

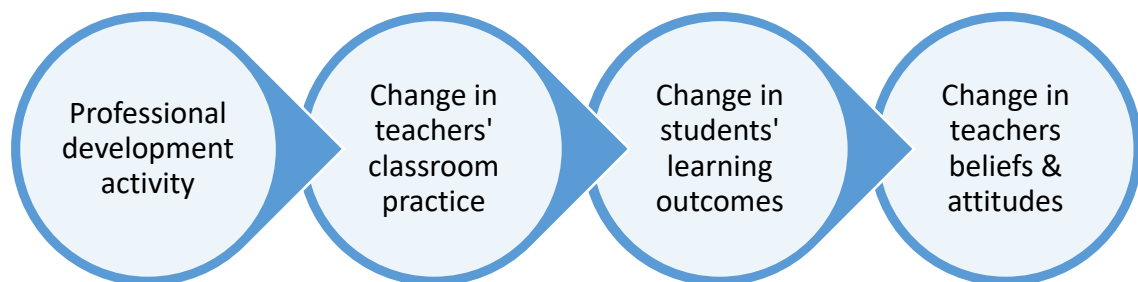
2015). According to review studies of Van Veen, Zwart, Meirink & Verloop (2010; 2012) and, more recently, from Merchie, Tuytens, Devos & Vanderlinde (2016), successful professionalization activities – that have impact on teaching in practice – have several characteristics. When developing a professional development course, teacher educators should take these characteristics into consideration. In this article we:

1. translate the findings of research studies and theories into evidence-based design principles for a professional development course for honors teachers
2. use these design principles to develop a course
3. evaluate the impact of this course on its participants

2. Professional development for teachers

Teacher professional development in the educational context is designed specifically to enhance the knowledge, attitudes, and learning behaviors of teachers to bring 1) changes in the classroom practice of teachers, 2) changes in their attitudes and beliefs, and 3) changes in the learning outcome of students (Van Veen et al., 2010; Guskey, 2000). If a teacher does not value a certain strategy very highly, this strategy will probably not be used regularly by this teacher. According to Guskey (2000; 2002), two factors influence whether a professional development activity results in changes in practice: 1) what motivates teachers to engage in professional development and 2) the process by which change in teachers typically occurs. This process of teacher changes can be expressed in the 'Model of teacher change' Guskey (2002) developed (figure 1).

Figure 1. Model of teacher change



Source: Guskey, 2002

Important in this model is that changes in teachers' beliefs and attitudes do not occur by just following a course but because of the teachers' experiences with the new knowledge and strategies in practice. The teachers believe something works when they have seen it work with their students. A professional development activity should therefore not only aim at the development of a specific set of teaching strategies but also on (changing) the underlying beliefs that regulate these strategies. Taking this principle into account, several design principles that serve as guidelines can be formulated.

3. Design principles for a professional development course

Successful professionalization activities have a focus on content and pedagogy closely linked to practice (Principle 1) (Van Veen et al., 2010; Merchie et al., 2016; Guskey & Yoon, 2009; Villegas-Reimers, 2003). The content of educational programs is related to the specific context in which the teacher works. This context might be specialist knowledge concerning the discipline or specific pedagogies and teaching behaviors.

Professionalization activities should be aligned with participants' personal learning objectives, problems experienced in practice, and personal interests (Principle 2) (Van Veen et al., 2010; Merchie et al., 2016; Korthagen, 2017; Fullan, 2006; Villegas-Reimers, 2003). Personal qualities and ideals should be the starting point of teacher development activities (Korthagen, 2017). By continuing to align the content and program to the participants' needs, and by adapting and adjusting the program if needed, participants will become co-owners of the process (Merchie et al., 2016; Guskey, 2002). This co-ownership will positively influence the teachers' intrinsic motivation (Ryan & Deci, 2000).

Professional development activities have to be consistent with research and have an evidence-based design of the programs (Principle 3) (Merchie et al., 2016; Van Veen et al., 2010). The methods chosen should be based on research; for example, using the last class to stimulate reflection and evaluation (Bleicher, 2011). In addition, the effects of professional development activities on the teaching practice and the student learning should be followed by systematic evaluations. This evaluative research provides knowledge to make evidence-based decisions when improving the professional development program. This reflection should include clear argumentation on how the professional development activity is expected to influence teacher behavior and student learning (Van Veen et al., 2010; Guskey, 2002).

