counselling competences in the sense of self-assessment is essential in early training, because a certain framework of learning and evaluating of one's own counselling performances can be formed (Urbani et al., 2002). Further training throughout one's counselling career could build on this foundation (Bernard & Goodyear, 2014). Self-assessment which can be defined as "a structured approach to self-directed behavioral change" (Dennin & Ellis, 2003, p. 69) is an essential part of the "Cycle of Excellence" (Rousmaniere, 2019; Rousmaniere et al., 2017). The Cycle of Excellence is a circular process which determines the initial level of competence and the successful practice of certain skills over a longer period of time with continuous feedback. It is known from expertise research that the ability to self-assess is more developed among those who continuously developed in the Excellence Cycle than in novices who are still at the beginning of their career (Falchikov & Boud, 1989).

In the following, the research design is presented, in which different methods are combined to measure knowledge and competence alike (see Fig. 2).

Method

Sampling and Data Collection in BeraLab

The study described in this paper adhered for to APA guidelines (APA, 2020). Twelve trainees in systemic counselling took part in the study on a voluntary basis without any participation criteria in the winter term of 2015. It was part of BeraLab, a highly realistic simulation environment for systemic counsellors using trained clients (Weinhardt, 2019a). Trained amateur actors played the role of clients, enabling counsellors to practice prototypical cases from youth counselling with the help of Theatre in Education staff (Bauer & Weinhardt, 2015). The clients' training consisted of 20 teaching units. The different case scenarios were practiced in a standardised form, meaning that the cases could be represented repeatedly and consistently by actors playing clients (Hoppe, 1995; Pololi, 1995). BeraLab does not only include the simulation environment but also includes accompanying research such as videotaping the counselling sessions, subsequent prompting tasks or self-assessment procedures.

The students taking part in BeraLab are on a Master's program in systemic counselling which is designed for working professionals. All of the students work part-time as prospective systemic counsellors. On average, the counsellors were 28.9 years old. All were from Germany. Three male and nine female counsellors participated in the study. The counsellors have different first-cycle degrees, for example in curative education, psychology or social work. The degree of their professional experience varies from very little to a few years of counselling experience. Institutional review board approval was not taken because no vulnerable group was researched.

The small sample size makes this study a pilot. Pilot studies with small sample size (around ten to twenty subjects), are not uncommon in the field of counselling research (for example Austin and Honer, 2008; Üstündağ-Budak et al., 2019; Weine et al., 1998). Studies with small sample sizes are relevant in the scientific discovery process so that not all of them should be disregarded (Oakes, 2017). Furthermore, pilot studies can be used in the pre-testing of new research instruments with a highly specific subject group (Baker, 1994). In this study, knowledge and competence research is combined and applied to systemic counselling trainees in their master's-level degree. The combination chosen here, of prompting tasks, self-assessment, and external assessment by videorating, is relatively innovative and will be explained in more depth in the following sections.

Measures

Methodologically, three measuring instruments were used. First, a knowledge instrument (prompting task) was carried out to measure explicit knowledge. Second,

a self-assessment measure was conducted to find evidence of the extent to which self-assessment can depict competence. Third, videotaped counselling sessions with simulated clients were used to measure the trainee counsellors' competence.

1. Explicit knowledge was determined using a classic prompting task approach of the kind often used in counselling by Strasser (2006) and Strasser and Gruber (2008, 2013, 2015) to investigate knowledge structures. the students were presented with ten key terms from counselling and systemic counselling. These were 5 terms related to basic theoretical principles defining the task, neutrality, process orientation, autonomy and reality construction; 3 terms related to the setting: coercion/involuntariness, couple conflict and family conflict; and 2 terms related to techniques: reframing and circular questioning). The subjects were asked to think out loud (Ericsson & Simon, 1980, 1984, 1993) and explain the terms which were standardised and closely related to the domain. This method is often used in research into expertise, especially in the above-mentioned studies for recording knowledge formation processes (Henrich & Weinhardt, 2018; Strasser, 2006; Strasser & Gruber, 2015).

2. The self-assessment was taken after each prompt. Participants were asked to rate on a scale of 1–10 how much work they had done on the concept so far. 1 indicated very little and 10 very much. Although a large number of self-assessment methods in higher education are available, the selected method depends on what is to be evaluated, e. g. knowledge, abilities, processes or products (Andrade, 2019; Braun et al., 2012). In this study, an oral question about the depth of counsellor´s experience in the prompted concept was preferred to give the students the broadest possible scope for assessment. The intention behind this was to prevent students from relying on academic, theoretical knowledge on skills acquisition, and to encourage them to take into account experiences from their everyday professional life. It is, so to speak, a performance-oriented question, which focuses on competence over knowledge.

