

SUBJECT RELATED EDUCATION MANAGEMENT: Course Concept and First Findings from Accompanying Research¹

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Abstract: *The target group for the four-semester professional development course entitled “Subject-related Education Management” (2006-2008) in Austria are secondary school teachers of German, mathematics and the natural sciences. They are expected to initiate and support processes in their respective federal states with the aim of critically appraising individual and interdisciplinary teaching methods for each subject, and to (further) develop new methods. The goal of accompanying research is to examine participants’ development of competence. Initial findings show that there are no significant differences between teachers with regard to the self-assessment of interests and competences in relation to subject area, gender or school type. However, the extent to which teachers have experience in the organisation and implementation of teacher education makes a significant difference.*

1 The importance of subject-related education management

The IMST Project³ (cp. KRAINER, 2007) aims at introducing and supporting innovations in mathematics, science and technology teaching at Austrian schools. In addition, some *structural measures* are established at the education system level.

This includes, for instance, setting up national competence centres for didactics in several subjects, regional networks and *subject-related education management*. Some schools and federal states already have certain teachers who take on specific tasks for one or more subjects. However, these arrangements are usually not formally anchored and are based – with a few exceptions – more on vague descriptions of function and task. Despite Austria’s overseeable size, these arrangements differ significantly from one state to the next with regard to tasks, personnel selection, anchoring within the regional educational system as well as payment. The exchange among those concerned across Austria is rudimentary. The autonomy of schools (and educational regions) is usually understood and practiced as the autonomy of individuals. This is often supported and enhanced by a lack of agreement between and within educational institutions.

In contrast to this situation, subject-related and subject-connecting challenges require collective action and reflection. These stretch from an exchange of experience and mutual agreement of aims and

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³ IMST (Innovations in Mathematics, Science and Technology Teaching) is an Austria-wide initiative for improving the teaching of mathematics, science and technology (see also: <http://imst.uni-klu.ac.at>).

performance requirements, determining main focus points with regard to content and methodology (e.g. justification for new subjects or the introduction of laboratory teaching) to describing the overall concept of a subject (incl. the question of a subject's contribution to education). Achieving greater significance and consideration for output orientation (educational standards, etc.) will require (in addition to the continued consideration of input questions) in particular processes and structures to support the orientation.

The development of internal structures and the co-operation and co-ordination between schools will in future play a central role in achieving and improving sustainable development in Austria's education system. Subject-related middle management is needed at school and regional level to support and nurture school development whilst remaining close to teaching methodology and the subjects themselves. In the long term, these functions should only be fulfilled by persons with appropriate education and qualification. It would also represent an important contribution to the further professionalization of the teaching profession. Subject-related education managers would also make a contribution towards the *improvement of communication and the exchange of knowledge* between educational practice, education authorities and educational science, thus creating a significant prerequisite for the sustainable development of the education system.

In a first step, the Federal Ministry for Education has assigned the development of a *university course entitled "Subject-related Education Management"* (2006-2008) that will initially apply at a regional level. The target group of the four-semester course consists of lower secondary school teachers (secondary modern in Great Britain, junior high school in the USA) teaching German, mathematics or natural sciences (biology, chemistry and physics).

A more precise description of tasks and roles was waived as it is not possible to change legal regulations (public services law, etc.) with any degree of expediency. The question as to the roles and structures these persons will adopt on completion of the course therefore remains open. This bears risks (role ambiguity) but also chances (to engage in definition and design, especially during and by means of the course).

The following task description for subject-related education managers was defined as a starting point to be specified in greater detail at a later date (cp. KRAINER, FISCHER & WALLNER, 2006): "*Subject co-ordinators, members of regional networks, etc., fulfil at a regional level important tasks relating to the discussion of fundamental questions of education and its understanding, measures pertaining to cross-school quality development and assurance, the co-ordination of professional exchange, the organisation of courses relating to subject and subject didactics, the initiation of regional development work and the mutual co-ordination with regard to the requirements of different schools and school types.*"

They should initiate and support processes in their respective federal states with the aim of critically appraising subject related and interdisciplinary teaching methods for each subject, and to (further) develop new methods. At the same time it is important to visualise and propagate innovations and "good practice", as well as informing and discussing new scientific findings, current issues and challenges such as educational standards (KRAINER, KÜHNELT, PESCHEK & WINTERSTEINER, in press). This will enable an expedient and more efficient response to the challenges and issues arising in the education system both from schools ("bottom-up") and education authorities ("top down"). Subject-related education managers therefore gain special significance with regard to "interface management". They are an important prerequisite for enabling a *location-related and super-regional standard education* in the subject groups and in regional subject groups and networks.

