

Analysis of Student's Teaching Expectations: Based on Examples from Slovenian and Hungarian Management Courses

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Abstract: The demand for competent and enthusiastic (project) managers is increasing, and so is the need for an appropriate (project) management education. Despite this importance, the number of relevant, and up-to-date courses and trainings with adequate knowledge-sharing mechanisms is less than required. There are two significant knowledge management-related problems in developing such a course/training. First, knowledge transfer can be complicated, due to the high proportion of tacit, or tacit-like knowledge in management. The second obstacle is that the requirements of the potential students fluctuate. Moreover, the amount of research aimed at increasing the level of (project) management education, especially in the university context, is limited. This paper analyses (project) management courses from the perspective of student satisfaction and perceived usefulness. The conclusions are based on 5 (project) management courses of leading Hungarian and Slovenian Management Universities. In contrast to the literature, the research found that courses with academic teaching elements are more satisfactory than courses with role plays, while usefulness was rated higher in courses with case studies and role plays. Students thus value teaching methods focused on both explicit and tacit knowledge. The findings argue for combining content-based teaching with a strong emphasis on student-centered methods.

Keywords: learning approaches; management education; student's expectations; satisfaction; usefulness

1 Introduction

Projects are – by nature – a complex set of activities aiming to achieve specific project results [1]. Görög [2] highlighted that they have two inherent characteristics: complexity, and uncertainty, i.e., the interdependencies of environment, work packages and activities, and exposure to risk. In accordance with this, other researchers confirmed that uncertainty and the associated risks are major characteristics of projects [1] [2]. The authors further highlight that the projects exhibit time and cost constraints, while aiming to implement a specific project result, are executed within the framework of a project organization and have a direct relation to the corporate strategy [2-4]. Finally, Shenhar & Dvir [5] categorized the project approaches into three types: (i) a unique task, (ii) a temporary organization, and (iii) a strategic building block. Accordingly, project managers have a triple role, as they need to manage all of them. Both Blaskovics [6] and Horváth [7] highlighted that project managers should possess competencies enabling them to manage all three in order to be successful project managers.

Numerous authors have emphasized that generic management, and specific project management competencies are needed [1] [7-9]. These specific competency elements can be linked to the type of the organization [10] [11], type of the industry of the company and/or the project [6] [12], or type of the professional background of the given task [13]. Researchers highlighted that project managers need to be aware of environmental changes, for example, changing needs and modified customer expectations both on project, program, and company level, emergence of unforeseen risks, certain macroeconomic conditions, or factors related to project-related organizational units [14-16]. In his attempt to systematize project competencies Görög [2] summarized that there are two groups of competencies a project manager needs to possess: (i) project competencies, and (ii) project management competencies. The Project Management Institute [17] highlights that the skills (competencies) of project manager can be grouped into three categories:

- (i) The way of working - the technical skills
- (ii) Power skills - the people management skills
- (iii) Business acumen - the domain specific skills

In the process of identifying the most appropriate leadership style Müller and Turner [18] defined three competency categories, that a project manager needs to possess:

- (i) Emotional competencies
- (ii) Management competencies
- (iii) Intellectual competencies

Nieto-Rodriguez [19] listed six categories of skills: project management skills, product development and subject matter expertise, strategy and business acumen, leadership and change management, agility and adaptability, and ethics and values.

In the same way, Alvarenga et al. [20] found leadership, self-management, interpersonal, communication, technical, productivity and managerial skills important.

However, the heterogeneous set of (explicit) project management knowledge is only one factor that increases acquiring the required skills. Some authors argue for the importance of experience and tacit knowledge [21-23], thus the need for those elements that can only be acquired in the course of working. Other scholars emphasize the importance of continuous learning [24] highlighting that project managers need to continuously update their knowledge in order to maintain their ability to manage their projects effectively and efficiently. In addition, the recipient side should also be analyzed, i.e., there is a need for an adequate training structure in order to maximize the success of knowledge transfer in educational settings [25] [26]. The diversity of knowledge – from tacit to explicit knowledge – the breadth of the necessary skills and abilities in project management and the great importance of experience in acquiring these capabilities require approaches to learning that go beyond traditional forms of knowledge transfer to equip future project managers with necessary skills. At the same time, students find it more important to learn practical skills and that the training qualifies them for a better job [27] [28].