3. The videotaped sessions with simulated clients were evaluated according to the TBKS (Tübinger Beratungskompetenz Skala, Weinhardt, 2014), an adapted and translated version of the Counselling Skills Scale (Eriksen & McAuliffe, 2003). The TBKS records six characteristics of psychosocial counselling skills using 19 items: (1) showing interest and making people feel valued (e.g., body language, encouragement, working out strengths), (2) exploring the problem (e.g., asking questions and giving specific examples, paraphrasing, summarising), (3) deepening the session (e.g., reflecting on feelings, meanings and values or using immediacy as well as noting themes and patterns or pointing out and asking about discrepancies), (4) initiating change (e.g., defining goals, applying intervention strategies, considering alternatives and consequences, planning further action), (5) developing a relationship (e.g., basic attitude of acceptance and naturalness) and (6) structuring the session (e.g., opening the session, exploration, deeper understanding, initiating changes and closing the session). The TBKS is not intended to assess directly observable aspects of the visible surface structure, i.e. how frequently an event occurs (event sampling) (Gronostay & Manzel, 2018;

Petko et al., 2003), but is based on an extensive assessment of competency, e.g., including the correct time for a counselling intervention to take place.

Procedure for Data Analysis

The measures fall back on different methodological systems in the sense of mixed method (Johnson & Onwuegbuzie, 2007). Qualitative data material arose from the thinkaloud protocols, which was evaluated with the qualitative content analysis according by Mayring (2015). The resulting audio files were transcribed and content-analysed with MaxQDA, using three categories taken from research into expertise, based on Strasser and Gruber (2015) and Henrich and Weinhardt (2018). The three categories are as follows. Firstly, the richness of the subjects' explicit, declarative knowledge base was measured. Secondly, the abundance of their experience was measured. Thirdly, the generalisation processes in their knowledge base was measured. Declarative knowledge was measured when the counsellor referred to theoretical concepts, authors and technical terms. Experiential knowledge was measured when the counsellor had single experiences with the term. Finally, generalised experience could be measured if the counsellor referred to summarised experiences and it was clear that many such experiences had already been made. Consequently, the content analysis comprised first a qualitative analysis step in which the content of the thinkaloud protocol was interpreted. In a second step, the paragraphs were assigned to theoretically derived categories (Explicit knowledge, Episodic knowledge, Generalised knowledge). Furthermore, the quantitative data was obtained by the number of times the categories could be counted per counsellor and so the results of the qualitative data could be intensified.

Quantitative data material was also generated by the response format of the self-assessment scale of 1 to 10, so that statistical analysis could be connected directly to this. Ward et al. (2002) summarised that the most common methodology used in evaluating self-assessment are correlational analyses in which a self-assessment score is correlated with, for example, an expert evaluation.

Another source of quantitative data were the videotapes. They were evaluated by rating the 19 items mentioned above on a scale of –2 to +2 in a highly sensitive, competence-oriented process. The overall value was created by adding the values of the six dimensions and covered the competence range from –12 to +12. The internal consistency of the overall scale at facet level should be considered high ($\alpha = 0.923$) (Weinhardt & Kelava, 2016).

The evaluation of the videotapes was carried out by trained counsellors, who produced good to very good results in terms of high inter-coder reliability (*intra-class correlation*: 3,1, *Cohens Kappa*: 0.73 to 0.89) (Bauer & Weinhardt, 2013). In the present study, for a total of 125 videos rated by two counsellors, the intraclass correlation coefficient was between 0.68 and 0.83, producing both good and very good values (Wirtz & Caspar, 2002). These results are comparable to those determined by Bauer and Weinhardt (2013), or Weinhardt and Kelava (2016).

Data Analysis

In order to answer the first research question, the Pearson correlation test was used. This assessed a possible linear association between knowledge and competence. The requirements for using the Pearson correlation test were given. The data are placed on an interval scale (−2 to 2) and were normally distributed (p-value for scaling (total): 0.0***, declarative knowledge (total): 0.0 ***, experience (total) 0.0 ***, generalisation (total) 0.0 ***, TKBS (total): 0.0002 ***) as shown by the Kolmogorov–Smirnov test (Chakravarti et al., 1967).

The second research question concerning the relationship between self-assessment and external assessment was answered by averaging the self-reported values for the respective prompts and relating the different concepts of systemic knowledge to the dimensions of the counselling practice (TBKS) by using the Pearson correlation test again.

Results

In the following, descriptive statistics are reported based on measurements of a) the knowledge base, b) competence, and c) self-reported information which is presented in the results section and evaluated more comprehensively in the discussion.

As an overall result it must be said that the findings provide only initial indications and insights as a result of the small sample size. The small sample size leads to a low statistical power, so the informative value of the results must be questioned (Suresh & Chandrashekara, 2012). But the descriptive and inferential statistical results can be interpreted carefully and in a larger research context (Oakes, 2017).

