

Article

Improving Curricula for Higher Entrepreneurship Education: An International Real-Time Delphi

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Abstract: Existing curricula for entrepreneurship education do not necessarily represent the best way of teaching. How could entrepreneurship curricula be improved? To answer this question, we aim to identify and rank desirable teaching objectives, teaching contents, teaching methods, and assessment methods for higher entrepreneurship education. To this end, we employ an international real-time Delphi study with an expert panel consisting of entrepreneurship education instructors and researchers. The study reveals 17 favorable objectives, 17 items of content, 25 teaching methods, and 15 assessment methods, which are ranked according to their desirability and the group consensus. We contribute to entrepreneurship curriculum research by adding a normative perspective.

Keywords: curriculum design; Delphi study; entrepreneurship education

1. Introduction

Entrepreneurship education is supposed to increase students' willingness [1–10] and ability [11–14] to start a new venture. New ventures are expected to contribute to economic growth and social welfare [15–19]. Due to this social–economic value, a vast number of education entrepreneurship programs have been initiated by politics over the last decades [20–23].

In line with this high educational and political relevance, a vital research landscape on entrepreneurship education exists [24]. The largest proportion of this research is concerned with the positive outcomes of entrepreneurship education, whereas far less attention is paid to the way entrepreneurship education is implemented by means of curricula [25]. In this entrepreneurship curriculum research, existing curricula have been examined to identify how entrepreneurship is taught [26–34]. We now have a good understanding about which major curricular items are used in entrepreneurship education.

However, existing curriculum designs do not guarantee that they represent the best way entrepreneurship can be taught. In addition, curricula need to be updated according to changing circumstances and advancing knowledge [35]. Therefore, we extend the currently predominant analytical view on entrepreneurship curricula with a normative view: how can entrepreneurship curricula be improved? In particular, our research goal is to identify and rank desirable curricular items for higher entrepreneurship education. We pursue this goal by employing an international real-time Delphi study with an expert panel consisting of entrepreneurship education researchers with teaching experience.

This study contributes to entrepreneurship education research and, in particular, entrepreneurship curriculum research by adding a normative perspective on curriculum improvement. Additionally, program managers can use the insights from this study to improve their curriculum designs and entrepreneurship instructors can use them to improve their teaching practice.



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2. Background

At its core, entrepreneurship can be defined as the identification or creation, as well as exploitation, of business opportunities, particularly by offering new products or services [36,37]. However, entrepreneurship is not necessarily limited to business contexts and for-profit ventures. Social entrepreneurship aims to find and implement novel solutions to social issues [38–40]. Similarly, institutional entrepreneurship disrupts existing social institutions or forms new ones [41–44].

Consequently, entrepreneurship education aims to teach students the entrepreneurial knowledge, skills, attitudes, thinking, and behavior required to become successful entrepreneurs [2,9,45–47]. In the above-mentioned broader understanding, entrepreneurship education can also aim to increase students' creativity and change-orientation outside the business world [48].

Research on entrepreneurship education has grown exponentially over the last two decades, with currently more than 1000 publications on the Web of Science. Such a large research field can only be approached by bibliometric analyses and, in particular, science mappings, which can provide an overview of the focus areas and trends in entrepreneurship education research [24,25].

Prior entrepreneurship education research has had a strong focus on the impact entrepreneurship education has. In this regard, one of the main questions is whether entrepreneurship education increases the entrepreneurial intention of students [1–10]. Other measured outcomes include entrepreneurial attitudes [2,49], entrepreneurial motivation [14], and entrepreneurial competences or skills [11–14].

In contrast to this outcome perspective, much less research is conducted on how entrepreneurship education takes place [25,50]. We argue that when the output of entrepreneurship education is measured as a dependent variable, attention should also be paid to the specifics of entrepreneurship education itself as the major independent variable, with particular focus on how such curricula are designed. It can be assumed that different entrepreneurship education curricula have different effects.

Curricula consist of several elements or dimensions. A well-established curriculum framework for entrepreneurship education, which can also be applied to other topics, consists of, at least, (1) teaching and learning objectives/goals, (2) teaching and learning contents, (3) teaching and learning methods, and (4) methods to assess the students' learning performance [25,34,50–53], on which we focus in this study.

