Towards a better conceptual understanding of how students learn business research methods

Hacia una mejor comprensión conceptual de cómo los estudiantes aprenden métodos de investigación en negocios

Stefan Kueenzi*
https://orcid.org/0009-0007-5439-4446 (ORCID iD)
HWZ University of Applied Sciences in Business Administration, Zurich (Switzerland)

Ethic Statement. The author confirms that data collection for the research was conducted anonymously, and there was no possibility of identifying the participants.

ABSTRACT

Business graduates need a solid understanding of research methods, for example to make decisions based on empirical evidence. As a meta-analytic review by Earley (2014) shows, we are lacking sufficient empirical information on what influences research methods education and a solid conceptual understanding of what these influential factors mean for student learning. This research begins to fill this gap by presenting results from interviewing 18 lecturers in undergraduate programmes in Business and Management. The findings are linked to Paul R. Pintrich's framework for assessing motivation and self-regulated learning (Pintrich, 2004). The major findings include that aspects related to why students are doing specific learning tasks and the concept of self-efficacy play important roles. Other themes of the meta-analytic review by Earley are discussed, for example students' anxiety, poor attitudes, and misconceptions about research. The study concludes by making recommendations for future research.

Keywords. Research methods, self-regulated learning, expectancy component, value component, affective component

RESUMEN

Los licenciados en empresariales necesitan una sólida comprensión de los métodos de investigación, por ejemplo, para tomar decisiones basadas en pruebas empíricas. Como muestra una revisión meta analítica de Earley (2014), carecemos de suficiente información empírica sobre lo que influye en la enseñanza de los métodos de investigación y de una comprensión conceptual sólida de lo que estos factores influyentes significan para el aprendizaje de los estudiantes. Esta investigación comienza a llenar este vacío mediante la presentación de los resultados de entrevistar a 18 profesores en los programas de pregrado en Negocios y Administración. Los resultados se relacionan con el marco de Paul R. Pintrich para evaluar la motivación y el aprendizaje autorregulado (Pintrich, 2004). Entre las principales conclusiones cabe destacar que los aspectos relacionados con el motivo por que los estudiantes realizan tareas de aprendizaje específicas y el concepto de autoeficacia desempeñan un papel importante. Se discuten otros temas de la revisión meta analítica de Earley, por ejemplo, la ansiedad de los estudiantes, las actitudes deficientes y las ideas erróneas sobre la investigación. El estudio concluye con recomendaciones para futuras investigaciones.

Palabras clave. Métodos de investigación, aprendizaje autorregulado, componente de expectativa, componente de valor, componente afectivo

INTRODUCTION

Learning how research works and how research methods can be used is vital for business students as Burke & Rau (2010) discuss in their paper on bridging the gap between teaching and research in the business management domain. In particular, they mention how such knowledge can improve students' skills in the area of evidence-based decision making (Burke & Rau, 2010, p. 141). In this context, the authors also highlight the importance of teaching research methods to support students' employability "in a knowledge-based workplace and society" (Burke & Rau, 2010, p. 134s). Similarly, Anderson et al. (2018) in their work on how to advance business management education, stress the need for business researchers and teachers to work more closely together, e.g. in order to generate knowledge that is more tangible and relevant to business practitioners. The authors cite Bartunek & Rynes (2014) who make examples of successful academic-practitioner collaborations, for example so that the business problems can be better tackled by having a broader view onto them. But for this, business practitioners need a very good understanding of business research methods (Sekaran & Bougie, 2016).

Studies in the domain of research method education indicate that it is a very complex field, and that an entire continuum of facets influences learning outcomes; from aspects that are more related to students' (for example attitudes, but also abilities) to attributes that are more related to the way the subject is taught (Wagner et al., 2011). Recent research by Nind et al (2020) also indicates that the learning process is complex for students, that their needs change during this process and that it requires students to reflect constantly on their learning with their teachers in order to reach the learning objectives.

In his meta-analysis, Earley (2014) reviewed 89 journal articles on teaching research methods from 21 scientific fields, including some in the business management domain. Earley concludes on page 248 of his work that the main lesson to be learnt from the review is that "teachers need to use active learning approaches to teach the course in a way that provides hands-on exposure to research methods". While such advice is intuitively appealing, it leaves us with a method only and - as Earley admits himself - indeed tells us "very little [...] that gives us a picture of what student learning looks like".

Based on the above, we seem to have a fairly good understanding of what the results of learning business research methods could be (for example the mentioned skills in the area of evidence-based decision making). But where shall we start when trying to better understand the learning? One way to start is a bit like cooking: when you know what to cook, you need to find out about the ingredients before you look at the process. Similarly, we might want to look more closely at aspects that influence the learning. Since Earley's work, no research has conceptualised what he calls "characteristics of students" (Earley, 2014, p.

245s), a set of five groups of aspects he found in 51 research articles, describing influencing facets of the learning. Consequently, there seems to be a need for a better conceptual understanding of these influencing factors, including links to relevant learning theories. And for the field of business management specifically, there is a lack of empirical information that can help us better understand the aspects Earley presents.

The goals of this study are therefore to (a) discuss in a literature review relevant learning theories and concepts and relate the work and findings of Earley (2014) to them and (b) to collect and analyse more empirical data to better understand how students learn business research methods and how these insights can fit into the learning theories used in the literature review.

LITERATURE REVIEW

Initial considerations

One way to find a starting point when looking for relevant theories to conceptualize learning in a specific area is to consult a good meta-analytic review that analyses what influences students' academic performance. To that end, Richardson et al. (2012) reviewed 13 years of research and more than 400 papers. Among their major findings are that aspects such as goal setting, effort regulation, and self-efficacy are among the strongest predictors of academic performance. The predominant concept that addresses these elements is the framework on motivation and self-regulated learning by Paul R. Printrich and collegues (Garcia & Pintrich, 1994; Pintrich, 1999, 2003, 2004; Pintrich et al., 1993; Pintrich & De Groot, 1990). Within the framework, the building block that addresses the factors and aspects influencing the learning shows three motivational components.

The motivation and self-regulation framework

The basis of the framework was originally laid by Pintrich & De Groot (1990) as well as Zimmerman (1990). Its main proposition is that students' cognitive strategies (meaning how they manage their learning, for example through activities such as reading, understanding, applying etc.), their knowledge and management of these strategies (metacognition) as well as the activities to control the learning effort (for example persistence) form self-regulation, which, influences how students cognitively engage and perform in academic tasks. Higher quality and quantity of self-regulation is understood to improve academic achievement (Schunk & Zimmerman, 2012). As part of the framework, it is suggested that three motivational components influence self-regulation. What makes motivational aspects so important for academic learning? Zimmerman & Schunk (2007, p. 3) suggest several reasons. They include that motivated students are "more attentive to their learning processes and outcomes than poorly motivated students", that students who are "motivated to choose a task when given the opportunity display greater progress than unmotivated students", that "students who are motivated to put forth increased effort to learn a difficult task display higher levels of mastery" and that "students who are highly motivated experience greater satisfaction and positive affect when given the opportunity to learn".