(a)   Knowledge Base

The evaluation of the prompting task used to investigate the knowledge-building processes (Table 1) shows that, above all, explicit knowledge was used to describe the systemic concepts ($M=9.1$, $SD=3.7$). Episodic knowledge is based on the counsellor's experience and was used less often than the declarative knowledge base ($M=6.0$; $SD=4.2$). Generalisations refer to summarised experience, to the description of typical characteristics of "cases of this kind", which are typically only mentioned when the counsellor succeeds in establishing a case-related connection between knowledge and ability (Strasser & Gruber, 2015). Generalisations are mentioned less frequently than declarative and experience-based knowledge ($M=2.5$, $SD=2.2$). The grades of the three knowledge bases correspond to the Dreyfus model of skill acquisition (Dreyfus & Dreyfus, 1986), which depicts the stages of knowledge acquisition which preceed becoming an expert. On the basis of selected quotations, the three categories are represented below by verbal data:

Explicit knowledge shown by Prompt 5: couple conflict (setting):
"Uhm. I spontaneously remember Paul Watzlawick, who coined the term 'punctuation' for when conflicts occur in couples. People often make one-

Table 1 Descriptive statistics

Statistics	Knowledge base and self-reported values					
	M	SD	Var	Min	Max	Range
Declarative	9.07	3.73	13.91	1.00	14.00	13.00
Experience	6.00	4.16	17.33	0.00	13.00	13.00
Generalisation	2.50	2.17	4.72	1.00	8.00	7.00
Prompt 1: Defining the task (Basics)	5.53	2.43	5.93	0.00	9.00	9.00
Prompt 2: Coercion, Involuntariness (Setting)	4.84	2.70	7.30	0.00	9.00	9.00
Prompt 3: Neutrality (Basics)	5.23	2.20	4.85	2.00	9.00	7.00
Prompt 4: Process orientation (Basics)	4.07	2.32	5.41	0.00	9.00	9.00
Prompt 5: Couple conflict (Setting)	3.15	2.37	5.64	0.00	8.00	8.00
Prompt 6: Autonomy (Basics)	5.76	2.42	5.85	1.00	9.00	8.00
Prompt 7: Reframing (Technique)	6.15	2.51	6.30	0.00	9.00	9.00
Prompt 8: Reality construction (Basics)	5.92	2.84	8.07	0.00	9.00	9.00
Prompt 9: Family conflict (Setting)	5.23	2.04	4.19	000	8.00	8.00
Prompt 10: Circular questioning (Technique)	5.30	2.62	6.89	000	9.00	9.00
Total Self-assessment	51.23	14.607	213.35	15.00	72.00	57.00
TBKS						
TBKS 1: Showing interest and recognition	0.36	0.93	0.88	-1.25	2.00	3.25
TBKS 2: Exploring the problem	0.73	0.96	0.93	-1.25	1.75	3.00
TBKS 3: Deepening the session	0.47	0.67	0.45	-1.00	1.60	2.60
TBKS 4: Initiating changes	0.88	0.91	0.84	-1.00	2.50	3.50
TBKS 5: Developing a relationship	0.96	0.92	0.85	0.00	2.00	2.00
TBKS 6: Structuring the session	0.46	1.45	2.10	-2.00	3.00	5.00
TBKS Total	3.85	5.15	26.51	-5.50	12.85	18.35
Processing time (in seconds)	1341.91	259.64	67,414.08	628.00	1635.00	1007.00
Age	28.92	5.31	28.24	22.00	42.00	20.00
Total (N = 12)						

Descriptive statistics for each variable in the dataset based on mean (M), standard deviation (SD), variance (Var), minimum (Min), maximum (Max) and range. The first three variables stand for the different kinds of knowledge. Prompts 1 to 10 and total self-assessment stand for a self-reporting instrument to determine the trainees' experience. TBKS 1–6 and TBKS Total indicate the different levels of competence for each counsellor. The processing time of the recorded videos and the age of each counsellor are the last two informative variables

sided accusations of guilt, not in a circular way, but linearly; causally. Kind of because you are like this, I have to behave like this, and Watzlawick says now, if you place a period at a certain point of this conflict and stop it uh you can reflect that and kind of turn it around and then there is virtually no cause and no effect but every behaviour is cause and effect at the same time and yes, that means both partners are given responsibility for their contributions to the relationship".

The first quote refers to explicit knowledge. The student can explain the basics of a textbook couple conflict. For instance, Watzlawick et al. (1969) and his ideas are mentioned, as well as central theoretical concepts such as punctuation or attribution theories. Systemic concepts of taking sides or triangulation are also discussed. However, the student says nothing about personal experiences and does not reflect on past couple conflicts that he has experienced. In this category, statements were coded that explicitly relate to theoretical concepts or explain terms.