2 Literature Review

2.1 Approach towards Knowledge and Knowledge Management

The approach towards knowledge is twofold. One can be called intrinsic, since it approaches from its nature, for example, justified true belief or ordered information [29] [30]. The other one is more active, approaching from the perspective of the knowledge bearer. Tsoukas and Vladimirou [31] state “*knowledge is the individual capability to draw distinctions, within a domain of action, based on an appreciation of context or theory, or both*”. Nonaka and Takeuchi [32] emphasized that knowledge should have an active perspective since it is related to human actions. Tsoukas and Vladimirou [31] highlights knowledge to be dynamic and everchanging. Polányi [33] shows that there are two types of knowledge: explicit and tacit. The first is referring to those elements that can be codified and expressed easily, whereas this is not possible with the second. Tsoukas and Vladimirou [31] emphasize that all knowledge elements have tacit presuppositions, but scale and nature are different.

Knowledge management is defined, as a process consisting of knowledge generation, knowledge codification, knowledge transfer, and knowledge use [27].

In the context of organizations, it is a process of creating new knowledge, getting the right knowledge to the right people at the right time, helping to put knowledge into action that improves organizational performance [34]. Managing knowledge includes improvement, innovation, and learning to achieve organizational objectives [35]. Organizations today put equal attention to creating new knowledge through exploration, as well as capitalizing on existing knowledge through exploitation [36].

One of the most well-known knowledge management models is the SECI-model [32]. This identifies four dimensions of knowledge transfer based on the nature of the knowledge of the sender, and in what form will it exist in the receiver:

- (i) Personalization (from tacit to tacit)
- (ii) Externalization (from tacit to explicit)
- (iii) Internalization (from explicit to tacit)
- (iv) Combination (from explicit to explicit)

2.2 Knowledge Management in Project Management Education

Knowledge management in an educational setting enhances learning of students through knowledge creation and knowledge sharing [35]. In (project) management education it is the context and the process of enabling students to acquire, share and apply new knowledge to specific business situations in class. It increases their capacity to solve actual business problems. Explicit knowledge as declarative knowledge is easy to transmit [37]. In an education setting explicit knowledge is written down in textbooks, journal articles, transferred through in-class lectures, primarily focused on individual learning. Tacit knowledge as procedural knowledge, knowing how to do something, is action-oriented, practical knowledge [38]. In an education setting tacit knowledge is obtained through discussions, case studies, project-based learning, simulations, focusing on the interaction between teacher and student as well as among students, supported by collaborative learning. Individual and collaborative learning practices are needed in the classroom to prepare students for problem-solving in the modern working environment [39].

As organizations, and especially project-oriented organizations, today are commonly faced by “wicked” problems with no obvious solution, higher education organizations need to teach students to solve such problems through educational approaches (e.g., project-based learning) [40]. Creativity and innovation require a vast amount of explicit and tacit knowledge sharing to provide creative solutions [41]. Students should master new knowledge creation as a transformation between explicit and tacit knowledge [42]. Exploitation and exploration take place in specific conditions in classroom, where explicit and tacit knowledge mutually enhance each other [43] [44].

Tacit to tacit transfer called personalization (or: socialization) takes place through face-to-face interaction, through imitation, practice, and participation in communities. Tacit to explicit transfer happens by externalization of ideas through metaphors and analogies when discussing issues in class. Explicit to explicit transfer is based on combination of explicit knowledge during lectures, reading papers and other documents. Explicit to tacit transfer is called internalization of knowledge and needs repeated confrontation with “wicked” situations like in case and project work, role-plays, simulations, and business games [35]. Knowledge transfer expands the boundaries of knowledge of individuals and groups, enabling the creation of innovative solutions [43].