The great competence variety of subject-related education managers and a lack of empirical experience prior to the start of the course made it impossible to develop a more detailed specification of the competence model (e.g. as developed for mathematics teachers over the past years within the COACTIV framework, cp. BRUNNER et al., 2006). However, first steps in this direction are feasible within the framework provided by course implementation, evaluation and accompanying research. Five preliminary competence areas – "In-service Education", "Consulting", "Co-operation and Networking", "Subject-political Issues" and "Analysis and Reflection" – have been constructed by the accompanying research

team in co-operation with the course team. First experience with this concept development are reported in Chapter 4.

2 Course concept and content

The main themes of the course (cp. Fischer & Krainer, 2006) are – in accordance with its name – *Education, Management* und *Subject (didactics)*. The course follows VON HENTIG (2004) in as much as *education* is not only understood as self-education but as a conscious responsibility for and active participation in the shaping of society. Education aims at improving the ability to act and at assuming responsibility as well as for the individual and the collective. *Management* means to make or induce decisions and communicate this clearly. As a perpetual process concerning individuals and the collective, education needs ongoing decisions and actions as much as it needs their critical assessment. In this context, teachers (at schools, colleges, universities, etc.) are the most important education managers appointed by society, and the goal is to strengthen their collective actions as a community and profession. Organising a profession requires a minimum structure. A lot speaks in favour of using *subjects* as a structuring element in accordance with their development in schools, universities, etc.. The subjects represent points where knowledge, competence, beliefs and culture crystallise (cp. NEUBRAND, 2006; LEDER, PEHKONEN & TÖRNER, 2003). The scientific disciplines concerned with teaching and learning a subject are the *subject didactics*.

The *modules* of the course (40 credits in the European Credit Transfer System) follow the three main themes and focus on the following issues and subjects:

- *Subject didactics module*: subject didactics and pedagogy in a subject-related and interdisciplinary context under consideration of current issues and challenges (e. g. results from various studies, education standards).
- *Interface management module*: Self-image and design of one's own role as subject-related education manager, project management and networking.
- *Education module*: Education and teaching with regard to current and future societal demands and relevance.

Compulsory optional subjects supplement and enhance the modules. Participants are required to write two *reflective papers* on a practice-related case, one related to the corresponding “subject didactics” and one related to the “interface management” module. This could be, for instance, the organisation and evaluation of a teacher education course or the co-ordination of an education standard project in a district, but generally not a project for improving one's own teaching skills. The primary goal of the course is not that teachers become better teachers, but rather the new and further development of their competences in regional education management.

3 The concept of accompanying research

The research accompanying the “Subject-related Education Management” course is based on a longitudinal design that analyses the course with regard to input, process flow and output (cp. MAYR & MÜLLER, 2006). The theoretical background is based on a *supply-use model* (HELMKE & WEINERT, 1997) that can be explained in simplified terms as follows: Participants begin the course with specific *initial preconditions* (expectations, experience, interests, skills, ...) and find various predefined *learning opportunities* (in the form of learning materials, persons, information, ...). They *use* these depending, on the one hand, on their own preconditions and, on the other hand, on the quality of the learning opportunity. The individual learning benefit gained from each course (in the sense of broadening knowledge bases, changing convictions, ...) is considered as dependent on initial preconditions, learning opportunities and the use made thereof (cp. MAYR & MÜLLER, 2006; see also Figure 1).

The competence acquired through the course (a broad meaning of the term competence is assumed; cp. ALLEMANN-GHIONDA, 2006) should be reflected in professional skills and actions and therefore represent

a contribution to the further development of each individual's professional skills and, as a consequence, to teaching as a profession and to the education system.

A *longitudinal study* containing semi-standardised “knowledge tests” in addition to questionnaires and interviews (in order to record participants' self-disclosure data) will be carried out in parallel. It is designed partially on established theoretical concepts and the corresponding methods of collecting data, and also includes new, target group-related developments constructed, for example, on the basis of interviews with the course management team.