A recent review identified the curricular items discussed in entrepreneurship education [50]: Apart from the entrepreneurship-specific items, there are also entrepreneurship-relevant items from business management, economics, law, IT, and other fields that are reflected in entrepreneurship curricula; among the entrepreneurship-specific items, which are of predominant interest here, in the objectives dimension, various items for entrepreneurial knowledge, skills, and attitudes exist. The items in the contents dimension refer to entrepreneurship fundamentals, creativity and innovation, business opportunities and business ideas, business models, business plans and pitching, entrepreneurial finance, new venture creation, entrepreneurial strategy, small business management, and corporate entrepreneurship. The entrepreneurship-specific items in the teaching methods dimension cover methods, such as startup case studies, counseling/mentoring, start-up visits, internships at start-ups, setting up a real venture, incubators [54–56], writing a business plan, business plan competitions, pitching, entrepreneurship projects, and design thinking projects [57,58]. Most of these methods can also be used for the assessment dimension [50], by assessing the students' performance when implementing these tasks or by assessing the presented results of these tasks.

3. Methodology

3.1. Delphi Study

To achieve our research goal, we employed a real-time Delphi study. The Delphi method was originally developed to forecast man-made developments with a lack of his-

toretical or technical knowledge, making experience-based opinions by a group of experts necessary [59]. However, Delphi studies are also used without a foresight focus, when an expert consensus is required. The approach is based on the notion that the sum of information gathered by a group is more exact than information provided by an individual [60]. More generally, it is used to identify aspects of a specific topic and to form a group consensus on them [61,62]. This is realized by the collection of topical aspects in the first stage and a rating of them in the second stage of the study. The second stage can either be separated in several iterative rounds or, like in our study, take place in a real-time design [63,64]. In both cases, the study participants rate the items, then see the interim results of the group rating, and can adjust their rating if they prefer. The difference between a multi-round and real-time Delphi is that, in the former case, the interim results are revealed to all experts simultaneously at specific time points, whereas they are shown right after giving the ratings in the latter case, with the option of adjusting the ratings at any time before the survey is closed. With this process, based on anonymity, iteration, controlled feedback, and group statistical response, the group consensus can be increased [60,65].

The method is well-established: between 1975 and 2017, over 2600 scholarly Delphi-based papers were published [66]. In particular, Delphi studies have also been often used in business and management contexts [67–79] and for curriculum development. In the latter case, the experts collect curriculum items and form a group consensus on the most suitable curriculum design. Most applications can be found in medical education [80–85]. Although the Delphi methodology has been used several times to develop or improve business and management curricula [86–95], its application in the context of entrepreneurship education is still scarce. Morris et al. used the Delphi method to identify entrepreneurial competencies [47]. Similarly, Kaartemo et al. employed the method to find the key knowledge base and attributes that students of international entrepreneurship should gain [96]. With our study, we extend these former studies by applying a wider curricular perspective.

3.2. Expert Selection

As Delphi studies are expert surveys, it is highly important to ensure the expertise of the panel [65,97–100]. To meet this requirement, we recruited entrepreneurship education scholars who research and teach in this field. We defined a threshold of a minimum of three published articles on entrepreneurship education as a valid signal of potential expertise in that field. The minimum teaching experience was set to one year in the field of entrepreneurship to ensure that the experts do not only have theoretical but also practical experience in teaching.

To identify the potential experts for the Delphi panel, we conducted a topic search on “entrepreneurship education” on the Web of Science on 1 June 2023 and found 208 authors who met the above-mentioned publication threshold. The Web of Science is considered as a leading database of scientific literature [101,102], particularly for social sciences [103]. After removing double entries, the list contained 201 authors.

The selection of the minimum teaching experience could not be applied in the Web of Science. Therefore, we added this criterium as a question in both Delphi rounds. As no participant had indicated less than one year of teaching experience, no respondent had to be removed from the sample.

After we retrieved the 201 potential experts, we searched for the email addresses of these scholars on Google. In several cases, we found scholars with the same name from different disciplines. In these cases, we added “entrepreneurship education” in the search string to identify the correct one. We were unable to find five authors, reducing the preliminary sample to 196 entrepreneurship education scholars. More details on the final expert panels in both Delphi stages can be found in Tables 1 and 2.

Table 1. Panel characteristics of the first Delphi stage.