Figure 1. Framework on motivation and self-regulation
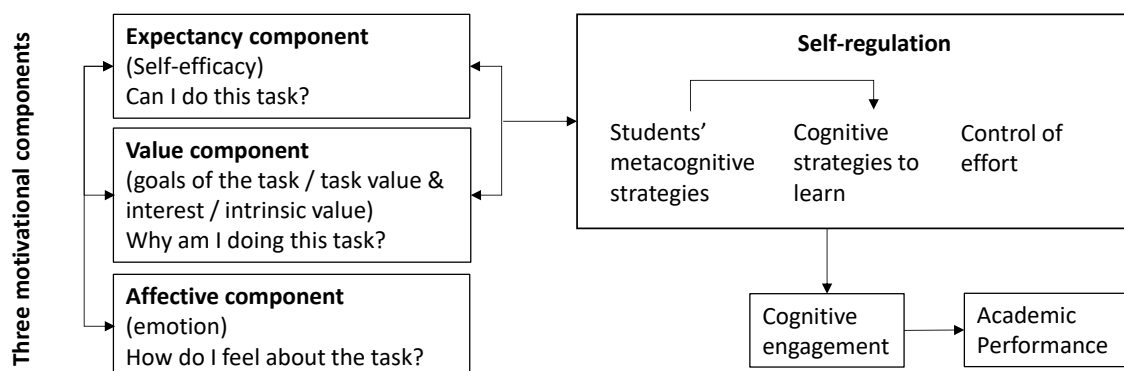
Source: created for this research based on Pintrich & De Groot (1990) as well as Zimmerman (1990)

The following sections discuss the three motivational components in more detail.

The expectancy component: self-efficacy

The central concept of this component is students' self-efficacy, originally conceptualized by Bandura (1977) as part of his social learning theory. Self-efficacy can be understood as one's "beliefs concerning one's capabilities to learn or perform behaviours at designated levels" (Schunk, 1996, p. 3). Higher levels of self-efficacy have previously been reported to foster academic performance (Pintrich, 1999). It has been observed to be linked to learning outcomes of research method courses in different scientific fields, for example in sports (Lane, 2004), in teacher education (Papanastasiou & Zembylas, 2008) or in Science, Technology, Engineering and Mathematics (STEM) programs(Adedokun et al., 2013). Montcalm (1999, p. 100) describes how the theory can be used as a conceptual basis for illustrating the role student's attitudes towards learning research methods in social work can have. As an example, she suggests that "students' beliefs about their research competencies can be expected to influence (1) the number and type of research-related activities initiated, (2) the level of effort invested in research endeavours undertaken, and (3) the persistence exhibited in their attempts to master research content".

Using Schunk's model of achievement behaviour (see figure 2), such beliefs alone (independent from students' actual knowledge of research methods and factual research competence) can potentially impact the task engagement, which in turn can change self-efficacy and task performance.

Figure 2. Schunk's model of achievement behaviour
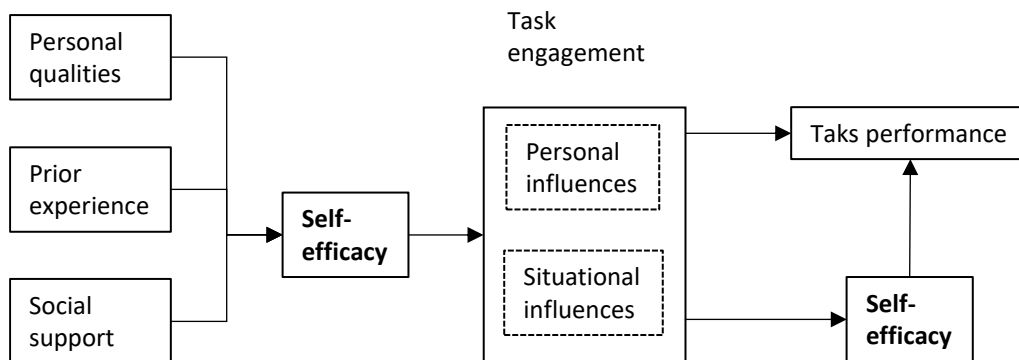
Source: created for this research based on Schunk (1995)

The value component: goal of the task, task value & interest, intrinsic value and self-determination

In their empirical study, Pintrich & De Groot (1990, p. 34) suggest a second motivational component they call the value component: "research suggests that students with a motivational orientation involving goals of mastery, learning, and challenge, as well as beliefs that the task is interesting and important, will engage in more metacognitive activity, more cognitive strategy use, and more effective effort management (e.g., Ames & Archer, 1988; Dweck & Elliott, 1983; Eccles, 1983; Meece, Blumenfeld, & Hoyle, 1988; Nolen, 1988; Paris & Oka, 1986)".

Part of this component is goal setting. According to Zimmerman (2007), short term goals and how students achieve them influences motivation and determines how (well) students regulate their learnings, for example their effort persistence, which, in turn, affects learning outcomes. The author states that goals should be specific. Zimmerman adds that long-term goals are equally important, as they for example regulate students' task persistence and longer-term interest in the learning.

Learning psychologists also suggest that this component includes beliefs about value of outcomes (Schunk, 1991, 1995), also known as task value (Pintrich, 1999). The latter study finds empirical evidence for perceived high utility value (usefulness, for example for student's career) to be positively related to academic performance. Pintrich & Zusho (2002) propose that students' beliefs in the value of learning tasks, which includes their interest in them, are strong motivational influencers of how well students can regulate
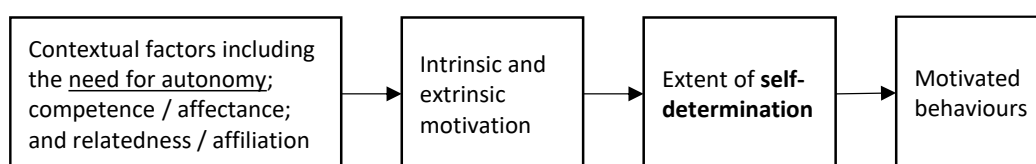
their learning and academic performance. Sansone & Thoman (2006) argue that interest in a task can even be more important to students than the belief in its value or/and can complement it.

Other research reveals another important aspect that affects the degree of interest and the task value. In their work on self-determination, Deci & Ryan (1993, 1994) present their view on how motivated behaviours form when students learn. The researchers suggest that learning which originates in students' interest and curiosity (rather than induced by heteronomous control) can lead to favourable results of learning activities. A high level of self-determination is understood to foster more effective learning (Deci & Ryan, 1994, p. 10). Self-determination is proposed to typically stem from intrinsic motivation (Deci & Ryan, 1994, p. 7), this is why this concept is sometimes called "intrinsic value". The researchers add that some forms of extrinsically motivated behaviours that are internalized / integrated through learners' affiliation to a social group or setting can lead to similar results. Deci & Ryan (1994, p. 6) describe one of four extrinsically regulated behaviour types as part of which "one has (..) identified with the underlying value of the activity and thus having begun to incorporate it into one's sense of self", implying that such motivation can increase self-determination and improve learning.