The study investigates all participants' development in the course. Figure 1 shows the study plan and the main areas of investigation for the two-year university course.

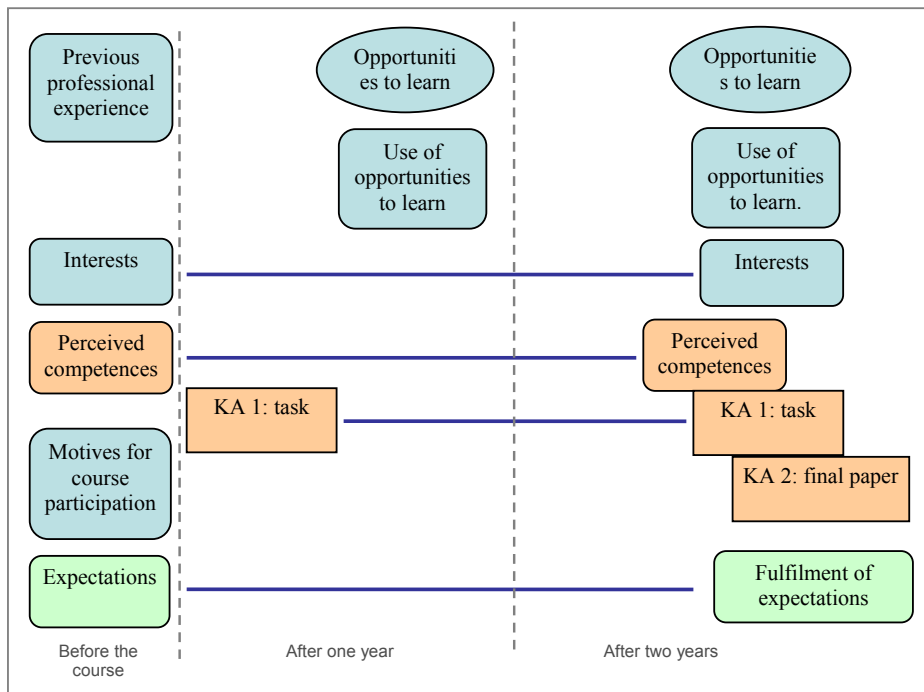


Fig. 1: Study design for the course with data collection time points and selected variables (cp. Mayr & Müller, 2006).

Important learning prerequisites of participants were recorded *before the course commenced* and are detailed briefly in the following:

- *Previous professional experience*: in addition to their immediate teaching experience, participants were asked about experience that could be of particular relevance to subject-related educational management. This could be, for instance, experience in instructional and school development, in the evaluation of learning environments, the evaluation of educational measures or in organising and implementing in-service education courses for teachers.
- *Motives for course participation*: a questionnaire on participation motives was designed for this purpose that is oriented on the theory of self-determination by DECI und RYAN (1992) and assumes that the choice of educational course is determined by multiple motive categories.
- *Expectations from the course*: these refer to expectations with regard to expanding competences and in particular methodological and didactical preferences.

- *Interests*: These were captured on the one hand by means of an abridged version of a “General Interest Structure Test” by BERGMANN and EDER (1992) and a questionnaire containing possible fields of activity of education managers, such as in-service education, consulting, co-operation and networking, subject-political activities, and reflection and analysis, etc. Furthermore, participants were asked not only to estimate their interest in these fields but also their *competence* (cp. also Tab. 1).
- *Personality*: an abridged version of a “Big-Five” personality inventory was used (RAMMSTEDT ET AL., 2005). Big Five personality markers should be seen as “basic tendencies” for attitudes, convictions, actions, etc. (cp. MCCREA ET AL., 2000). This personality concept has proved suitable for the moderate prognosis of learning processes and results (DE RAAD & SCHOUWENBURG, 1996) or, in particular, the prognosis of „successfully“ coping with the teaching profession (cp. MAYR & NEUWEG, 2006).