Characteristic		Number of Experts	Percent
Gender	female	12	40.0
	male	18	60.0
	diverse/not disclosed	0	0.0
Country/origin	Australia	1	3.3
	Canada	1	3.3
	Denmark	1	3.3
	Finland	3	10.0
	India	2	6.7
	Italy	1	3.3
	Norway	1	3.3
	Portugal	2	6.7
	South Africa	2	6.7
	Spain	3	10.0
	Sweden	3	10.0
	UK	6	20.0
	USA	4	13.3
Country/affiliation	Australia	1	3.3
	Canada	1	3.3
	Denmark	1	3.3
	Finland	2	6.7
	India	1	3.3
	Italy	1	3.3
	Norway	1	3.3
	Portugal	2	6.7
	South Africa	1	3.3
	Spain	3	10.0
	Sweden	4	13.3
	UK	7	23.3
	USA	5	16.7
EE teaching experience (years)	<1	0	0.0
	1–5	2	6.7
	6–10	4	13.3
	11–15	6	20.0
	16–20	6	20.0
	21–25	4	13.3
	26–30	2	6.7
	31–35	2	6.7
	36–40	3	10.0
EE research experience (years)	>40	1	3.3
	<1	0	0.0
	1–5	1	3.3
	6–10	8	26.7
	11–15	5	16.7
	16–20	4	13.3
	21–25	4	13.3
	26–30	1	3.3
	31–35	3	10.0
	36–40	2	6.7
	>40		26.7

Table 2. Panel characteristics of the second Delphi stage.

Characteristic		Number of Experts	Percent
Gender	female	6	66.7
	male	14	28.6
	diverse/not disclosed	1	4.8

Table 2. *Cont.*

Characteristic		Number of Experts	Percent
Country/origin	Australia	1	4.8
	Canada	2	9.5
	Denmark	1	4.8
	Germany	1	4.8
	India	1	4.8
	Indonesia	1	4.8
	Norway	2	9.5
	Portugal	1	4.8
	South Africa	1	4.8
	Spain	2	9.5
	Sweden	2	9.5
	UK	3	14.3
	USA	3	14.3
Country/affiliation	Australia	1	4.8
	Austria	1	4.8
	Canada	2	9.5
	Denmark	1	4.8
	Indonesia	1	4.8
	Norway	3	14.3
	Portugal	1	4.8
	Spain	2	9.5
	Sweden	2	9.5
	UK	4	19.0
	USA	3	14.3
EE teaching experience (years)	<1	0	0.0
	1–5	2	9.5
	6–10	6	28.6
	11–15	3	14.3
	16–20	0	0.0
	21–25	3	14.3
	26–30	0	0.0
	31–35	2	9.5
	36–40	4	19.0
	>40	1	4.8
EE research experience (years)	<1	0	0.0
	1–5	2	9.5
	6–10	5	23.8
	11–15	4	19.0
	16–20	1	4.8
	21–25	4	19.0
	26–30	0	0.0
	31–35	2	9.5
	36–40	2	9.5
	>40	1	4.8

3.3. Data Collection (Stage 1)

We invited the experts to participate in the first Delphi stage on 4 July 2023. We asked them to name three to ten desirable developments in entrepreneurship education in the next 5–10 years with regards to teaching objectives/goals, teaching contents, teaching methods, and assessment methods (regarding the students' learning performance). The survey was implemented on Google Forms. Thirteen emails could not be delivered to the recipients and two responded that they preferred not to participate. Therefore, the potential expert panel consisted of 181 entrepreneurship education scholars.

We closed the survey on 4 August 2023. Thirty respondents participated in the first Delphi stage, leading to a response rate of 16.6 percent. The sample size may appear some-

what small at first glance. However, Delphi studies commonly comprise a small number of experts [104], mostly 15 to 35 participants [105]. The panel characteristics are summarized in Table 1. The panels' average teaching experience in entrepreneurship education was 19.8 years and their average research experience in this field was 19.3 years. All participants had a minimum of five years of either teaching or researching in entrepreneurship education, which we consider as both appropriate indicators and thresholds for the required expertise in the field. As mentioned before, all invited participants (co-)authored at least three publications on entrepreneurship education.

3.4. Data Analysis (Stage 1)

The experts provided 80 responses for teaching objectives, 82 for teaching contents, 65 for teaching methods, and 55 for assessment methods. To prepare the data for the second Delphi stage, we used open coding [106,107]. Most answers were given in a concise way and could, therefore, be used as initial codes. When answers were given in longer statements, we reduced the formulation to their core, which then was used as an initial code.