Critical to the theory is the understanding that, in order for a learner to be intrinsically motived and reach a high level of self-determination, the learning context needs to offer a certain degree of autonomy, characterized by elements such as possibilities to choose when and what to learn, an open learning culture in which views and opinions can be expressed but also encouragement to participate and experiment (Chirkov, 2009; Reeve et al., 2007).

In their experimental study with high school and college students, Vansteenkiste et al. (2004, p. 247) conclude that a setting in which students learn in a context characterised by intrinsic goal contents and support for autonomy that accommodates with students' personal needs result in higher levels of deep processing (of information) and conceptual learning. It is this type of learning that is essential for higher education, as MacLellan (2005, p. 155) concludes in her essay.

Figure 3. Deci & Ryan's model of self-determination

| Contextual factors including the <u>need for autonomy</u>; competence / affectance; and relatedness / affiliation | → | Intrinsic and extrinsic motivation | → | Extent of **self-determination** | → | Motivated behaviours |

Source: created for this research based on Deci & Ryan (1993, 1994, 2012) as well as Reeve et al (2007)

Some research also suggests that elements of the value component interact and correlate with the expectancy component of the self-regulation framework. As examples, Hidi & Ainley (2007) propose that interest can mediate the effect of self-efficacy on self-regulation activities students use in their learning and Azar et al. (2010) mention that self-efficacy can have a potential positive, direct effect on task value and an indirect effect on goal setting. Bandura & Schunk (1981) mention intrinsic interest to be an aspect dependent from both, self-efficacy present before engaging in a task and a result of the level of self-efficacy after engaging (including its potential influence on the resulting motivation, see figure 2).

The affective component: emotional reactions to the task

In their study, Pintrich & De Groot (1990) describe a third component they call the motivational affective component (see bottom part of figure 1). It is an element the two researchers describe as "student's affective or emotional reactions to the task" (Pintrich & De Groot, 1990, p. 34). In particular, test anxiety is regarded to influence self-efficacy in a negative way, suggesting that anxiety undermine students' beliefs in their capabilities which, in turn, can impact their mega cognitive and cognitive strategies and their academic performance. Other research also indicates that the perceived difficulty of a task can have similar effects (Boekaerts & Niemivirta, 2000).

Contrary to the first two motivational components, research seems to suggest that the affective component does not directly affect elements of self-regulation (Pintrich & De Groot, 1990, p. 36).

Earley's five groups of student characteristics and how they can be related to Pintrich's framework

In his research, Earley (2014, p. 245s) presents a set of five groups of "characteristics of student" he finds mentioned in more than 50 research articles on research methods education. The way all five characteristics are named and described indicates they mainly seem to have negative influences on the learning of students. Why they all have negative connotations remains open in Earley's work, which is another indicator for a need for more empirical information on the real-world dynamics of these influencing aspects.

But prior to the empirical part, this section tries to link the five groups of characteristics to Pintrich's framework on motivation and self-regulation in order to better understand their theoretical meaning.

A first group Earley refers to he describes as students who "fail to see the relevance of the course to their major and their lives". When looking into the research work Earley mentions for this group, it seems that the characteristic is related to the value component. Braguglia & Jackson (2012) report that students who understand the purpose of a research methods course when it is linked with other courses and the knowledge gained is applied to a real-world problem. Similarly, Moulding & Hadley (2010) suggest that when lecturers in research methodology courses can relate the course content better to the individual professional setting of the students, they will understand more easily why it is helpful for them to learn the subject of the course. And Deem & Lucas (2006, p. 9) report from their qualitative investigation that sometimes, students seem to miss that research education is a lot about learning how to apply knowledge to specific problems. Some scholars suggest that this could result from lecturers and curriculum designers putting too much a focus on theory and theory generation and they and their faculty don't offer students sufficient possibilities to use their theoretical knowledge in practical research projects (Ryan et al., 2014; Winn, 1995).

As a second group of characteristics, Earley (2014, p. 245) mentions that some students are "uninterested and, therefore, unmotivated to learn the material". Based on what is said above, this groups of characteristics seems to be related to the interest aspect and its relation to task value, which means it also seems to belong to the value component of Pintrich's framework. This is confirmed when looking into some of the research work Earley lists in this group. As an example, Vittengl et al. (2004) describe that in their study on 139 undergraduate psychology students, they found that students were more interested in aspects of their research methods course when they could link them to activities they would pursue after their studies, for example their future professional role. In another study, Ball & Pelco (2006) report that students were more interested in learning research methods when the lecturer used a learning approach that promised more active and interactive learning. And in a third study, Burkley & Burkley (2009) used episodes from a well-known TV show on science and research to introduce a kind of a gamification element into their research methods course. When evaluating the effect of their didactic change in retrospect, they found that students not only found the study content more interesting and enjoyable, but that the use of the clips had also helped students with their learning of the concepts and methods.

A third group of characteristics Earley (2014) mentions in his review is that students are "anxious or nervous about the course and its difficulty" (page 245). Looking into the research cited in Earley's paper, this aspect is related to the affective component in Pintrich's framework. In their empirical study including answers from 472 students enrolled in undergraduate research methods courses, Papanastasiou & Zembylas (2008) report that students who tend to find the course difficult showed higher levels of anxiety, but also that these students do not seem to be worried about grades. Briggs et al (2009) report that students in research method courses are often specifically worried about course content that has to do with quantitative methods. Schunk (1995) indicates from his research that lower levels of self-efficacy are sometimes caused by anxiety that stems from one's perception of skills or also from others around us who perceive the task at hand to be difficult.

Earley describes a fourth group of characteristics he calls "poor attitudes towards research" (Earley, 2014, p. 246). Attitude and similar expressions are used in a number of studies. However, when one looks at the publications listed by Earley in detail, it is somehow unclear what the term attitude actually means. As an example, Onwuegbuzie et al (2001, p. 238) as one of the empirical studies mentioned in Earley's work specifically refer to perceived task difficulty (see the description of the third group of characteristics above) when they talk about negative attitudes, and they also refer to theories and literature discussing anxiety. In the study by Sizemore & Lewandowski (2009), the researchers use a measurement instrument that include items such as 'attitude – research' and 'attitude – statistics' which, as described on their page 91, contain elements that measure aspects such as interest and enjoyment ('I enjoy...') or anxiety ('It makes me nervous...'). Looking at the details of the measurement instrument called "attitudes toward research scale"

proposed by Papanastasiou (2005) sheds some more light onto the question. The researcher presents 30 variables from a questionnaire she examines using Principal Component Analysis. The resulting table (see page 20 of her paper) reveals that nine factors load high on a component she calls 'research usefulness for profession' (which, when looking at the questions, refer to the perceived value of outcome), while the next eight variables load high on a component she calls 'research anxiety' (previous section). Another eight factors load high on 'positive attitude towards research' (which, when looking at the questions, is an aspect very much related to interest and enjoyment). The next four factors form 'relevance to life' (again similar to what is said about perceived value of outcome) and finally three more variables that form 'research difficulty' (which, again, seem to be aspects covered by the motivational affective component in self-regulation theory). There is not one single item in Papanastasiou's measurement instrument that is not addressed by the motivational components of Pintrich's framework. The review of the attitude aspect in this section is brief and certainly incomplete. However, everything the author looked at indicates that what Earley (2014) calls attitudes actually seem to be a set of phenomena that tends to be coved by the three motivational components discussed above.