Immediately after the course started, participants were assigned the task of writing a newspaper article on the significance of the subject for which they would be responsible as education managers (see Fig. 1, KA 1: Task) and to document their approach to solving the task. Articles are subsequently evaluated by external persons with a view to various content-related and formal quality aspects. Data collections of this nature are repeated at subsequent stages to obtain indicators for change. A selection of projects executed by participants is also analysed (see Fig. 1, KA 2: Final paper). The intention is to obtain third-party appraisals – in addition to the self-perception – for those participants with a tendency to provide socially desirable responses.

Statements are collected at the end of the second and fourth semester with regard to the opportunities to learning provided by the course and how they were used. Guideline-based interviews with course team members aimed at viewing relevant aspects of learning opportunities are conducted for the purpose. These aspects are intended to form a basis for constructing a questionnaire to capture learning opportunities and the use made thereof.

Occupation-related interests and competences recorded at the start are again queried or covered by tasks at the end of the course. The intention is to indicate changes that could be interpreted as a result of the course. Participants are also asked to indicate how far their expectations of the course were fulfilled.

A follow-up study aimed at establishing the long-term effects of the course is planned once the course has been completed. Amongst other things, the follow-up study will enable to find out to which extent participants are able to make use of the qualifications gained from the course in their professional careers.

4 Initial empirical findings from accompanying research

In the following section, exemplary results from the survey held *before* the course are presented and interpreted on the basis of the course concept. It is also intended to show how findings from the accompanying research – in the sense of a formative evaluation – can provide practical indicators for the design of the current course.

The questionnaires on participations motives, interests and competences are currently in the trial phase and will need to be checked for reliability and validity in the course of further studies.

Sample

A total of 144 prospective subject-related education managers were surveyed by means of an online questionnaire before the course commenced. 140 evaluable datasets were returned. The majority of participating teachers teach at main schools (60%), whilst 40% teach at schools for higher general education (“Gymnasium”). Around 40% of the 140 course participants are female, and the same number have already held or organised in-service education courses for teachers. The participants are distributed more or less equally among the subject modules German (35%), mathematics (30%) and natural sciences

(35%). This heterogeneity among participants (school type, subjects, previous experience, ...) in combination with the size of the course represents both a challenge and a learning opportunity.

Results: motives for choosing the course

The majority of participants state intrinsic motivation for course participation as opposed to extrinsic motivation. This indicates good preconditions for learning – at least from a motivational theory viewpoint. Figure 2 shows some examples of motives for choosing the course. These items are based on a five-level rating scale (1 = does not apply, 5 = applies in full).

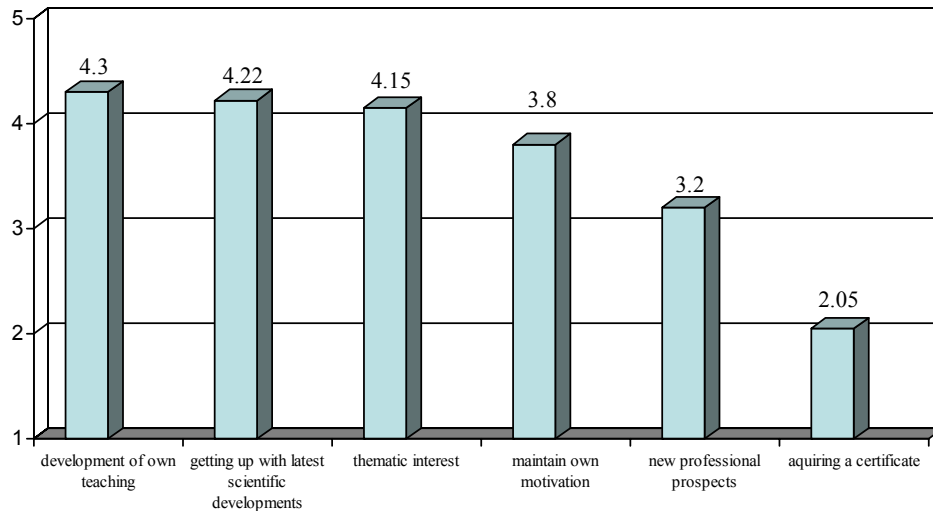


Fig. 2: Selected motives for choosing the course “Subject-related Education Management”.