To really be able to see changes in their students (Guskey, 2002), teachers should receive room to experiment in practice and follow these experiments systematically with research (Principle 4). Experimenting in practice, evaluating the effects, and sharing these experiences should be an important part of all professional development activities, especially in honors. Conducting educational research (this can be design based, explorative, or evaluative) by teachers appears to be one of the most fruitful forms of teacher professional development (OECD, 2009; Brydon-Miller et al., 2003). Research conducted by teachers also functions as a bridge between theory and practice (Blumenreich & Falk, 2006; Brydon-Miller, Greenwood & Maguire, 2003). This research adds to the call for more evidence-based education (Onderwijsraad, 2006) and promotes sharing educational knowledge (Bosker, 2008). Furthermore, it also contributes to improving the quality of education. For honors education, this is especially important, as one of its functions is to be a 'laboratory' for educational innovations (Wolfensberger, Van Eijl & Pilot, 2012).

The quality of trainers also plays an important role in the success of training programs (Merchie et al., 2016). Trainers should have knowledge of adult learning theory and have experience in teaching students and training professionals (Principle 5). Trainers of teachers should have knowledge about adult learning theory. They must be able to articulate experiences and use theory in practice. They have to stimulate active learning and be able to reflect on their own choices and teaching behaviors. Teacher trainers also have to deal with

dilemmas during training sessions and discussions and therefore need a solid knowledge base and skills in addition to experiences in the teaching practice the teachers are from (Lunenberg, Dengerink & Korthagen, 2013). In our case, this experience is in teaching honors students. The trainers and coaches within professional activities need to be well-educated and involved in education.

Trainers of professionalization activities should also serve as role model (Principle 6). The teacher trainers in the professional development activities have a complex dual role. Not only do they teach the teachers, but they also teach about teaching (Lunenberg, Korthagen & Swennen, 2007; Korthagen, Loughran & Lunenberg, 2005). Trainers should be aware of this function both in terms of the teaching methods and didactics used and the content and learning goals. Participants should receive concrete examples of working methods they can apply directly in their honors programs. Trainers should therefore make explicit which choices they make while teaching and why (Wood & Geddis, 1999). As Blume (1971) stated: "Teachers teach as they are taught, and not as they are taught to teach."

Professional development of teachers is more effective when the teachers actively construct knowledge and learn together with colleagues (Principle 7) (Van Veen et al, 2010; Darling-Hammond & Richardson, 2009; Villegas-Reimers, 2003). By sharing knowledge and experience, giving each other feedback, and looking at knowledge by using varying perspectives, the teacher group will jointly construct knowledge strongly influenced by the context in which it will be applied (Webster-Wright, 2009; Van Veen et al., 2010). Knowledge is not presented as fact, but it rather begins with a problem or an issue about which the participants do research, discuss, debate, and thus achieve self-constructed knowledge (Dostal, 2015). These discussions also provide information to the trainers regarding which knowledge and skills are needed to further improve the teaching in practice of the participants (Van Veen et al., 2010).

Furthermore, attention should be paid to student perspectives and student input (Principle 8). Students are the ones who are to be taught by the teachers who are being trained. Integrating student views and experiences can bring significant added value to professional development programs, something which is currently lacking in most professional development activities (Margolis, Durbin, & Doring, 2016). Making time to listen to students and their experiences and needs helps teachers to reflect on their teaching behaviors and attitudes.

To be effective, a combination of intensive and extensive programs is needed (Principle 9) (Merchie et al., 2016; Guskey & Yoon, 2009). There is no clear requirement as to how many hours these programs should take, but a minimum of 20 contact hours is recommended (Merchie et al., 2016). Also, a continuing support system in the form of follow-up sessions is highly recommended. Isolated workshops seem to be less effective (Mouza, 2002). However, workshops can be used as a stepping stone to more long-term professionalization activities. Regular follow-up support is seen as indispensable for the change process (Merchie et al., 2016).

Table 1. Design principles for professionalization activities, based on research

Principle 1: Focus on content and pedagogy closely linked to practice
Principle 2: Aligned with participants' learning objectives, problems, and personal interests
Principle 3: Evidence-based design followed by research
Principle 4: Room to experiment in practice and research the effects
Principle 5: Trainers have knowledge of adult learning and experience in teaching
Principle 6: Trainers serve as role models
Principle 7: Focus on active construction of knowledge and learning together
Principle 8: Attention to the student perspectives and student input
Principle 9: Intensive and extensive programs combined

In this article, we describe how we translated these design principles into a course for honors teachers and the impact of the course on one group of participants.