Finally, Earley (2014, p. 246) mentions a fifth group of characteristics he names "misconceptions about research", indicating that misconceptions about what research is have previously been reported to be present in research education. In their empirical study, Meyer et al (2005) used interviews and questionnaires to gather data from postgraduate students from several scientific disciplines to develop the 'Students' Conceptions of Research Inventory (SCoRI)'. In this process, one of the five factors the emerged consists of a set of eight misconceptions "that collectively express a view that research is about gathering data that support preconceived ideas or that will back a particular argument, that correctly followed research procedures will always yield positive results, that when qualified people do research the results are always unbiased, that it is acceptable to modify research data if it does not look exactly right, that research becomes true after it is published, that if research is properly conducted then contradictory findings will never occur, and that there is generally only one way to interpret research findings" (page 236). As Murtonen & Lehtinen (2005, p. 219) indicate, students' misconceptions about research can be the result of people's limited abilities to grasp the vast complexity of research with its different scientific domains and their idiosyncrasy, many different understandings of ontology and epistemology as well as the variety of methods of empirical work.

From a theoretical perspective, conceptions and misconceptions are not regarded a motivational component of academic learning (as understood in this paper) but rather conceptual knowledge that is part of an element researchers call cognitive components (Garcia & Pintrich, 1994, p. 3s).

Pintrich's extended conceptual framework from 2004

Referring to figure 2, conceptual knowledge (or knowledge prior to task engagement) is suggested to be a separate aspect that influences self-regulation (for example cognitive strategies), together with motivational components such as e.g. self-efficacy. In his extended framework on how self-regulated learning works, Pintrich (2004, p. 389ss) suggests that cognitive and motivational components interact and influence self-regulated learning activities in phases (from "forethought, planning, and activation" to "reaction and reflection"), while accounting for contextual factors ("contextual control and regulatory processes").

To sum the literature review of the previous pages up, what Pintrich (2004) presents in his work and what is illustrated in figure four below could be the basis for a draft of a conceptual understanding of what aspects influence business research methods education.

Figure 4. Pintrich's extended conceptual framework from 2004
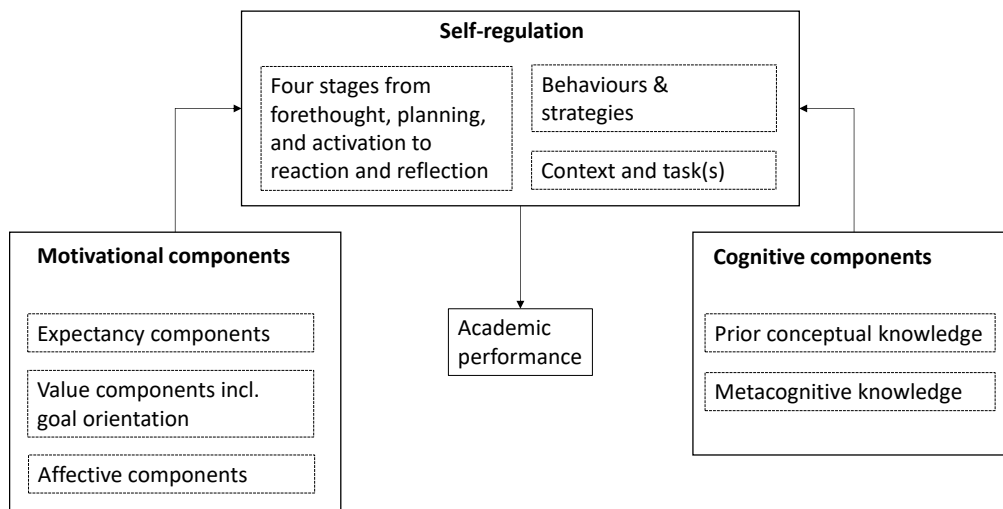
Source: created for this research based on Pintrich (2004)

METHODOLOGY

As already said in the introduction to this study, we know relatively little about the influencing factors of how students learn business research methods. Therefore, to address the second goal of this study, empirical data is collected using an explorative, qualitative approach. Six universities of applied sciences in Switzerland were contacted and their lecturers in introductory courses to business research methods were asked to participate in individual, virtual and semi-structured interviews. A total of 18 people agreed to answer questions about how they facilitate learning, what they observe in terms of how students shape their learning processes and what aspects / concepts / methods / behaviours etc. they've previously experienced to support or hinder learning. During the 30 to 60 minutes, interviewees were encouraged to make examples and describe situations of specific learnings they had observed. All lecturers gave their consent for the transcribed and anonymized interview data to be used for this study. No conflict of interest between researcher and participants was noted, no other ethical problem observed or reported.

Interviews were conducted in German. The direct quotes presented in the results section were translated into English. All transcribed interviews were assigned a random letter (as an identification so that interviewees could remain anonymous).

Semantic content analysis with Atlas.ti software was used to evaluate the interview data. The elements of Pintrich's extended framework shown in figure four served as categories to structure the content analysis. Sub-categories were added according to the components of Pintrich's framework. As suggested by Mayring (2015), the transcribed interviews were searched for aspects that are related to the categories in several iterations. Appendix A presents the details of the resulting category structure from this semantic content analysis. The results presented in the next section include are relatively high number of direct quotes. They shall illustrate the most relevant aspects of the empirical data, but also provide enough details to reflect the rather inductive, explorative nature of this empirical part.

RESULTS AND DISCUSSION

The common ground: motivation

As a result from an initial screening of all transcribed interview data, one common aspect surfaces. In 13 of 18 interviews coded, motivation is mentioned - in some of them several times. A typical statement reads: "Well, I think the main factor is definitely motivation. Why am I in the study programme at all, independent from this specific module, but really in general. And then you notice relatively quickly, who is really [...]

intrinsically motivated in the topic at hand?" (code F, quote 1). One of the lecturers makes a direct link between motivation and the grade achieved: "And in terms of the grade [...] you can see immediately who was able to motivate himself (or herself) to really do the work and study hard before the exam" (code W, quote 2). In a different interview, the lecturer highlights the importance of motivation and links it to the social context: "What can help the learning is when students are motivated in the course. But that's not easy, you might know that, too. [...] I think that it (motivation) is often a result of the 'groove' in the study group. They influence each other. [...] I've come across situations when a single student damaged the positive atmosphere just by talking negatively about the course" (code T, quote 3). Another lecturer links motivation to student's engagement in the learning process: "Some students are less motivated to prepare for class. [...] Some think that this is not important, and others seem to think it's enough to just come to class in order to pass. [...] and a few [...] don't care at all." (code G, quote 4).