The most significant motive for course participation is to further develop one’s own teaching skills (M: 4.3, SD: 0.84). However, this is not a primary intention of the course and could therefore lead to inappropriate motivation. On the other hand, only 11% of participants stated this motive as the only main motive for choosing the course. This group runs the risk of disappointed expectations in course content if their perceptions of the course and the course itself are incompatible. All other participants display a variety of motives that are compatible with the goals of the course. This is also reflected by the areas of interest assessment in Table 1. Tendencies towards the motives of “getting up-to-date with the latest scientific developments” (M: 4.22, SD: 0.91) and “thematic interest in the course” (course content and concept) (M: 4.15, SD: 0.81) are high at the start of the course. The course was also chosen to “maintain motivation in my profession as a teacher” (M: 3.80, SD: 1.22) or to acquire “new professional prospects” (M: 3.20, SD: 1.15) (in addition to teaching). Extrinsic motives, such as acquiring a certificate (M: 2.05, SD: 1.16) are less pronounced overall.

Result: interests and competences

Table 1 shows the participants’ assessment of interests and competences for the areas “In-service Teacher Education”, “Consulting”, “Co-operation and Networking”, “Subject-political Issues” and “Analysis and Reflection” mentioned previously.

The exemplary items are intended to indicate how the scales are composed. The degree of the reliability coefficients can be assessed as satisfactory (Cronbachs Alpha between 0.76 and 0.82). However, it should

be noted that the scales should not be viewed as selective dimensions. Inter-correlations between the scales fluctuate between 0.48 and 0.76 for the interests scale and between 0.63 and 0.79 for competences. The scales for “In-service Teacher Education” and “Co-operation and Networking” show the greatest correlation between interests and competences. Future adjustments to items and conceptual considerations relating to the areas of competence of subject-related management will be required in particular for these two scales.

It can be seen on the five-level scale that assessments of the *areas of interests* lie between 3.73 (SD: 0.71) for “Analysis and Reflection” and 4.09 (SD: 0.66) in the area of “Consulting”. Thus, all mean values are higher than the scale value three of a five-stepped additive scale, and not one item value is below this mark. Interest in the area of “In-service Teacher Education” lies in particular in “organising” (M: 4.12, SD: 0.95) and “conducting in-service teacher education” (M: 4.08, SD: 1.00). Investigating the quality and efficacy of in-service education measures (“evaluating in-service teacher education”) was of little interest to participants – they declared it to hold the least interest value (3.27, SD: 1.11). In contrast, “Consulting” holds a high level of interest, in particular supporting colleagues in “problems in practical teaching”, whereby this item scores the highest interest value (M: 4.21, SD: 0.89).

Interest in the area of “Co-operation and Networking” is equally as high, in particular in conjunction with co-operating with teacher education institutes (M: 4.20, SD: 0.83) and scientific experts (M: 4.17, SD: 0.89). “Increasing school awareness for the importance of the subject” gained the most interest in the field of “Subject-political Issues” (M: 4.06, SD: 0.99).

Dimensions and item examples	interest mean (SD)	competence mean (SD)
In-service Teacher Education: 7 items; α (interest): 0.76 / α (competence): 0.80	3.85 (0.63)	3.36 (0.75)
- Organising in-service education for teachers	4.12 (0.95)	3.75 (1.20)
- Conducting in-service education for teachers	4.08 (1.00)	3.47 (1.18)
- Designing a subject-related in-service education concept for teachers	3.84 (1.10)	2.90 (1.12)
- Evaluating courses of in-service education for teachers	3.27 (1.11)	2.88 (1.17)
Consulting: 5 items; α (interest): 0.80 / α (competence): 0.82	4.09 (0.66)	3.57 (0.78)
- Supporting teachers in teaching-related problems	4.21 (0.89)	3.79 (1.03)
- Coaching teachers in subject-related and didactical issues	4.05 (0.91)	3.58 (0.96)
- Implementing subject-related perspectives to school development processes	4.02 (1.00)	3.44 (1.14)
Co-operation and Networking: 7 items; α (interest): 0.80 / α (competence): 0.82	3.84 (0.66)	3.19 (0.77)
- Collaborating with teacher education institutes	4.20 (0.83)	3.55 (1.02)
- Maintaining contacts to scientific experts	4.17 (0.89)	3.17 (1.17)
- Initiating co-operation between schools and educational administration	3.59 (1.12)	2.99 (1.22)
Subject political issues: 5 items; α (interest): 0.78 / α (competence): 0.82	3.92 (0.72)	3.33 (0.83)
- Increasing school awareness for the importance of the subject	4.06 (0.99)	3.65 (1.05)
- Pointing out the importance of a subject to those who are not familiar with this subject	3.98 (0.89)	3.52 (1.04)
- Making publicity for the subject	3.75 (1.05)	3.16 (1.12)
Analysis and Reflection: 5 items; α (interest): 0.76 / α (competence): 0.82	3.73 (0.71)	3.14 (0.85)
- Identifying weak points in the education system	3.96 (0.96)	3.36 (1.09)
- Preparing scientific knowledge for teachers	3.80 (0.98)	3.18 (1.07)
- Deducing practical consequences from international school assessments	3.52 (1.04)	2.91 (1.06)