In the next step, we consolidated and unified the data by searching for synonyms in the initial codes, grouping them together, and assigning a short phrase representing the overall meaning as a final code. As a consequence, the number of codes could be reduced to 17 objectives, 17 contents, 25 teaching methods, and 15 assessment methods, which were then used for the second Delphi stage. To avoid redundancy rather than providing a complete list of all items, we refer to Tables 3–6, where these items are ranked according to the panel ratings in the second Delphi stage.

Table 3. Desirable teaching objectives.

Rank	Item No.	Item	Median	Group Stability
1	2	Students develop/increase an entrepreneurial mindset.	9	81.97
2	6	Students develop comprehensive entrepreneurial skills.	9	79.29
3	7	Students become more creative/innovative.	9	78.14
4	13	Students can apply entrepreneurship for solving grand challenges.	9	76.52
5	17	Students can link their entrepreneurial activities to a higher meaning/purpose.	9	76.17
6	16	Students commit to sustainability (environmental and/or social) issues in their entrepreneurial activities.	9	67.76
7	10	Students can cope with severe resource constraints/scarcity (e.g., with bricolage).	8	78.44
8	8	Students can manage the complete entrepreneurial process, from idea to market/exit.	8	78.16
9	4	Students acquire evidence-based entrepreneurial knowledge.	8	74.74
10	11	Students can apply entrepreneurship in established firms, such as corporations or family firms (rather than only in start-ups).	8	68.75
11	3	Students acquire theoretical entrepreneurial knowledge.	7	73.71
12	9	Students can use the principles of effectuation.	7	73.37
13	12	Students can apply entrepreneurship in government and public authorities.	7	66.09
14	1	Students develop/increase an entrepreneurial intention.	7	64.75

Table 3. *Cont.*

Rank	Item No.	Item	Median	Group Stability
15	14	Students can apply digital tools in their entrepreneurial endeavors.	7	63.14
16	5	Students understand the fundamentals of digital/disruptive technologies.	7	61.85
17	15	Students can apply AI in their entrepreneurial endeavors.	6	57.80

Table 4. Desirable teaching contents.

Rank	Item No.	Item	Median	Group Stability
1	13	Ethics for entrepreneurship	9	71.12
2	11	Sustainability/environmental/green entrepreneurship	9	69.85
3	4	Entrepreneurial methods, tools, and techniques	8	80.50
4	1	Multi-disciplinary views on entrepreneurship	8	79.87
5	12	Social entrepreneurship	8	73.65
6	5	Strategic foresight for entrepreneurs	8	72.71
7	14	Small and mid-sized business entrepreneurship and management (rather than venture-capitalized, high-tech, or high-growth start-ups aiming for quick, lucrative exits)	8	66.21
8	2	New forms of entrepreneurial finance (other than venture capital, such as crowdfunding, initial coin offerings, security token offerings, venture debt lending, etc.)	7	72.9
9	7	Digital technologies for entrepreneurship	7	70.19
10	10	Corporate entrepreneurship/intrapreneurship	7	68.61
11	6	Entrepreneurial psychology	7	66.81
12	15	International entrepreneurship	7	64.9
13	16	Female/women entrepreneurship	7	61.26
14	17	Lifestyle entrepreneurship (such as artisan, hobbyist, sport, tourism entrepreneurship, etc.)	7	60.81
15	3	Entrepreneurial marketing	7	60.73
16	9	Industry-/sector-specific entrepreneurship	7	60.73
17	8	AI for entrepreneurship	6	59.49

Table 5. Desirable teaching methods.

Rank	Item No.	Item	Median	Group Stability
1	3	Interactive/participatory/dialogic teaching	10	88.29
2	10	Setting up a (small) real venture	9	80.90
3	9	Value creation pedagogy (teachers let students create something of value for (at least) one stakeholder group based on their existing/new competences)	8	82.84
4	5	Personalized learning (based on the students' individual needs)	8	81.69
5	6	Self-directed learning/heutagogy	8	80.86

Table 5. Cont.