2.3 Learning Approaches for Project Management Education

The Corona Virus Disease-2019 was the catalyst for a worldwide switch to distance education and remote teaching. From the experience of the pandemic, it can be concluded that the use of digital tools in education and learning is a necessity, and these applications have come to stay. This change requires from educators not only pedagogical but also digital competence – but that is still not enough. In addition, these incidents have propelled the ongoing paradigm shift in teaching in (project) management education. The traditional way of teaching, emphasizes lexical knowledge and thus one-sided communication – it is widely believed that this is the proper method for explicit knowledge.

Others go beyond the pure competencies view and call for a role shift from a hierarchical “sage on the stage” to “guide on the side” [45]. Educating for project management then centers on the development of critical thought and learning as a life journey. Recent developments emphasize debate and discussion based on two-way communication, while the teacher should act as a tutor, moderator, or facilitator. This style is believed to be more effective for the transmission of tacit knowledge. Where there used to be clear-cut roles and well-planned schedules, teachers are now expected to be responsive and flexible on the spot and interact with students in a more individualized way. Teachers are required to have an open and inclusive approach to working with students. A change of role also seems to be necessary on the learners' side [46]. The goal is no longer completeness and learning a canon of knowledge, but the ability to acquire new content in a critical and reflexive way [47].

Recent research emphasizes the importance of student engagement, participation and feedback for motivation, satisfaction, and success in teaching - a shift from teacher-centered to student-centered approaches to learning [48-50]. Ang et al. [51] assert that “project management teaching and learning designed to develop future project leaders requires both knowledge acquisition and practical application to ensure that theory and practice converge with deep learning.” The study concludes that engaged students are likely to do well in a flipped workshop environment,

however, they need to be prepared for flipped learning in order to achieve the expected knowledge gain, results, engagement, collaboration, and favorable learning experience. Similarly, Jonasson and Ingason [52] believe that “active practice-based learning is the ideal teaching method in project management education.” The study demonstrates the significance of active learning and concrete project experience as an integral component of students' education and that working in teams on a real project is an important motivational factor for learning. Afzal and Crawford [53], based on data from project management programs delivered online, found that self-motivated students tend to engage better with their fellow students and student engagement is significantly related to student performance.

Student-centered methods include, *inter alia*, discovery learning, problem-based learning, project-based learning, resource-based learning, and computer-assisted learning [48] [54] While flipped-blended learning [55] and case-based teaching methods are quite common and well understood in project management education nowadays [56] [57], newer directions in project management education are role-plays and game-based learning approaches. Studies underpinned the importance and effectiveness of this method, especially for project management. Van der Hoorn and Killen [58] make a case for embracing unpredictability and authenticity in teaching setting to enhance learning in project management. They used an online role-play to expose students to a challenging environment, containing tasks that stretched students' capabilities. This increased the level of desirable difficulties and resulted in additional and unplanned learning about contextual project management practices and confidence in using appropriate management techniques.

A recent trend centers on business or serious games. Jaccard *et al* [59] show that serious games can lead to educational changes such as moving toward active pedagogies, developing new competencies such as soft skills, and changing teachers-students relationship. Another study by Jääskä *et al.* [60] found both positive and negative perceptions of students related to a game-based method, which influenced students' motivation to study and learn project management. They emphasize the impact of learners on dealing with uncertainty, as is common in real projects, and the involvement of students by feelings of excitement and fun. At the same time, games must be realistic and provide appropriate challenges for learning through trial and error. These results were confirmed in another study by Jääskä and Aaltonen [61]. Despite the increased cognitive load and stress on students, teachers perceive positive effects of gaming, for example, increased interest and knowledge gain combined with a memorable learning experience.

In summary, the studies conclude that learner-centered and activating teaching methods have the potential to trigger a change in management education, especially in complex contexts such as projects -- provided they have been designed, developed, and implemented as an integrated learning concept. However, most authors advocate a mixed approach to teaching methods in higher education combining content-oriented teaching with and a strong emphasis on student-centered methods. In addition to the necessary explicit knowledge to be acquired

through traditional teacher-centered means, Bidabadi et al. [62] recommend teaching methods that help students challenge their preconceptions and motivate them to learn by putting them in real-life situations.