SD = standard deviation; α (Alpha) = reliability (Cronbach).

Scale interest: „I like to do the following activities“: 1=not at all; 5= very much

Scale competence: „I feel competent in the following activities“: 1=not at all; 5=very much

Table. 1: Self-assessed interests and competences

The identification of weak points in the education system achieved the highest score in the field of “Analysis and Reflection” (M: 3.73, SD: 0.71). It is assumed that „evaluating courses of in-service teacher education“ had the lowest score because the output-related evaluation of one’s own activities or those of colleagues is considered unpopular. Input-related and process-related activities such as support, education, organisation or co-operation, on the other hand, are considered as much more interesting.

The rating sequence of mean values for the areas of *competence* is virtually the same as for interests – the areas of “Analysis and Reflection” (M: 3.14, SD: 0.85) and “Consulting” (M: 3.57, SD: 0.78) score the lowest and highest values respectively. In addition to “Analysis and Reflection”, competence self-assessment in the field of “Co-operation and Networking” is also relatively low (M: 3.19, SD: 0.77). “Supporting teachers in teaching-related problems” scores the highest value for competences (M: 3.79,

SD: 1.03). This item, together with “organising in-service education for teachers”, “evaluating in-service education” and “Increasing school awareness for the importance of the subject” shows the least difference between interest and competence values. At the same time, these items (with the exception of “evaluating in-service education”) scored the highest competence values (3.65 to 3.79).

The greatest differences between interest and competence scores are seen in conjunction with the items “designing a subject-related in-service education concept for teachers” and “maintaining contacts to scientific experts”. This is where the course would seem to hold the greatest potential for development – based on participants’ self-assessment. This applies in particular to the item “maintaining contacts to scientific experts”, as it scores one the highest interest values and the course is aimed at achieving a close co-operation between representatives from practice and science. Further favourable preconditions for developments in the course are particularly apparent where participant interest is high – as in the field of “Consulting”.

The results allow the formulation of a hypothesis that tendencies have experienced a positive longitudinal change over the two years, particularly in low-scoring areas of competence (such as designing in-service education concepts, evaluating in-service education, quality assurance and practice-oriented interpretation of scientific studies), as they concern the intended content of the course (whereby tendencies differ from subject to subject).

The degree of assessment in the areas of interest and competence was significantly influenced by the variable *participants’ own experience in organising and implementing in-service education for teachers*. Table 2 shows that those teachers with experience in in-service teacher education (41% of participants) assess their competence in particular as higher, in addition to their interest. There is no significant difference in the interest shown for the areas “Subject-political Issues” and “Analysis and Reflection”.

It is by all means plausible that participants with experience in in-service teacher education should assess their competence in the fields of „In-service Education“, “Consulting” and “Co-operation and Networking” as higher. However, it is interesting from a longitudinal viewpoint to see how the self-assessed competences change in relation to participants’ interests and previous experience. The previously mentioned analysis of the “newspaper article task” – as an aspect of third-party competence assessment – should provide further insight during the investigation into changes. The task is presented to the participants at the end of the course for post-editing.

Gender-specific differences relating to self-assessment are only found for the scale “Co-operation and Networking”: women consider themselves slightly more competent than men (female: $M = 3.4$, $SD = 0.74$; male: 3.0 , $SD: 0.74$; $t(137) = 2.82$, $p = 0.005$). No significant group differences are found between subjects, school types and other relevant variables.