Episodic knowledge shown in Prompt 5: couple conflict (setting):
"I've never had couple conflicts before; oh, actually, that's not true. Most recently I had one partner during the consultation but without the second partner. It was very exciting to counsel but of course you get the impression that you can only help selectively because the other side is missing, uhm. But I do only know it from practice selectively, uhm, and for example divorce cases or custody disputes were never a focus of my work. I've only had it a few times in my work so far. Uhm, but definitely exciting."

The second quote shows that the counsellor does not seem to have a large explicit knowledge base on couple conflicts, since he has to think about whether he has had such experiences before and does not bear in mind that even in individual settings the system is always taken into consideration, whether it is physically present or not. In this category, only those statements were coded that solely address a specific professional experience/a specific case.

Generalised knowledge shown in Prompt 5: couple conflict (setting):
"A couple conflict is a topic for couples counselling. But I believe, what I know from my work practice, that it is mostly a topic that comes up in addition to another; or no, that's the wrong way to put it; that it is mostly still involved when actually something completely different is being talked about, so parents come and want advice about their child and then still, uhm, at some point it's no longer about the boy not doing his homework but instead then, uhm, turns out to be a topic on the level of the couple, and I am confronted with whether to take that as the issue I focus on, or how to deal with it. I find it difficult because it is often very personal and because you should also get consent, ask if the couple want to talk about it. But it's difficult when couple topics appear in settings that are not couple advice at all."

In the third example it becomes clear that the person has already had a lot of experience with couple conflicts. He tells of a pattern that he has recognised, namely that many couples come to the counselling for a reason which is not explicitlycouple conflict. The conflict only comes up gradually, during the process. The student has already developed an opinion about how to deal with it, but it is still difficult for her when conflicts arise during sessions where something else was actually meant to be discussed. The budding reflection on and recognition of pattern formation gives an indication of a developing generalised knowledge base. When cases were described which were based on combined professional experience rather than on specific cases

(e.g., "parents come and want advice about their child", generalised knowledge was coded).

(b)   Competence

When competence is measured using the TBKS, the average value for "showing interest and recognition" (TBKS 1) is $M=0.37$ ($SD=0.93$) which means – based on the description of the definitions of individual aspects of competence (Bauer & Weinhardt, 2015) – that there were some signs of evolving competence, but that the opportunity to use it was missed too often. An average of $M=0.73$ ($SD=0.97$) was calculated on the "exploring the problem" scale (TBKS 2). There is evidence that the fields of competence are evolving, becoming helpful and timely, but this is not consistent. The "deepening the session" scale (TBKS 3) averaged $M=0.48$ ($SD=0.68$) while "initiating change" (TBKS 4) reached $M=0.88$ ($SD=0.91$). "Developing a relationship" (TBKS 5) is $M=0.96$ ($SD=0.92$) and "structuring the session" (TBKS 6) $M=0.46$ ($SD=1.45$).

The overall TBKS value is $M=3.86$ ($SD=5.2$), which depicts the development of counselling skills in early stages of expertise in all areas. The value slightly above zero means that competence is developing in the right direction, but that there is still room for improvement.

(iii)   Self-assessment

The self-reporting of ten key terms of systemic counselling used in the fields of the basics, the setting and the technique vary with regard to the level of expertise in each concept. Prompt 1 (defining the task), Prompt 3 (neutrality), Prompt 6 (autonomy), Prompt 7 (reframing), Prompt 8 (reality construction), Prompt 9 (family conflict), and Prompt 10 (circular questioning) are on average in the middle awareness range ($M=5.2–6.1$, $SD=2.2–2.8$). The subjects are less familiar with the concepts of Prompt 5 (couple conflict), Prompt 4 (process orientation) and Prompt 2 (coercion, involuntariness) ($M=3.1–4.8$, $SD=2.3–2.7$). On average, the counsellors know just over half of the concepts ($M=51.23$, $SD=14.60$).

Connection Between Knowledge and Competence

To answer the first research question of whether there is a connection between a person's knowledge and competence, the following statements can be made based on the data (see Table 2). Declarative knowledge shows no or only slight signs of correlation with the TBKS values.

In the case of experiential knowledge, there is a weak connection between learners' knowledge and their actions, but this correlation is not significant.