Rank	Item No.	Item	Median	Group Stability
6	18	Building a prototype/Minimum Viable Product (as a specific entrepreneurship sub-project)	8	77.81
7	7	Group work	8	74.80
8	4	Flipped classroom	8	71.64
9	17	Design thinking projects	8	71.40
10	25	Extra-curricular entrepreneurial activities	8	67.55
11	12	Incubators	8	66.54
12	2	Entrepreneurs/practitioners mentoring students	8	64.87
13	1	Guest lectures by entrepreneurs/practitioners	8	60.64
14	22	Students consulting companies/organizations	8	60.03
15	16	Pitching exercises (as a specific entrepreneurship sub-project)	7	73.44
16	21	Internships at companies/organizations	7	62.13
17	8	Case method	7	61.20
18	13	Accelerators	7	60.69
19	24	Gamification/serious games	7	59.16
20	19	Applying diverse digital tools in entrepreneurship (sub-)projects	7	56.09
21	20	Applying AI in entrepreneurship (sub-)projects	7	52.08
22	11	Setting up a fictional venture	7	50.11
23	23	Online education/blended learning	6	65.36
24	14	Writing a business plan (without competition) (as a specific entrepreneurship sub-project)	6	59.25
25	15	Business plan competitions (as a specific entrepreneurship sub-project)	6	56.01

Table 6. Desirable assessment methods.

Rank	Item No.	Item	Median	Group Stability
1	2	Class participation	9	84.07
2	8	Formative assessments (evaluating the students' performance during entrepreneurship projects)	9	78.94
3	4	Portfolios	8	83.21
4	9	Summative assessment (evaluating the students' presented results of entrepreneurship projects)	8	78.94
5	7	The diverse specific entrepreneurship sub-projects (business plan, pitching, prototyping, etc.) used as teaching methods ALSO used for assessment purposes	8	76.00
6	15	Assessment of group performance (rather than individual performance)	8	72.50
7	12	Self-assessments	8	71.72
8	1	Real-time assessments (oral or written) to eliminate the use of AI	8	71.71
9	14	Assessments/evaluations by entrepreneurs	8	69.50
10	13	Peer assessments	8	67.60
11	3	Concept maps	7	68.24
12	5	Participating in an incubator program	7	55.50

Table 6. *Cont.*

Rank	Item No.	Item	Median	Group Stability
13	11	Quantitative measurement of the students' / alumni's entrepreneurial mindset or intention before and after the program	7	51.17
14	10	Written internship reports	6	66.05
15	6	Participating in an accelerator program	6	56.22

3.5. Data Collection (Stage 2)

On 24 August 2023, we invited the 181 entrepreneurship education scholars to participate in the second stage, in which we asked the experts to rate the previously collected items for teaching objectives, teaching contents, teaching methods, and assessment methods with regards to their (subjective) desirability. Each item could be rated on a scale from 1 (not desirable) to 10 (highly desirable). We decided to use a 10-point Likert scale to allow the experts to provide clearly distinguishable ratings for the degree of desirability, after *all* items were considered as desirable, in the first Delphi stage, by the panel as a whole. For the second stage of the study, we used the software Calibrium, which is suitable for conducting real-time Delphi studies.

A reminder was sent on 12 September 2023, and the survey was closed on 22 September 2023, as previously announced. Twenty-four respondents provided their ratings, whereas some respondents dropped out during the survey. For example, 16 (not 17) teaching objectives were rated by all 24 experts, whereas in the last curricular section—the assessment methods—the items were rated by 22 participants, and the demographic questions were answered by 21 respondents. Obviously, the questionnaire was somewhat long—and too long for some participants.

The panel characteristics are summarized in Table 2. From the panel demographics, it can be concluded that the panel of the second Delphi stage is not an exact subset of the panel of the first stage, i.e., some experts from the first stage did not participate in the second stage but some experts from the whole sample who had not participated in the first stage did so in the second stage. The panels' average teaching experience in entrepreneurship education in the second stage was 20.1 years and their average research experience in the field was 18.7 years. Again, all participants had a minimum of five years of either teaching or researching in entrepreneurship education.

3.6. Data Analysis (Stage 2)

For each item, we used the median of all given ratings between 1 and 10. As common for Delphi studies, the median was chosen as it is more robust to outliers than the arithmetic mean [108]. In addition, the group stability, with values between 0 and 100 percent, is used as a consensus measure. If all respondents had given the same rating, the group stability would have been 100 percent. For no item, the stability value is below 50 percent, showing that there is no severe dissent for any item. In fact, the highest consensus values are 82.0 percent for teaching objectives, 80.5 percent for teaching contents, 88.3 percent for teaching methods, and 84.1 percent for assessment methods, while the average consensus values are 71.8 percent for teaching objectives, 68.3 percent for teaching contents, 67.4 percent for teaching methods, and 70.1 percent for assessment methods, indicating quite high group consensuses.