It is acknowledged that the high number of observations alone is only an indication that Pintrich's framework might be a suitable lens to conceptualise how the learning of business research methods happens. But the fact that a significant part of what lecturers mention in the interviews is about some kind of motivated behaviour seems an important finding of the empirical part of this study.

Findings related to the value component (with some links to the expectancy component)
In the next step of the analysis procedure, the author identifies the largest group of aspects all related to the value component of Pintrich's framework. A first category of statements describes how students seem to have problems understanding the purpose of research (and / or lecturers seem to have issues explaining it).

In one interview, the observation is described as follows: "In the discussion about the goals of a research project, I noticed that students have trouble formulating what the end result shall be." (code N, quote 5). A second statement which illustrates this aspect reads: "I usually start the course by trying to explain what is in there for them. [...] I've improved that part again and again over the years. [...] I always come up with specific examples of research results. [...] But still, that is a very tricky part of the whole thing, explaining the purpose I mean."(code Q, quote 6). In a different interview, the respective statement specifically addresses observations that students do not seem to understand or perceive research to be about applying knowledge and theory to particular problems and that this can help them in their professional life: "My students often only know and have basic research in their mind, for example in pharmacy, medicine or electronics. [...] I just had a situation like this with a group of students last week. [...] Accordingly, an important step is often that I show what applied research is and what it can do for them at work." (code L, quote 7).

Interesting (although potentially coincidental) is that in two interviews, task value issues are mentioned but at the same time, the interviewees never mention applications of knowledge or theory or links to work related settings. In one of the two interviews, the person describes how he / she uses positive examples to illustrate what good quality research can do: "I always use highly relevant work to show what new knowledge empirical studies in a certain area have actually generated. [...] But even with this approach, it is not easy to get all students to understand the concept of incremental knowledge gain. Many get it. Mostly. Some, on the other hand, do not manage this step." (code R, quote 8). In the other interview, the person reports about the following experience: "Sometimes I find that individual students, even at the end of the course, do still not understand that answering the research question is the focus of the work." (code O, quote 9).

Coming back to what Earley (2014, p. 248) calls his main lesson (see introduction), it seems that practical application could help students with both, to get a better understanding of what research is and what it can actually be used for (as this goes hand in hand).

There are research reports available that illustrate how one can learn to do research based on projects, as for example the case study by Braguglia & Jackson (2012) in an undergraduate business management program illustrates. Keyton (2001) suggests that learning based on voluntary work and projects in a community would generate positive outcomes when learning research methods as this sort of context can provide students with more meaning and purpose.

Potentially linked to the first category of aspects is a second (similarly large) set of statements lecturers make about the kind and degree of interest and enjoyment (in the subject) they observe during the delivery of research method courses. One statement reads: "We sometimes discuss this among colleagues. [...] One of the big challenges we encounter when we teach and talk with students is quite a lot of disinterests in research and its significance in our day-to-day business life. [...] And, frankly, I am having a hard time figuring out why that is." (code N, quote 10). Another interviewee stresses the aspects of fun and satisfaction,

together with how and when learning improvements are observed: "The term paper students have to write up is designed in a way that students must apply the knowledge of methods. [...] That is actually when I often see students starting to understand. [...] One can even say - it often happens that the students are happy when they notice how and why a methodological element can be used in the context of a given problem." (code W, quote 11). The quote not only links the aspect of enjoyment to learning outcome, but it also reinforces what is said about transferability of knowledge in practical research projects in the previous section. Both aspects, interest and transferability of knowledge in the daily work life, are brought together by another interviewee. The person's experience about both elements seems to be mostly positive and contradictory to quote 10 (interest) and the last part of it also to the applied character in quote 7: "The students are always interested in scientific work or science [...] and they want to learn what it means because they understand that there is a quality criterion behind it if something is scientifically sound. [...]. It is about solving problems, very specifically in their work life." (code X, quote 12). In another interview, interest in research methods is brought up relative to other subjects taught in the study programme. "Over the years I've learned to accept that my course is significantly less interesting to students than most other content that is taught." (code E, quote 13). And the person complements: "Why? I think students study here mainly because they think they need to learn disciplinary knowledge in order to be successful in business. So that is where their primary interest lies. [...] And they often only understand at the end of the course that it is research that generates this disciplinary knowledge." (code E, quote 14). In another interview, the lecturer mentions interest stemming from the social context of the learner: "Sometimes I notice that students start the course with a certain attitude, which seems to be shaped by their social environment, for example colleagues or fellow students [...] sometimes maybe also by their parents. This attitude is something like 'research methodology is boring and unnecessary'. [...] And these people sometimes even admit they're not interested. [...] I mean, it is rather obvious that inspiring someone in such situations is difficult." (code H, quote 15). One of the lecturers connects interest with flexibility and participation. "[...] what hinders the learning completely is a learning setting that is too rigid, such as too many unidirectional talks and not enough interaction. [...] Students are interested and motivated to learn about research only as long as they can participate and help shape the learning." (code V, quote 16).

Interest and enjoyment are also a part of the value component of Pintrich's framework but are linked to the expectancy component as figure one suggests. Self-efficacy theory offers a potential explanation for the social context brought up in quote 15 (and potentially also the one in quote 3). Bandura (1977) describes a complex of aspects Schunk (1995) names social support (see figure 2). Among these aspects are, what Bandura calls verbal persuasions and vicarious experiences, both include influences from the learner's social context, incl. peers and parents who talk to the learner about own perceptions and views of and experiences with the learning subject. Bandura suggests this complex represents 'efficacy expectations', meaning self-efficacy prior to task engagement.

As mentioned above, Deci & Ryan (1994, p. 5) propose interest is at the heart of their understanding of intrinsic motivation as the intrinsically motivated behaviours that result from self-determination are driven by the prospect of experience of interest and enjoyment. Their statements are founded on empirical research by Ryan et al. (1990) on influences of interest and enjoyment on learning performance. Quote 16 is an illustrative example of both, the need for autonomy and the need for relatedness / affiliation. The two aspects can foster intrinsic motivation according to self-determination theory.