Connection Between Internal and External Assessment

Table 3 provides information on the second research question, namely whether correlations can be demonstrated between self-reported and actual competence (external assessment

Table 2 Knowledge and competence

| TBKS | Knowledge | | |
	Declarative	Experience	Generalisation
Competence TBKS 1: Showing interest and recognition	0.17 [-0.44;0.68]	0.40 [-0.21;0.79]	0.42 [-0.203;0.801]
TBKS 2: Exploring the problem	-0.10 [-0.64;0.49]	0.54 [-0.21;0.79]	0.22 [-0.4;0.70]
TBKS 3: Deepening the session	-0.08 [-0.63;0.51]	0.55 [-0.02;0.85]	0.22 [-0.4;0.70]
TBKS 4: Initiating change	0.05 [-0.53;0.61]	0.51 [-0.08;0.83]	0.17 [-0.44;0.67]
TBKS 5: Developing a relationship	0.42 [-0.19;0.80]	0.06 [-0.52;0.61]	0.24 [-0.38;0.71]
TBKS 6: Structuring the session	-0.02 [-0.59;0.55]	0.29 [-0.33;0.74]	0.08 [-0.51;0.06]
TBKS Total	0.09 [-0.50;0.63]	0.42 [-0.19;0.80]	0.27 [-0.35;0.73]

Correlation and confidence interval between knowledge (declarative, experience and generalization) and competence (TBKS 1–6 and TBKS Total)

The 95% confidence interval is reported in square brackets [min; max]

using TBKS). The self-reported scales do not show a clear correlation with the external assessment. In some areas, a consistently high level of description in terms of counselling competence can be demonstrated, whereas this cannot be postulated in other concepts.

Throughout the scale, a significant correlation is seen between the total value (TBKS Total), TBKS 1 (showing interest and recognition), TBKS 2 (exploring the problem), and TBKS 3 (deepening the session). A significant correlation can be found in Prompt 1 (defining the task) ($r=0.73*$; $r=0.75**$; $r=0.76**$; $r=0.62*$; $r=0.63*$; $r=0.67*$; $r=0.79**$) and in Prompt 10 (circular questioning) ($r=0.68*$; $r=0.71**$; $r=0.7*$; $r=0.75**$; $r=0.63*$; $r=0.75*$). The depiction in the case of Prompt 4 (process orientation) is specific: it depicts the significant correlation with TBKS 2 (exploring the problem) ($r=0.65*$) and TBKS 3 (deepening the session) ($r=0.71*$). A significant negative correlation is found in the self-reported measurements for Prompt 6 (autonomy) in TBKS 5 (developing a relationship) ($r=-0.58*$). Prompt 8 (reality construction) shows a significant correlation in TBKS 3 (deepening the session) ($r=0.58*$) and a highly significant relationship with TBKS 5 (relationship-building) ($r=0.73**$). Prompt 6 (autonomy) is negatively correlated throughout the scale. The depictive character of Prompt 2 (coercion, involuntariness), Prompt 5 (couple conflict), Prompt 9 (family conflict), and Prompt 7 (reframing) is zero in the depiction of the difference between self-reported values and the external assessment. Prompt 3 (neutrality) has no depictive character.

The effect sizes of the significant results based on the correlation coefficients must be considered large, as the significant results are all above $r=0.50$ and thus define strong relationships (Cohen, 1988). That means that the self-assessment corresponds closely to the external assessment. In the cases of the non-significant results, heterogeneous effects can be seen, ranging from weak relationships ($r=0.01$) to strong ones ($r=0.05$).

Table 3 Self-reported values and external assessment

| Prompts | External Assessment | | | | | | |
	TBKS 1: Showing interest and recognition	TBKS 2: Exploring the problem	TBKS 3: Deepening the session	TBKS 4: Initiating change	TBKS 5: Developing a relationship	TBKS 6: Structuring the session	TBKS Total
Self-report							
Prompt 1: Defining the task (Basic)	0.72** [0.26;0.91]	0.74** [0.30;0.92]	0.76** [0.33;0.92]	0.62* [0.07;0.88]	0.63* [0.09;0.88]	0.67* [0.16;0.89]	0.79** [0.40;0.93]
Prompt 2: Coercion, Involuntariness (Setting)	-0.36 [0.77;0.26]	-0.16 [-0.67;0.45]	-0.17 [0.67;0.44]	-0.39 [-0.79;0.23]	-0.02 [-0.58;0.55]	-0.35 [-0.59;0.54]	-0.28 [-0.73;0.34]
Prompt 3: Neutrality (Basic)	0.41 [-0.21;0.79]	0.44 [-0.17;0.81]	0.51 [-0.08;0.84]	0.31 [-0.31;0.75]	0.15 [-0.46;0.66]	0.28 [-0.34;0.73]	0.39 [-0.22;0.79]
Prompt 4: Process orientation (Basic)	0.55 [-0.02;0.85]	0.64* [0.11;0.89]	0.70* [0.22;0.91]	0.49 [-0.11;0.83]	0.21 [-0.40;0.70]	0.43 [-0.19;0.805]	0.55 [0.55;0.85]
Prompt 5: Couple conflict (Setting)	0.21 [-0.40;0.70]	0.17 [-0.44;0.68]	0.17 [-0.44;0.67]	0.24 [-0.38;0.71]	0.13 [-0.47;0.65]	0.14 [-0.47;0.66]	0.18 [-0.43;0.68]
Prompt 6: Autonomy (Basic)	-0.35 [-0.77;0.27]	-0.10 [-0.64;0.5]	-0.24 [-0.71;0.38]	-0.23 [-0.71;0.39]	-0.58 [-0.86;-0.01]	-0.26 [-0.72;0.36]	-0.31 [-0.75;0.31]
Prompt 7: Reframing (Technique)	0.25 [-0.37;0.72]	0.11 [-0.48;0.64]	0.05 [-0.53;0.609]	0.00 [-0.57;0.57]	0.24 [-0.38;0.71]	0.43 [-0.18;0.80]	0.22 [-0.39;0.70]
Prompt 8: Reality construction (Basic)	0.47 [-0.13;0.82]	0.48 [-0.12;0.82]	0.58* [0.00;0.86]	0.27 [-0.35;0.73]	0.73** [0.27;0.91]	0.09 [-0.50;0.63]	0.47 [-0.13;0.82]
Prompt 9: Family conflict (Setting)	-0.242 [-0.71;0.38]	-0.09 [-0.63;0.51]	-0.07 [-0.61;0.52]	-0.18 [-0.68;0.43]	-0.25 [-0.72;0.37]	0 [-0.57;0.57]	-0.16 [-0.16;0.45]
Prompt 10: Circular questioning (Technique)	0.67* [0.16;0.90]	0.71** [0.23;0.91]	0.69* [0.20;0.90]	0.50 [-0.09;0.83]	0.74** [0.30;0.92]	0.62* [0.08;0.88]	0.74** [0.30;0.92]
Scaling Total	0.58* [0.01;0.86]	0.70* [0.21;0.90]	0.70* [0.22;0.91]	0.41 [0.30;0.92]	0.51 [-0.08;0.84]	0.49 [-0.11;0.83]	0.63* [0.09;0.88]