Attention is drawn to the area of conflict between course concept, course implementation and the basic conditions that were already of relevance at the start of the course: the particular challenge facing the course team should be seen in the fact that the majority of participants defined the occupational profile and professional prospects for subject-related education managers as unclear at the start of the course. This should be no surprise, given that significant basic conditions for subject-related education management in Austria are yet undefined.

	<i>Experienced</i>		<i>Non-Experienced</i>		t-Test		
	M	SD	M	SD	df	t	p
Interest							
In-service Education	3.99	0.55	3.75	0.66	138	2.21	0.03
Consulting	4.25	0.67	3.99	0.64	138	2.29	0.02
Co-operation and Networking	4.05	0.54	3.71	0.69	138	3.02	0.00
Subject Political Issues	3.99	0.76	3.87	0.68	138	0.96	0.33
Analysis and Reflection	3.86	0.73	3.64	0.67	138	1.83	0.07
Competence							
In-service Education	3.62	0.66	3.17	0.76	138	3.64	0.00
Consulting	3.85	0.72	3.38	0.77	138	3.65	0.00
Co-operation and Networking	3.47	0.68	2.95	0.75	138	4.19	0.00
Subject Political Issues	3.59	0.74	3.16	0.83	138	3.14	0.00
Analysis and Reflection	3.42	0.76	2.93	0.86	138	3.49	0.00

Scale interest: „I like to do the following activities“: 1=not at all; 5= very much

Scale competence: „I feel competent in the following activities“: 1=not at all; 5=very much

Table. 2: Mean value differences with regard to reported experience in education measures for teachers

The assessments selected exemplarily in Table 3 make it obvious that participants’ uncertainty with regard to unclear job profiles and prospects for subject-related education managers is reflected in the initial assessment of the course content.

Items	Percentage of participants who partly or fully agree
I am not clear about the aims of the course	53%
For me it’s unclear which job profiles and prospects for subject-related education managers are relevant	78%

Scale: 1=fully agree“; 5=do not agree

Table. 3: Assessment of course goals and the tasks facing subject-related education managers

5 Summary and outlook

The course “*Subject-related Education Management*” qualifies teachers to adopt tasks relating to subject-related middle management in the nine federal states of Austria. Evaluation and accompanying research are all the more important as the concrete roles to be played by these persons are yet still open.

Further development of one’s own teaching methodology is the most significant motive for participants to take part in the course. Appropriate processes for reflection and negotiation during the course should be organised as this is not a primary course goal. However, nearly all participants (just under 90%) stated at least an additional major motive for their participation. It is also conducive that intrinsic aspects of motivation make up the vast majority. The course will offer the majority of participants (just under 60%) a first opportunity to organise and implement an in-service education measure (or similar practical activity) for teachers themselves (and to document and evaluate it). Appropriate support and exchange – including among teachers – will be of importance.

Five areas of competence – “In-service Education”, “Consulting”, “Co-operation and Networking”, “Subject-political Issues” and “Analysis and Reflection” – were constructed as an initial approach to defining a concept for education manager competence. Participants were asked to assess their corresponding interests and competences before the course commenced. Interests scored consistently higher marks than competences. The fields of “Consulting” and “Analysis and Reflection” score the highest and lowest values respectively with regard to both interest and competence. The greatest differences between interest and competence scores are seen in conjunction with the items “Designing a subject-related in-service education concept for teachers” and “Maintaining contacts to scientific experts”. This is where the course would seem to hold the greatest potential for development – based on the self-assessment of course participants.

Initial findings from accompanying research show that there are no significant differences between teachers with regard to the self-assessment of interests and competences in relation to subject area, gender or school type. However, differences exist in the individual experience in organizing and conducting in-service teacher education. Participants with experience of this nature assess their interest and, in particular, their competence as higher. This stresses the significance of individual support and exchange of experience among participants, in particular in conjunction with colleagues with a wealth of previous experience.

The relatively large amount of ambiguity regarding the aims of the course and the extreme vagueness of participants’ future tasks as subject-related education managers is hardly surprising, given the lack of definition of functions and roles. However, it is important to discuss these issues during the course and to convince the participants and other relevant parties how urgent the need for regulations is. Therefore, the course team, the participants and, in particular, the education authorities will need to display adequate “education management”. In this regard it is the entire system that is learning, not just the course participants.

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