Also as indicated above, Pintrich (1999) views interest as one of the two components of task value, together with the learner's belief about its importance. The last part of quote 14 (above) illustrates this link implicitly in that it indicates that the interest in a task could be higher or lower the higher or lower the expected value of the task is. The definition "boring and unnecessary" in quote 15 brings the two aspects (interest and task value) together in a similar way. And quote 12 implies that student's positive perception about a task value goes hand in hand with a positive level of interest. Furthermore, several lecturers make explicit comments confirming that they understand that aspects related to students' intrinsic value play a relevant role. The following two quotes illustrate this: "It is important that these are also skills that are extremely relevant in professional life and that they don't just find that what we are doing is relevant for a Bachelor thesis. [...] When it comes to science, we just have an implicit resistance that the students bring with them because they have the feeling that I'll never need it again anyway. So, before we even get into the process, what is science and what is it all about, those are the aspects that we emphasize." (code U, quote 17). The second one reads: "[...] that the students really get the AHA effect, meaning - aha, we can really use that, we don't just do it for the assessment and afterwards, we'll never need it again" (code F, quote 18).

Intrinsic value has been found to play a role when it comes to influencing learning outcomes in specific scientific domains, for example in computer science (Joo et al., 2015) or in arts (Peng, 2012). Also, interest in a specific study topic has previously been found to have a strong influence on academic achievement in subjects such as mathematics, social science, or foreign languages (Schiefele & Krapp, 1992).

To sum this section up, the interviews with lecturers suggest that aspects related to the value component of Pintrich's framework play a significant role when it comes to what influences the learning of business research methods. As the learning theories that form the underlying basis of the framework suggest, some of the value aspects brought up by the lecturers are also related to the expectancy component.

Findings related to the affective component

The analysis of the data from the interviews conducted for this study only reveal some links to the affective component of Pintrich's framework in that anxiety or perceived task difficulty are mentioned in three interviews. Two of the statement are specifically about anxiety related to quantitative methods (Onwuegbuzie & Wilson, 2003). In one of the statements, the interviewee says: "We use a relatively simple case study to show how powerful descriptive statistics can be if done right. [...] However, some students are afraid of numbers [...] and then it helps a lot if we have enough time to discuss the details of a method to test a specific hypothesis" (code I, quote 19).

Although the empirical data does not suggest them to be a major influencing aspects, anxiety and perceived task difficulty could be relevant factors influencing the learning of business research methods, based on the research by Papanastasiou (2005) discussed above. It might be that more empirical support could have resulted from a study design that includes perceptions of students directly (instead of observations made by lecturers).

Findings related to cognitive components

As a last set of findings of this empirical part, a set of remarks emerges that lecturers make about students' understanding and potential misunderstanding of what research constitutes. One of these statement reads: "I frequently experience that before the course, students think that research is something nobody understands. [...] Researchers would work in secret and in the end, something dangerous would come out of it, like the particle accelerator at the CERN." (code C, quote 20). In another interview, a different perception is illustrated: "Sometimes I need to clarify a misunderstanding of what actually happens in the research process. [...] For example, certain students might think that research always has exactly one solution, like certain mathematical problems." (code R, quote 21). Several lecturers bring up the aspect of complexity in this context. One of them says: "What is rather difficult is that many business students expect us to give them rather simple cookbook type of checklists. They explicitly ask for such and sometimes cannot (or do not want to) understand that for many complex problems, there are hardly any simple solutions." (code Q, quote 22). As one can see here, students' efforts to understand can either result in rather simplified views (as described in quote 21 and 22) or mystic perceptions (as stated in quote 20).

As said above, conceptions and misconceptions are regarded conceptual knowledge which is a part of the cognitive components according to Pintrich's framework. Nevertheless, as also mentioned above, research that forms the basis for Pintrich's framework (Pintrich, 2004) suggests that cognitive and motivational components interact through the self-regulation processes. And in terms of the misconceptions about business research methods quoted above, it seems important to mention that they represent a kind of prior knowledge which e.g. influences self-efficacy (as shown in figure 2). Given what is discussed here about self-efficacy (including the remarks about the findings in the large study by Richardson et al, (2012), at the beginning of the literature review), the significance of these misconceptions could be bigger than the empirical data here suggests.

CONCLUSION, LIMITATIONS AND SUGGESTIONS FOR FUTURE RESEARCH

This research suggests that Pintrich's framework on motivation and self-regulation (Pintrich, 2004) can serve as a start to a conceptual understanding of how students learn business research methods. In the

sections above, it is also proposed how Earley's five groups of student characteristics (Earley, 2014) could be related to the components of Pintrich's framework.

Results from a semantic content analysis of 18 interviews with lecturers in business research methods courses indicate that the value component (mainly task value and interest) and the expectancy component (self-efficacy) could be significantly influencing aspects of how students learn business research methods. These findings can help lecturers better understand the results from Earley's review and they can potentially be used by them to design their teaching.

As a simple example, the importance of "why I am I doing this task" could be addressed by starting every class by linking the learning step ahead to an example of a practical application in a professional context. This could be achieved by using a practical research project to go along with the learning, as Braguglia & Jackson (2012) suggest. Such an application could also potentially reduce student's anxiety. And by giving students more social support during their practical work on the project (for example by offering them more individual coaching) and more appraisal of their achievements, their self-efficacy could be increased, which, in turn, could improve their interest and perception of the value of the learning tasks.

In terms of limitations, it shall be noted that many factors that play a role when trying to understand how students' academic performance forms are not considered in this study. As presented in the large meta-analytic review by Richardson et al (2012), aspects such as personal traits (for example intelligence) and psychological characteristics (for example conscientiousness), but also psychosocial factors (for example stress) and many more elements can be relevant for students' academic achievements (the study looked at grades).

This research is probably only a small puzzle piece of how students learn business research methods. The aspects identified in the empirical section of this research are neither a representative nor conclusive result of efforts to improve the knowledge about the respective learning dynamics in the field. In fact, the author appreciates that some of what is said above about the underlying learning theories could potentially be oversimplified or imperfect from a psychological and / or psychometric perspective.

Having said that, it shall be emphasized that further empirical work should validate, correct, and expand the results of this study before evaluating any practical relevance of the findings. More specifically, more qualitative, and potentially explorative studies in business programs are needed in order to understand whether the categories and aspects presented are indeed relevant and whether other aspects are so as well or even more.

Nevertheless, the (motivational) value component, the learning theories and Pintrich's (2004) framework described in this paper might form a start to a basis for such work. It is, however, notable that this study does not discuss the self-regulation processes (cognitive and meta-cognitive strategies as well as effort control) which would be important to understand how students' learning occurs. Also, cognitive components are only touched upon briefly. It therefore remains uncertain how and to what extent these elements are suitable to explain the learning of business research methods. Hence, the author suggests that future research in the domain should include these elements in order to understand them better.

Specifically, a quantitative study across several institutions using the Motivated Strategies for Learning Questionnaire - MSLQ (Pintrich et al., 1991, 1993; Pintrich & De Groot, 1990) could be used to assess the learning strategies of a larger group of students in business research methods courses.

This would provide the research community with more insights into how the learning actually takes place in our subject. And it could potentially shed more light into the question on how important the anxiety / perceived task difficulty theme is within the framework.