Correlation and confidence interval between self-reported values (Prompts 1–10 and Scaling Total) and external assessment (TBKS 1–6 and TBKS Total)

The 95 % confidence interval is reported in square brackets [min; max]

* The correlation is significant at the level of 0.05 (2-sided)

** The correlation is significant at the level of 0.01 (2-sided)

Discussion

The results of the study provide some clues as to how systemic counselling trainees' knowledge and competence are connected, as well as how their self-assessment connects to their assessment by others.

Answering the question of how advanced beginners' knowledge base is related to systemic counselling competence draws upon no evidence. This research finding goes against expectations, at least in terms of the relationship between experience-based knowledge and competence. Findings from teacher training report connections between knowledge and competence in practice (Baumert et al., 2009; Hoth et al., 2016; Kunter et al., 2016).

The lack of any relation between declarative knowledge and competence indicates that when counsellors begin to acquire competence, they draw on two independent, unrelated knowledge systems: declarative and procedural. This finding agrees with the results of the Dreyfus and Dreyfus (1986) at the novice stage, when subjects first begin to learn and act in an explicit mode (also known as a selective mode or S mode) (Hayes & Broadbent, 1988; Neuweg, 2004). The focus is on learning characteristics and rules, and this knowledge is transferred to situations in practice with no regard to context. In other words, novices are able to explain what they know, but cannot make the connection between their knowledge and its practical implementation. Subjects in this initial, vocational biographical phase may learn in an explicit or selective learning mode (Hayes & Broadbent, 1988). One fact which supports this hypothesis is that other studies have also found that systemic counsellors in early biographical phases mainly draw upon declarative knowledge (Henrich & Weinhardt, 2018; Strasser & Gruber, 2015). It can be assumed that advanced learners and experts draw more strongly on their experience or generalised knowledge, meaning that a connection is more likely to be made because the knowledge encapsulation has already taken place. Following the Dreyfus model, "U-Mode learning" emerges in the course of the professional development of expertise, during which knowledge is accumulated and reflected upon over a period of many years. A connection between knowledge and competence is more likely. One hypothesis is that the ability to develop a counselling relationship can be attributed to U-mode learning, which is, so to speak, more natural and cannot be influenced by selective interventions (Weinhardt, 2018a). Students' ability to develop a counselling relationship in this study is already high, indicating that they have previous abilities. This is in line with the findings of the study on the longitudinal development of counselling competence (Weinhardt, 2018b). The ability to form relationships is a long-term process which is largely presumed to develop through an individual's general biography and can only be changed slightly by means of well adapted learning opportunities. Competence in technique and methods is thus more easily improved by targeted training. Even at the early stages of acquiring systemic counselling competence, the structure of that competence is in line with the common factor model, which assumes that the counselling relationship is a key factor for change (Weinhardt & Kelava, 2016; Weinhardt, 2018b).