3 Methodology

The objective of the research is to analyze the effectiveness of the different teaching methodologies, tools, and techniques. This will enable the development of a common framework that maximizes knowledge transfer regarding (project) management courses. Thus, the focus of the research is to compare teaching methods in an international environment. Accordingly, the research question is as follows:

Do teaching methodologies (different tools and techniques) generate similar satisfaction among students with different nationality background?

The analysis centers on the comparison of Slovenian and Hungarian management courses, differentiated by educational level (Bachelor (BA) and Master (MA)). Two leading universities' management courses were selected: Corvinus University of Budapest (from now on: CUB), and University of Ljubljana (from now on: UOL). The basis for the comparison was student feedback, which focused on two areas: satisfaction of the students, and (perceived) usefulness of the courses for students.

Based on the research question, the following hypotheses are formulated:

- H1:** The Hungarian and Slovenian BA courses do not differ significantly in terms of satisfaction of the students.
- H2:** The Hungarian and Slovenian MA courses do not differ significantly in terms of satisfaction of the students.
- H3:** The Hungarian and Slovenian MA courses do not differ significantly in terms of perceived usefulness of the courses for students.

The perceived usefulness was not measured on BA level in Slovenia; therefore, this effect was not analyzed.

In order to measure satisfaction and perceived usefulness, and subsequently accept or reject the hypotheses, the researchers analyzed student evaluation forms. These are applied as standard part of the university's quality management system for teaching. The first step was to identify those items that could be considered similar at both universities. The next step was to find those items that measured the two areas mentioned above; i.e., satisfaction, and perceived usefulness. The authors believe that the selected items are appropriate for measuring these areas properly. The list of items is given in the table below:

Table 1
List of items in case of the universities

Area	CUB item	UOL item	Scale
Satisfaction	I enjoyed the course.	Overall, I am satisfied with the course.	1-5 Likert-scale
Perceived usefulness	We addressed useful things in the framework of the course.	I believe that the knowledge gained in this course I will be able to use.	1-5 Likert-scale

Source: authors' own editing

The researchers analyzed the course program and selected five courses, two of them taught at BA-level and three at on MA-level, having the same focus and information availability for the researchers. For reasons of confidentiality, the names of the courses have been anonymized. The teaching methodology in these courses was as follows:

Table 2
Teaching methodology of the selected courses

Course	Teaching methodology
UOL1	Front-end knowledge transfer; Article reading and analysis; Class exercises; Case studies
CUB1	Front-end knowledge transfer; Class exercises, Case studies; Role plays
UOL2	Front-end knowledge transfer; Article reading and analysis; Class exercises; Case studies
UOL3	Front-end knowledge transfer; Article reading and analysis; Class exercises; Case studies
CUB2	Front-end knowledge transfer; Class exercises; Case studies; Role plays

Source: authors' own editing

The researchers used random samples formed in the following way. The population is all the potential students who are eligible to register for the courses, and the sample consists of those who completed the student evaluation form. While the self-selection of students cannot be ruled out, this can be considered random sampling as the researcher did not have an impact on whether they filled in the form or not. The web pages of the universities, where the evaluation took place, guarantee that one student can only complete the form once, so no redundancy was possible. The period of the analysis was from the academic year 2017/2018 to the academic year 2021/2022. We aggregated the data as we analyzed the satisfaction and the perceived usefulness for the 5-year period to get a more realistic picture of the courses rather than just one academic year. As the content of the course can be considered to be similar, this aggregation increased the sample size and thus the validity. The detailed sample was as follows:

Table 3
Satisfaction and usefulness means and standard deviations of the courses

		Satisfaction		
Country	Course	Mean	SD	N
Slovenia	UOL1	4.20	0.86	107
Hungary	CUB1	3.98	1.17	1146
		Satisfaction		
Country	Course	Mean	SD	N
Slovenia	UOL2	4.15	0.87	680
Slovenia	UOL3	4.46	0.75	89
Hungary	CUB2	4.20	1.05	373
		Usefulness		
Country	Course	Mean	SD	N
Slovenia	UOL2	4.15	0.90	678
Slovenia	UOL3	4.31	0.81	88
Hungary	CUB2	4.42	0.89	350

Source: authors' own research, 2023, mean, standard deviation, and sample size for the courses

For confidentiality reasons, only means and standard deviations were available for each course, item, and academic term (year). The researchers have created an aggregated mean and standard deviation for each course for the 5-year period, weighted by the number of responses. The next step was to compare these aggregated means using Welch's t-test (for two courses) and Welch's F-test (for three courses or more) with Games-Howell post-hoc tests. Without individual data, there was no way to test the homogeneity of variances, so a robust test was needed [63-65].

4 Research

During the analysis, the researchers compared the satisfaction level of the two BA-level courses (mean satisfaction of the Slovenian course: 4.20; Hungarian course: 3.98). The method of comparison was Welch's t-test, which shows that the difference between the Hungarian and Slovenian means of satisfaction can be considered significant ($t=2.491$, $p=0.0139$), rejecting H_1 . The results are summarized in the following table:

Table 4
Comparison of the BA-courses

	t-test (Welch's)			
	d	t	d.f.	p
BA-level	0.225	2.491	144.998	0.0139

Source: authors' own research, 2023, results of Welch's t-test

As both courses offer combination of teaching methodology for explicit and tacit knowledge transfer, difference in satisfaction cannot be derived to that. At the same time, there is a need to consider that, one of the courses is a smaller course regarding the number of students in a group, while the other is a larger one (c.f. Table 3). Based on Table 3 and 4, it could be suspected that, in the larger course, there is a higher number of students who are less interested in the course. This could result in a potential lower value regarding the evaluation, and in this way, these students can divert the result as well.

The next step of the analysis focused on the MA-level means of satisfaction (UOL3: 4.46; CUB2: 4.20; UOL2: 4.15). During this step, the researchers found that there was at least one course whose mean was significantly different from the others based on Welch's F-test ($F=6.341$, $p=0.0021$). The Games-Howell post-hoc test revealed that the UOL3 course scored significantly higher than course UOL2 ($p=0.0015$) and course CUB2 ($p=0.0237$), while these two courses (UOL2 and CUB2) did not differ significantly in terms of satisfaction ($p=0.6915$), offering partial support for H2.

The researchers also analyzed the means of usefulness (UOL3: 4.31; CUB2: 4.15; UOL2: 4.42). The Welch's F-test revealed that there was at least one course whose mean differs significantly from the others ($F=10.940$, $p=0.0000$). Based on the Games-Howell post hoc test, the means of usefulness of CUB2 and UOL2 differ significantly from each other ($p=0.0000$). However, the means of the two Slovenian courses UOL2 and UOL3 on the one hand, and the means of the CUB2 and UOL3 on the other hand do not differ significantly, with $p=0.1968$ and $p=0.4943$, partially supporting H3. The calculations are summarized in the following tables:

Table 5
Comparison of the MA-courses

	ANOVA (Welch's F)							
	Satisfaction				Usefulness			
	F	d.f.1	d.f.2	p	F	d.f.1	d.f.2	p
MA-level	6.341	2	249.445	0.0021	10.940	2	242.328	0.0000

Source: authors' own research, 2023, results of Welch's F-test

Table 6
Pairwise comparison of the MA-courses

		Pairwise Comparisons (Games-Howell)					
		Satisfaction			Usefulness		
Course A	Course B	q	d.f.	p	q	d.f.	p
UOL2	UOL3	5.041	120.681	0.0015	2.453	116.933	0.1968
	CUB2	1.158	651.491	0.6915	6.541	710.308	0.0000
UOL3	CUB2	3.747	179.657	0.0237	1.605	145.313	0.4943

Source: authors' own research, 2023, results of Games-Howell post hoc tests

The researchers also want to highlight that, as in case of BA-level, the courses were evaluated by different number of students (see Table 3). Based on this, and Table 4, it can be suspected that, similarly to the results on BA-level, students in the larger, more general courses (UOL2, CUB2) are less interested, and thus are less likely to be satisfied than in a smaller, more specialized course (UOL3). However, the total number of (evaluating) students can be suspected to have a limited impact on the usefulness perceived by the students.