Furthermore, this study does neither report on 'teaching methods and techniques' nor 'Content and/or goals of the research courses' – both in the sense of dimensions of aspects Earley (2014) reports about in his review. The author suggests that more information about these dimensions is collected in the course of conducting the abovementioned quantitative study to assess the learning dynamics of a larger group of students. Such an approach could particularly be beneficial because it would allow the researcher(s) to search for potential links between all aspects, content of the course and teaching methods, together with the motivational components and learning strategies as measured by the MSLQ.

REFERENCES

Adedokun, O. A., Bessenbacher, A. B., Parker, L. C., Kirkham, L. L., & Burgess, W. D. (2013). Research skills and STEM undergraduate research students' aspirations for research careers: Mediating effects of research self-efficacy. *Journal of Research in Science Teaching*, *50*(8), 940–951.

Anderson, L., Hibbert, P., Mason, K., & Rivers, C. (2018). Management Education in Turbulent Times. *Journal of Management Education*, *42*(4), 423–440.

Azar, H. K., Lavasani, M. G., Malahmadi, E., & Amani, J. (2010). The role of self-efficacy, task value, and achievement goals in predicting learning approaches and mathematics achievement. *Procedia - Social and Behavioral Sciences*, *5*, 942–947.

Ball, C., & Pelco, L. (2006). Teaching research methods to undergraduate psychology students using an active cooperative learning approach. *International Journal of Teaching and Learning in Higher Education*, *17*(2), 147–154.

Bandura, A. (1977). Self-efficacy: Toward a Unifying Theory of Behavioral Change. *Psychological Review*, *84*(2), 191–215.

Bandura, A., & Schunk, D. (1981). Cultivating competence, self-efficacy, and intrinsic interest through proximal self-motivation. *Journal of Personality and Social Psychology*, *41*(3), 586–598.

Bartunek, J. M., & Rynes, S. L. (2014). Academics and Practitioners Are Alike and Unlike: The Paradoxes of Academic-Practitioner Relationships. *Journal of Management*, *40*(5), 1181–1201.

Braguglia, K., & Jackson, K. (2012). Teaching Research Methodology Using a Project-Based Three Course Sequence Critical Reflections on Practice. *Americal Journal of Business Education*, *5*(3), 347–353.

Briggs, L. T., Brown, S. E., Gardner, R. B., & Davidson, R. L. (2009). D.RA.MA: An extended conceptualization of student anxiety in criminal justice research methods courses. *Journal of Criminal Justice Education*, *20*(3), 217–226.

Burke, L. A., & Rau, B. (2010). The research-teaching gap in management. *Academy of Management Learning and Education*, *9*(1), 132–143.

Burkley, E., & Burkley, M. (2009). Mythbusters: A Tool for Teaching Research Methods in Psychology. *Teaching of Psychology*, *36*(3), 179–184.

Chirkov, V. I. (2009). A cross-cultural analysis of autonomy in education: A self-determination theory perspective. *Theory and Research in Education*, *7*(2), 253–262.

Deci, E., & Ryan, R. (1993). Die Selbstbestimmungstheorie der Motivation und ihre Bedeutung für die Pädagogik. *Zeitschrift Für Pädagogik*, *39*(2), 223–238.

Deci, E., & Ryan, R. (1994). Promoting Self-determined Education. *Scandinavian Journal of Educational Research*, *38*(1), 3–14.

Deci, E., & Ryan, R. (2012). Self-determination theory. In P. Van Lange, A. Kruglanski, & E. Higgins (Eds.), *Handbook of theories of social psychology* (pp. 416–436). London, UK: Sage Publications.

Deem, R., & Lucas, L. (2006). Learning about research: Exploring the learning and teaching/research relationship amongst educational practitioners studying in higher education. *Teaching in Higher Education*, *11*(1), 1–18.

Earley, M. A. (2014). A synthesis of the literature on research methods education. *Teaching in Higher Education*, *19*(3), 242–253.

Garcia, T., & Pintrich, P. R. (1994). Regulating motivation and cognition in the classroom: The role of self-schemas and self-regulatory strategies. In D. H. Schunk & B. J. Zimmerman (Eds.), *Self-regulation of learning and performance: Issues and educational applications* (pp. 127–153). Lawrence Erlbaum Associates.

Hidi, S., & Ainley, M. (2007). Interest and self-regulation: relationships between two variables that influence learning. In D. H. Schunk & B. J. Zimmerman (Eds.), *Motivation and self-regulated learning: theory, research, and applications* (pp. 77–109). Lawrence Erlbaum Associates.

Joo, Y. J., Oh, E., & Kim, S. M. (2015). Motivation, instructional design, flow, and academic achievement at a Korean online university: a structural equation modeling study. *Journal of Computing in Higher Education*, *27*(1), 28–46.

Keyton, J. (2001). Integrating service-learning in the research methods course. *Southern Communication Journal*, *66*(3), 201–210.

Lane, A. M. (2004). Self-Efficacy and Research Methods. *The Journal of Hospitality Leisure Sport and Tourism*, *3*(2), 25–37.

MacLellan, E. (2005). Conceptual learning: The priority for higher education. *British Journal of Educational Studies*, *53*(2), 129–147.

Mayring, P. (2015). *Qualitative Inhaltsanalyse - Grundlagen und Techniken* (12th ed.). Beltz Verlag.

Meyer, J. H. F., Shanahan, M. P., & Laugksch, R. C. (2005). Students' conceptions of research. A qualitative and quantitative analysis. *Scandinavian Journal of Educational Research*, *49*(3), 225–244.

Montcalm, D. (1999). Applying Bandura ' s Theory of Self-Efficacy to the Teaching of Research. *Journal of Teaching in Social Work*, *19*(1/2), 93–107.

Moulding, L. R., & Hadley, K. M. (2010). Graduate Students' Understanding of Educational Research in a Master of Education Program. In *New Horizons in Education* (Vol. 58, Issue 1).

Murtonen, M., & Lehtinen, E. (2005). Conceptions of research and methodology learning. *Scandinavian Journal of Educational Research*, *49*(3), 217–224.

Nind, M., Holmes, M., Insenga, M., Lewthwaite, S., & Sutton, C. (2020). Student perspectives on learning research methods in the social sciences. *Teaching in Higher Education*, *25*(7), 797–811.

Onwuegbuzie, A. J., Slate, J. R., & Schwartz, R. A. (2001). Role of study skills in graduate-level educational research courses. *Journal of Educational Research*, *94*(4), 238–246.

Papanastasiou, E. C. (2005). Factors Structure of The Attitudes Toward Research Scale. *Statistics Education Research Journal*, *4*(1), 16–26.

Papanastasiou, E. C., & Zembylas, M. (2008). Anxiety in undergraduate research methods courses: Its nature and implications. *International Journal of Research and Method in Education*, *31*(2), 155–167.

Peng, C. (2012). Self-regulated Learning Behavior of College Students of Art and Their Academic Achievement. *Physics Procedia*, *33*, 1451–1455.