The weak connection between experiential knowledge and competence confirms the previous assumption that the practical experience which advanced learners have gained changes the quality of their knowledge: it is increasingly amalgamated (Boshuizen & Schmidt, 1992; Strasser, 2006). Their experience enriches their declarative knowledge and integrates it into higher-level structures. As they become increasingly competent, they switch to an implicit mode of learning (also known as non-selective or U-mode). This enables them to perform well, but they are less capable of verbalising what they have learned (Hayes & Broadbent, 1988; Neuweg, 2004). This circumstance is also reflected in the findings in terms of experience. It is possible to predict a systemic counsellor's fundamental competence, but their actions correlate relatively weakly with their knowledge. This can be read in two ways. First, it could be said that the subjects lack genuine theoretical knowledge; their knowledge is only rudimentarily encapsulated. Another explanation could be that someone has encapsulated knowledge but is not able to name it. This would be a clear example of explaining a decision based on what is known after the event, rather than describing the thought processes which occurred at the time ("ex-post rationalisation") (Neuweg, 2015). In fact, being able to say retrospectively what one did, what one thought, and what knowledge one used when counselling is a downstream skill that does not exist at early stages. In many cases, this explains the difference between acting and talking about performing an action. Sufficient competence in reflection has not yet been acquired; at this stage, this has still to be learned.

The explanation for the result concerning trainees' ability to generalise seems evident: novice systemic counsellors and those starting to gain competence cannot yet fall back on consolidated experience in the form of overarching structures related to each case. Sequences of actions – structures formed through experiential knowledge – can only develop if systemic counsellors work on multiple real cases in practice, and narrative structures form as a result of practice, reflection and experience (Boshuizen & Schmidt, 1992; Strasser, 2006).

These findings lead to the practical conclusion that learners require a long time to develop systemic knowledge before they can gain expertise in practice. The development of a substantial knowledge base is strongly linked to continuous theory acquisition, practice, and reflection. So-called "deliberate practice" (Ericsson, 2018) can be intensified by case-based learning (Kolodner, 1997). Depending on the approach to expertise development, it is assumed that the more intensively the experience is analysed, the more is learned. It is especially advisable for the implications of the results which are mentioned here to be taken into account during training in systemic counselling, due to the large amount of knowledge and competence required. Systemic counsellors should be given the opportunity to practice counselling in a variety of different cases. This should always take place in a protected context, under supervision, e.g., video-based. That is the only way to create experiences that connect more closely to a level of competence.

Regarding the second question of how well trainee counsellors' own assessment can depict their competence, it can be seen from the results that the self-reported values only depict some of their competence well. This finding is in line with previous findings in the context of higher education (Blanch-Hartigan, 2011; Dochy et al., 1999; Falchikov & Boud, 1989). Self-assessed values probably only correspond with the external

assessment when learners have worked on their knowledge of a concept considerably and have been able to gain a deeper insight. This shows that trainee counsellors can assess themselves better if they have already dealt with a concept in both theory and practice.

One explanation for the significant correlation throughout the scale between the three facets of counselling competence (TKBS 1: showing interest and recognition, TBKS 2: exploring the problem and TBKS 3: deepening the session) is that these concepts seem to be easier to assess than, for instance, TBKS 5 (developing a relationship). One possible interpretation of the evidence in Prompt 1 (defining the task) and Prompt 10 (circular questioning) might be that these concepts are the easiest to learn because they are unambiguous. By contrast, other concepts vary contextually, may be impacted by moral and ethical components, or the prompts concern specific counselling topics on which no expertise has yet been acquired or tested. If this is the case, then no evidence is given. Based on the overall TBKS value, other partial dimensions can be anticipated from this point of view.

Prompt 4 (process orientation) is connected with TBKS 2 (exploring the problem) and TBKS 3 (deepening the session). These are the variables which demonstrate whether these basic concepts can be put into practice. This connection could show that someone who evaluates himself as experienced in the process-oriented approach is more able to explore the problem and deepen the session. Instead, the counsellors stimulate problem-solving capacities by asking helpful questions.

The negative connection for Prompt 6 (autonomy) in TBKS 5 (developing a relationship) may be related to "giving too much advice." This could be formulated as a learning task in the early stages of expertise acquisition. Beginners to counselling tend to give advice on their personal knowledge and experiences due to the lack of questioning techniques. In a systemic perspective, giving advice is a therapeutic error (Boscolo et al., 1987). Giving instructions disregards the respect for the autonomy and the momentum of the system that is being worked with (Silver, 1991). The disrespect of these systemic premises can lead to a difficult relationship, because the client feels pressured by the counsellors' dominant and supposedly correct point of view.

This finding may be related to the results for Prompt 8 (reality construction), which show a connection in TBKS 3 (deepening the session) and a highly relationship with TBKS 5 (relationship-building). From a beginner's perspective, Prompt 6 (autonomy) might be understood as the opposite of Prompt 8 (reality construction). Anyone who has learned that counselling is not about "giving advice," but about what is important to the client, has understood the basic thesis of systemic-constructivist theory. A counsellor who understands that humans construct their knowledge on the basis of biographically shaped cognitive and emotional experiences, thus preserves their autonomy. Consequently, a helpful relationship is more likely to be developed and a greater depth can be achieved in a session.