The researchers also conducted an analysis on the potential factors based on which the students gave feedback. These were as follows:

Table 7
List of questions for students in case of the two universities

Slovenia	Hungary
<i>Overall, I am satisfied with the course.</i>	<i>If I was to restart this study program and I could choose among the courses, I would be happy to this course.</i>
<i>Different ways of working in the implementation of the course (lectures, seminars, exercises, etc.) are coordinated with each other.</i>	<i>We addressed useful things in the framework of the course.</i>
<i>The way of working in the implementation of the course encourages me to think independently.</i>	I tried to take part in the classes actively, to co-operate with the teacher, to solve the tasks to the best of my abilities.
<i>Study literature and resources (articles, electronic resources, study examples, etc.) cover the course content well.</i>	<i>I have a sufficient amount of curriculum for learning at home. // In quantity and contents, the course material was manageable.</i>
<i>I am informed about my obligations in the subject in a timely manner.</i>	<i>The difficulty of completing the course and requirements did not change compared to the beginning of the semester.</i>
<i>All the necessary information regarding the implementation of the course is published online.</i>	I prepared for the classes regularly.

<i>Real-time testing of knowledge during the implementation of the course (in any form: colloquia, test, homework, projects, seminars, etc.) seems to me to be appropriate given the nature of the course.</i>	<i>I am aware of the learning objectives of the course and why it is taught.</i>
<i>The course effectively connects theoretical and practical content.</i>	<i>I enjoyed the course.</i>
<i>I believe that the knowledge gained in this course I will be able to use.</i>	My teachers are on the same opinion of my performance as myself.
<i>Other students enriched the implementation of the course with their ideas and experiences.</i>	
<i>I will recommend this course to a colleague.</i>	

Source: authors' own editing

This table summarizes all relevant items that can be used as a basis for comparison (from now on: 1st category). These items are filtered by the extraordinary or non-measurable factors, i.e., distant learning and COVID-related, and the number of courses the student has attended.

The italicized items are those related only to the course itself, excluding the student's attitude (from now on: 2nd category). The Slovenian items were retained; among the Hungarian items two were excluded.

The items in bold refer to the items related to the relevant knowledge transfer. Those that were excluded refer to evaluation, syllabus, etc. (from now on: 3rd category).

On this basis, the researchers could compute a mean that helped to determine the appreciation of the given course (considering some factors that were not present in the BA course in Slovenia). The mean can be weighted (based on the number of responses) and unweighted (considering equal weight to every factor). This is summarized in the following table:

Table 8
Appreciation of the courses based on the three categories

	1st category		2nd category		3rd category	
	Unweighted	Weighted	Unweighted	Weighted	Unweighted	Weighted
UOL1	4.28	4.28	4.28	4.28	4.22	4.22
UOL2	4.23	4.23	4.23	4.23	4.163	4.163
UOL3	4.463	4.463	4.463	4.463	4.43	4.43
CUB1	4.324	4.316	4.261	4.253	4.198	4.196
CUB2	4.477	4.472	4.431	4.417	4.375	4.374

Source: authors' own research, 2023, weighted and unweighted means of the categories

This table shows that the courses UOL3 (weighted mean=4.43) and CUB2 (weighted mean=4.374) were the most appreciated, especially in terms of

knowledge transfer, while UOL2 scored the lowest (weighted mean=4.163). However, if we consider the more subjective, less course-related elements, we observe a different order. Besides CUB2 (weighted mean=4.472) and UOL3 (weighted mean=4.463), CUB1 also has a relatively high value (weighted mean=4.316), which means that students evaluated their effort and investment in the course higher than they benefited from it. This effort effect can also be suspected in CUB2. It can also be assumed that the students are biased towards themselves and most likely overestimate themselves, resulting in a diverted ranking. Thus, filtering these subjective elements can increase the validity of the rankings, and in this way, the 3rd category might be the best suited for evaluating the course.