To rank the items in the four sections, we sorted the items by descending median and, when the median was identical, by descending group stability. This way, the desirability value is the predominant variable, but a decreasing consensus on this desirability value weakens the item's relevance.

4. Results

As we asked for desirable teaching objectives, teaching contents, teaching methods, and assessment methods in the first Delphi stage, it is no surprise that not a single item was rated as undesirable (median below 6) in the second stage. However, due to the wide rating scale and the calculation of the group stabilities, finer differentiations in the extent of desirability and relevance can be identified. Due to the high overall number of 74 items and the limited space, we focus on those with the highest and lowest ranks.

Table 3 shows the ranked items for teaching objectives. Not surprisingly, the two highest ranking address the two fundamental objectives of an entrepreneurship education: acquiring entrepreneurial knowledge and developing entrepreneurial skills. Rank 3, becoming more creative or innovative, can be interpreted as a sub-set of entrepreneurial skills, confirming their high relevance. While the value difference between the first and second rank is quite small, it is still worth mentioning that knowledge has received a slightly higher relevance than skills. The next three ranks with the highest median of 9 refer to the application of entrepreneurship to solve grand challenges, linking entrepreneurial activities to a higher meaning or purpose, and to a commitment to sustainability. However, the sustainable orientation of entrepreneurship received a significantly lower consensus.

Interestingly, the application of AI in entrepreneurial endeavors (rank 17) received the lowest median of 6, but with a low consensus value as well. Also, the other lower ranks address aspects of digital entrepreneurship [109–112], such as understanding the fundamentals of digital/disruptive technologies (rank 16) and the application of digital tools in entrepreneurial endeavors (rank 15), which are still seen as relevant, but with the lowest desirability of the given teaching objective items.

The ranked items for teaching contents are shown in Table 4. Of the 17 items, two received the highest median of 9, namely ethics for entrepreneurship and environmental entrepreneurship. The more traditional item, entrepreneurial methods, tools, and techniques, received the highest consensus, with a comparably high median of 8. Again, AI was positioned as the last ranking (17), with a median of 6 and a somewhat low consensus rate.

The teaching method items are ranked in Table 5. Among the 25 items, interactive, participatory, or dialogic teaching methods received the highest median of 10, which was only given once in the whole Delphi study across all curricular sections. The group stability is also the highest found in the study. Setting up a (small) real venture, as a holistic form of an experiential [113–115], or more precisely, a teaching-through-entrepreneurship approach that is student-centered and requires real-life contexts facing real problems and risks [116,117], received a median of 9.

The two items with the lowest median of 6 refer to business plans—either in the form of participating in a business plan competition (rank 25) or writing a business plan (rank 24)—which, considering the wide-spread use of these techniques, is quite surprising. The lowest median of 6 also was given to online entrepreneurial education and blended learning.

Finally, the ranked items for assessment methods are depicted in Table 6. Among the 15 items, two received the highest median of 9. In particular, the panel ranked class participation in first place and formative assessments in second. The lowest ranks refer to participation in accelerator programs and written internship reports, both with a median of 6.

5. Discussion

The Delphi study aimed to identify and rank favorable curricular items for higher entrepreneurship education, from the perspective of entrepreneurship education researchers.

Among the proposed objectives, contents, and teaching as well as assessment methods, several items are already regularly covered in current curricula [50]. Their appearance in this Delphi study confirms their significant relevance. In the following, we stress the highly rated, more novel curricular items that have been proposed by the expert panel.

In the objectives dimension, solving grand challenges relates to the notion that entrepreneurial thinking and acting can also be used in not-for-profit contexts. After management scholarship has started to address such challenges that are located beyond the usual business context and address big societal questions [118,119], it seems that (social) entrepreneurship may be a specific and promising approach for implementation [120–122]. Linking entrepreneurial activities to a higher meaning or purpose is in line with this thought, but could also address “smaller” issues. Similarly, using entrepreneurship in government and public authorities has been proposed by the expert panel. The idea behind this is that entrepreneurship can contribute to higher innovativeness, efficiency, and welfare [123,124]. These items emphasize that entrepreneurship education can also have a high value for students who do not see their professional future as startup founders.