Prompt 3 (neutrality) is strongly connected to Prompt 6 (autonomy) and Prompt 8 (reality construction). But instead of exhibiting a connection in a positive or negative way, prompt 3 has no depictive character. This seems curious, as the concept is introduced in the early stages of expertise acquisition. One explanation could be that the concept is very difficult to learn, due to different readings of this concept. For example, the Milan working group were inspired by the concept of multipartiality

(Palazzoli et al., 1981), whereas Cecchin (1988) viewed neutrality from the perspective of therapeutic curiosity. Another explanation could be that learners acquire purely explicative knowledge that cannot be transformed.

Furthermore, there are no connections with Prompt 2 (coercion, involuntariness), Prompt 5 (couple conflict), Prompt 9 (family conflict) and Prompt 7 (reframing), which is not surprising, since the sample includes learners at an early stage of their professional development, who have not yet had much exposure to these concepts.

The practical application of this finding is that self-assessment is not sufficiently all-encompassing to capture the quality and scope of systemic counselling competence. Nevertheless, it is a very important instrument in systemic counselling training because reflection processes can be stimulated by self-evaluation. A practical implication of the findings is that the competence of relationship building, for example, requires more time than the development of other skills. Since it is known from common factor research that relationship building is a key competence of counselling success, special attention should be paid to this (Wampold & Imel, 2015). The findings have shown that an accepting attitude towards the client's reality construction leads to the establishment of a positive relationship. Learning such a constructivist basic attitude is thus key to successful relationship building and should be focussed on in systemic training. The findings also show that non-contradictory, internally consistent concepts such as clarification of the task are easier to learn than other systematic concepts. Reframing, for example, is a concept that seems to be more difficult to learn, because one might refer to it as a relationship building tool. Similarly, the concept of maintaining neutrality seems too abstract to be easily learned. Accordingly, such concepts should receive increased attention in training as well as contribute to a reduction of the degree of abstraction. The importance of transferring theoretical concepts into practice is shown by the prompt "process orientation". This particular form of learning – putting explicit knowledge into practice – can only be acquired through practice and opportunities for reflection. It may also be helpful to work out the contrary of systematic concepts, e.g., what is the opposite to preserving autonomy? Furthermore, it is clear that counselling on family conflicts, couple conflicts or coercion, for example, are special settings whose domain specificity must be learned in particular. This clearly shows that counselling is highly domain-specific and that the development of competences in one's own counselling fields must be specifically learned (Strasser, 2006).

In particular, the willingness to reflect during the training ("reflection-in-action", Schön, 1983) and after the training ("reflection-on-action", Schön, 1983) is crucial to the development of competences. The so-called "reflective practitioners" (Schön, 1983) must enter into a reflexive dialogue with the situation in reflection-in-action. Furthermore, they must distance themselves from the situation and make their knowledge available in reflection-on-action to relate theoretical and practical knowledge to each other. Self-assessment tools can help practitioners reflect in and on action.

Limitation and Future Research

These findings have several limitations, which can be considered in future research in the study design. One limitation of the present study is that there is no group to compare the results with. For further research, repeating the study with a group with higher expertise status would enable statements to be made about changes to the knowledge bases and the changes in self-assessments or external evaluations. Furthermore, it would be of academic interest to compare results of the same sample at different phases (e.g., after the conclusion of the training). Performing long-term studies would be desirable to ensure for future research.

Another limitation of the study is that the extent to which the results on knowledge and competence — as well as the self-assessment and the external assessment — can really be compared with one another must be questioned. This is because the prompts were not directly related to the action situations. This fact should be taken into account in principle through the highly inferred measurement of competence, but could nevertheless have contributed to a bias within the results. For future research, the measuring instruments should be better coordinated.

In line with De Stefano et al. (2007), the most serious limitation of pilot studies is the small sample size. Therefore, this paper has a limitation regarding to the statistical foundation. In future research projects, the sample size should be at least 21 counsellors, as demonstrated by the retrospective test strength analysis (Buchner et al., 2012). However, it was not possible to achieve a larger sample size due to the general conditions and despite all efforts in this study.

Nevertheless, one relative novelty of this pilot study was that it methodologically triangulated knowledge and competence research. The combination chosen here, of prompting tasks, self-assessment, and external assessment by evaluating the videos offers indications of how knowledge and competence are connected, as well as how self-assessment connects to external assessment. These insights provide valuable information on how to improve training in systemic counselling and should be used in future research investigations.

Declarations

Conflict of Interest I have no conflicts of interest to disclose.

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