However, the researchers are aware of two shortcomings of the latter methodology. The first is the items vary widely, which makes the value of comparison questionable. Second, the variance of the categories cannot be defined using the covariance between items, which makes statistical tests impossible. However, the researchers believe that – as complementary data to the first analysis – it can help determine which course is most preferred by students. In addition, it also helps to determine those items and categories that can provide the basis of an evaluation valid for these countries. Moreover, it could also help determine those items and categories which could be the base for an evaluation valid for these countries.

Conclusions

It turned out that one of the Slovenian MA courses, UOL3 and the Hungarian MA course CUB2 are the most favored ones, both with respect to satisfaction and usefulness, while both BA courses ranked lower. As a first result, it can be concluded, that MA students value (project) management courses more than the BA students do.

The literature advocates learner-centered and activating teaching methods such as role-plays and gaming elements. In contrast, the researchers found that courses with more scientific or academically oriented teaching elements were evaluated more satisfactorily than courses with role plays. As these courses also contained other elements that seem suitable to activate students and encourage them to think and act independently, role plays seem to be too involving and do not meet the expectations of an academic education.

However, usefulness was rated higher in courses with case studies and role-plays. This is in line with the literature, arguing that usefulness can be generated through practice orientation. Project work requires a wide range of necessary skills and abilities, and real-life experiences are of great importance. In an academic learning environment, experience can be based on second-hand accounts, e.g., case studies, or first-hand accounts, e.g., role-plays and games.

Students' evaluations of usefulness and satisfaction with the courses show that students value teaching methods focused on both types of knowledge. Textbooks, journal articles, and in-class lectures support explicit knowledge transfer.

Discussions, case studies, project work, and simulations enable implicit knowledge sharing. The combination of teaching methods helps students to obtain explicit and tacit knowledge, as well as to master conversion from explicit to tacit knowledge and back which is leading to new knowledge creation, the base for developing creative solutions.

In prospect of business students who need to be able to solve “wicked” problems in uncertain business environment, searching for creative, unprecedented solutions, and creating new knowledge is crucial. Finding creative solutions requires a large amount of shared explicit and tacit knowledge. Different teaching methods accommodate different learning styles. Individual and collaborative learning have been found to enable the development of creative solutions [66]. Therefore, in classroom teaching techniques, support for both learning styles should be applied: Education must enable students to obtain both explicit and tacit knowledge, individually, as well as in groups and allow for learning the ability of knowledge conversion.

In summary, no learning method can be preferred, or seems better suited to convey both explicit and tacit knowledge. In line with the literature, the findings argue for an approach combining content-based teaching, with a strong emphasis on student-centered methods. It is important to achieve a balance of different teaching elements, within the overall program and to develop a proper use of methods in individual courses along the respective learning objectives, e.g., courses targeting theory would include discussion of scientific articles, while practical project management could rely more on role-plays and games. All of this must be embedded in an integrated learning concept respecting national differences and meeting the students' expectations of an academic education. Ultimately, this also means a further development of the organization of teaching and the self-conception of universities [67].

Our research had some limitations, especially regarding measurements. A more in-depth study would require establishing a common basis for assessment, preferably with the same elements for each country (taking into account possible cultural differences). The first step would be defining common items, the next step the application of the items. Then, an item analysis (or factor analysis) could help to resolve the usability of the scales, considering the cultural differences. If there are differences, modifications would be needed, and the step (including modifications) should be repeated. Furthermore, it cannot be ruled out, that there exist factors, other than those considered here, within the courses or in the environmental influence satisfaction or benefit. A further study would therefore, need to look at a larger number of courses, to balance out the interfering effects.

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