Pintrich, P. R. (1999). The role of motivation in promoting and sustaining self-regulated learning. *International Journal of Educational Research*, *31*, 459–470.

Pintrich, P. R. (2003). A Motivational Science Perspective on the Role of Student Motivation in Learning and Teaching Contexts. *Journal of Educational Psychology*, *95*(4), 667–686.

Pintrich, P. R. (2004). A Conceptual Framework for Assessing Motivation and Self-Regulated Learning in College Students. *Educational Psychology Review*, *16*(4), 385–407.

Pintrich, P. R., & De Groot, E. V. (1990). Motivational and Self-Regulated Learning Components of Classroom Academic Performance. *Journal of Educational Psychology*, *82*(1), 33–40.

Pintrich, P. R., Smith, D. A. F., Garcia, T., & McKeachie, W. J. (1991). *A Manual for the Use of the Motivated Strategies for Learning Questionnaire (MSLQ)*.

Pintrich, P. R., Smith, D. F., Garcia, T., & McKeachie, W. J. (1993). Reliability and predictive validity of the motivated strategies for learning questionnaire (MSLQ). *Educational and Psychological Measurement*, *53*, 801–813.

Pintrich, P. R., & Zusho, A. (2002). The Development of Academic Self-Regulation: The Role of Cognitive and Motivational Factors. In A. Wigfield & Eccles. J.S. (Eds.), *Development of achievement motivation* (pp. 249–284).

Reeve, J., Ryan, R., Deci, E. L., & Jang, H. (2007). Understanding and promoting autonomous self-regulation: a self-determination theory perspective. In D. H. Schunk & B. J. Zimmermann (Eds.), *Motivation and Self-Regulated Learning: theory, research, and applications* (pp. 223–244). Lawrence Erlbaum Associates.

Richardson, M., Abraham, C., & Bond, R. (2012). Psychological correlates of university students' academic performance: A systematic review and meta-analysis. *Psychological Bulletin*, *138*(2), 353–387.

Ryan, M., Saunders, C., Rainsford, E., & Thompson, E. (2014). Improving Research Methods Teaching and Learning in Politics and International Relations: A "Reality Show" Approach. *Politics*, *34*(1), 85–97.

Ryan, R., Connell, J., & Plant, R. (1990). Emotions in nondirected text learning. *Learning and Individual Differences*, *2*(1), 1–17.

Sansone, C., & Thoman, D. B. (2006). Interest as the Missing Motivator in Self-Regulation. *European Psychologist*, *10*(3), 175–186.

Schiefele, U., & Krapp, A. (1992). Interest as a Predictor of Academic Achievement: A Meta-Analysis of Research. In K. Renninger, S. Hidi, & A. Krapp (Eds.), *The Role of interest in Learning and Development* (pp. 183–212). Lawrence Erlbaum Associates, Inc.

Schunk, D. H. (1991). Self-efficacy and academic motivation. *Educational Psychologist*, *26*, 207–231.

Schunk, D. H. (1995). Self-efficacy, motivation, and performance. *Journal of Applied Sport Psychology*, *7*(2), 112–137.

Schunk, D. H. (1996). Self-efficacy for learning and performance. *The Annual Conference of the American Educational Research Association*, 2–25.

Schunk, D. H., & Zimmerman, B. J. (2012). *Motivation and self-regulated learning: Theory, research, and applications* (1st ed.). Routledge.

Sekaran, U., & Bougie, R. (2016). *Research Methods for Business - A Skill-Building Approach*. Chickester, UK: John Wiley & Sons Ltd.

Sizemore, O. J., & Lewandowski, G. W. (2009). Learning Might Not Equal Liking: Research Methods Course Changes Knowledge but Not Attitudes. *Teaching of Psychology*, *36*(2), 90–95.

Vansteenkiste, M., Simons, J., Lens, W., Sheldon, K. M., & Deci, E. L. (2004). Motivating learning, performance, and persistence: The synergistic effects of intrinsic goal contents and autonomy-supportive contexts. *Journal of Personality and Social Psychology*, *87*(2), 246–260.

Vittengl, J. R., Bosley, C. Y., Brescia, S. A., Eckardt, E. A., Neidig, J. M., Shelver, K. S., & Sapenoff, L. A. (2004). Why are Some Undergraduates More (and others Less) Interested in Psychological Research? *Teaching of Psychology*, *31*(2), 91–97.

Wagner, C., Garner, M., & Kawulich, B. (2011). The state of the art of teaching research methods in the social sciences: Towards a pedagogical culture. *Studies in Higher Education*, *36*(1), 75–88.

Winn, S. (1995). Learning by Doing: Teaching research methods through student participation in a commissioned research project. *Studies in Higher Education*, *20*(2), 203–214.

Zimmerman, B. J. (1990). Self-Regulated Learning and Academic Achievement: An Overview. *Educational Psychologist*, *25*(1), 3–17.

Zimmerman, B. J. (2007). Goal setting: a key proactive source of academic self-regulation. In D. H. Schunk & B. J. Zimmerman (Eds.), *Motivation and self-regulated learning: theory, research, and applications* (pp. 267–295). Lawrence Erlbaum Associates.

Zimmerman, B. J., & Schunk, D. H. (2007). Motivation: An essential dimension of self-regulated learning. In *Motivation and Self-Regulated Learning: Theory, Research, and Applications* (1st ed., pp. 1–30). Routledge.

APPENDIX A – CATEGORY AND CODING SYSTEM USED TO ANALYSE THE INTERVIEWS

Main categories	Sub categories level 1	Sub categories level 2	Sub categories level 3	Quote	Interview code
Motivational components	General statements on motivation		Self motivation	quote 2	W
			Social context / learning culture	quote 3	T
			Role in the learning process	quote 4	G
	The value component	Perceived value of outcome	Why? goal / purpose of research / the course	quote 1	F
				quote 5	N
				quote 6	Q
				quote 18	F
			New knowledge and its application / transferability	quote 7	L
				quote 8	R
				quote 12	X
				quote 14	E
				quote 17	U
			Answering the question	quote 9	O
		Interest and enjoyment	Initial interest or disinterest in the subject	quote 10	N
				quote 12	X
				quote 15	H
			Satisfaction	quote 11	W
			(Relative) relevance	quote 13	E
				quote 14	E
			(Active) participation / interaction	quote 16	V
	The affective component	Anxiety / perceived task difficulty		quote 19	I
Cognitive Components	Prior conceptual knowledge			quote 20	C
				quote 21	R
				quote 22	Q

Source: prepared for this research

DECLARATION OF CONFLICTING INTERESTS

The author declares no potential conflicts of interest with respect to the research, authorship, and/or publication of this article.

ABOUT THE AUTHOR

Stefan Kueenzi, DBA, is Senior Lecturer at HWZ University of Applied Sciences in Business Administration, Zurich (Switzerland). He is also Educational Developer with the School for Continuing Education at ETH Zurich. His research interests include problems in leadership, management and learning in higher education.