In the content dimension, the use of strategic foresight for entrepreneurship has been proposed. Strategic foresight explores the various scenarios that may unfold in the future, particularly to increase organizations’ preparedness, adaptability, and innovativeness [125–131]. In the entrepreneurship context, this approach is not yet well-established [132–134]. As entrepreneurship is strongly related to high uncertainty [135,136], it is indeed useful for entrepreneurship education to include such content in their curricula. Another topic that is not yet well-represented in current curricula is female/women entrepreneurship. This topic has already attracted considerable attention in entrepreneurship research and addresses gender differences in entrepreneurship [137–141]. In contrast, entrepreneurship education only starts to cover the empirical insights of this research.

In the teaching methods dimension, value creation pedagogy has been proposed as a methodological approach for teaching entrepreneurship. Even though value creation is a core concept in entrepreneurship [142–144], the roots of value creation pedagogy lie outside entrepreneurship education and, therefore, do not address value creation for customers but for the students and for others [145]. However, thinking in terms of value creation appears highly suitable for entrepreneurship education, especially as it connects individual development and venture creation in a meaningful way [145,146].

In the assessment methods dimension, it became obvious that entrepreneurial activities cannot only act as teaching but also assessment methods, as the performance during the activity or its results can be assessed. Apart from specific methods, formal aspects have also been proposed. Interestingly, oral or written real-time assessments appear among the curricular items in order to enable the elimination of AI use, which has become more problematic since the introduction of ChatGPT and other generative AI tools to the public [147,148]. This can be seen being as in line with the high ranking of interactive, participatory, and dialogic teaching in the teaching methods dimension.

The findings contribute to the literature on entrepreneurship education in several ways. First, they stress the curricular dimension of entrepreneurship education. Whereas the vast majority of entrepreneurship education research is concerned with the impact or effects of entrepreneurship education [25,50], this study does not focus on the outcome but on entrepreneurship education itself. Second, previous entrepreneurial curriculum research has asked, from an analytical view: how *is* entrepreneurship being taught? Extending this view, we ask, from a normative perspective: how *should* entrepreneurship be taught? This added perspective is valuable, as the current teaching practice is not necessarily the best possible or imaginable. Third, within the identified favorable curricular items, a more refined distinction of the desirable items is provided by the ranking.

The findings also have practical implications for higher entrepreneurship education. First, it has to be stressed again that the 74 items were proposed in the first Delphi stage and, consequently, all of them were regarded as desirable in the second stage. As a consequence, curriculum designers for entrepreneurship education and entrepreneurship educators are well-advised to consider all items. However, when teaching capacities are restricted, the more highly ranked items should receive the highest attention. Second, the four curricular sections contain both established items and more novel items or those that received comparably lower attention in the past. To advance entrepreneurship education

and possibly further increase student motivation, particular emphasis should be given to the latter ones.

As with all research, our study comes with some limitations. First, even though the number of participants in the first and second stage of this study were in the usual range of Delphi surveys [104,105], it is possible that larger panels would have revealed further notions of improvement in entrepreneurship education programs. This also corresponds to the second limitation: the expert panel had a certain Western bias. We tried to avoid this with our global search for entrepreneurship education researchers, but it seems that entrepreneurship education research, as represented by the original sample who had published at least three papers on entrepreneurship education, is currently dominated by scholars from Western countries. A separate study focusing on African, Asian, and/or South American researchers alone could add interesting insights due to different cultural and entrepreneurial contexts. Third, we asked only entrepreneurship education researchers but not entrepreneurs. Entrepreneurs who actually practice entrepreneurship, rather than theorizing and teaching about it, could also yield new ideas and different opinions about the desirability of curricular items. Such research that follows this approach can also use different methodologies than Delphi studies, such as qualitative interviews. Fourth, we treated entrepreneurship education as a “homogeneous good” [50]. However, the design of an entrepreneurship education program, particularly at the graduate level, has to consider the different prior knowledge bases of their students, such as business administrators, engineers, natural scientists, or many more. In addition, different students have different objectives. For example, a startup founder may have different requirements than a child of a business owner who intends to become their successor or a corporate manager who is interested in building a spin-off. Further, entrepreneurship education can take place at different educational levels with different levels of complexity: apart from the graduate level, there is also undergraduate, secondary, and possibly even primary education. Therefore, future research could distinguish between different kinds of entrepreneurship education. Fifth, in line with the Delphi study design and also with the normative research goal of the identification and ranking of desirable curricular items, we asked for subjective perspectives and not “the truth”. In other words, the experts expect the provided items to be useful for entrepreneurship education, but it is not yet clear if they really are. This can only be assessed by future empirical research.

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