4. Method

Context

Based on the design principles shown in table 1, a one-year course for honors teachers was developed at Hanze University of Applied Sciences in Groningen, The Netherlands: 'A Teacher's Road to Excellence.' Learning objectives of this course are formulated as follows: *By the end of this course, participants will be able to: 1) formulate their own views on honors students and honors education, 2) improve or enhance their own teaching strategies in honors education, 3) strengthen their knowledge, attitude, and teaching behavior regarding honors, 4) test, review, and adjust their own teaching behavior, 5) strengthen the honors learning environment in their own teaching practice, and 6) expand their honors network within the Hanze University of Applied Sciences.*

Participants and procedure

We first consider the course itself. Then, we evaluate the impact of the course based on a questionnaire filled in by a group of participants (N=10) who followed the course from September 2016 until July 2017. In the last session, the course was evaluated orally. To indicate the impact on the course after some time working in practice, participants were also asked to fill in a short questionnaire in April 2018, almost one year after finishing the course.

Questionnaire

To evaluate the impact of the course on several levels, we used the questionnaire developed by McChesney & Aldridge (2018) consisting of twelve questions divided into four scales: 'teacher reaction,' 'teacher learning,' 'outcomes,' and 'organizational response.' Each scale consists of two or four items which could be answered on a 5-points Likert scale (1= Strongly disagree; 2= Disagree; 3= Neutral; 4=Agree; 5=Strongly agree). The questionnaire was translated using back translation. Participants were asked by email to fill in this short questionnaire.

5. Results

The course

The course was developed in 2012-2013 to better prepare teachers to educate honors students. Until now, 5 groups of participants followed the course. Each group consists of 10-

13 participants. Table 2 shows how the different design principles are translated into practice for the course 'A Teacher's Road to Excellence' (ATRE).

Table 2. Design Principles and the translation to practice

Principle	Practice
1. Focus on content and pedagogy closely linked to practice	Content is centered on the three dimensions of honors teaching approaches (Wolfensberger, 2012); meetings in schools of the participants
2. Aligned with participants' learning objectives, problems, and interests	Intake interview; 24-hour meeting to start; COP-meetings; partly open and adaptive program
3. Evidence-based design followed by research	Activities as far as possible supported by literature and evidence; evaluation of the course on short and long term
4. Room to experiment in practice and research the effects	Research project in participants' own practice
5. Trainers have knowledge of adult learning and experience in teaching	Well-educated team of trainers with experience in honors teaching, consultation of experts
6. Trainers serve as role models	Translation of the activities to participants' practice; trainers use honors pedagogy in organization and facilitation
7. Focus on active construction of knowledge and learning together	COP-meetings; discussions with students; presentations and abstract bundle at closing symposium
8. Attention to the student perspectives and student input	Student present at 24-hour meeting, 2 formal meetings and closing symposium
9. Intensive and extensive programs combined	One-school year; follow-up meetings and masterclasses

Before the start: In order to attend the course, participants were invited to write an application letter, accompanied by a letter of recommendation written by their supervisor. During an intake interview, the participant's motivation and reasons to take part in the course, as well as their individual learning needs and questions, were explored (Principle 2).

Outline: The course lasts one academic year, from September to July (Principle 9), consisting in total of 140 study hours. The content of the course was centered on the three dimensions of honors teaching approaches (Wolfensberger, 2012): academic competence, bounded freedom, and community (Principle 1), complemented with subjects that were included in order to meet the specific learning goals of the participating teachers (Principle 2). So, part of the course was preformatted and part of the course was adapted to meet the learning goals of the participants. The course consists of a meeting lasting 24 hours, four formal one-day meetings, five community of practice meetings (COPs), a research project, and a closing symposium (see figure 2).

Figure 2. Time schedule ATRE*

Intake	24 hour meeting	Meeting 1 Community	Meeting 2 Academic Competence	Meeting 3 Bounded Freedom	Meeting 4 Open	Symposium
		COP** 1	COP 2	COP 3	COP 4	COP 5
		Research project				

*ATRE: A Teacher's Road to Excellence; **COP: Community of Practice meeting

During the *24 hour meeting* participants get to know each other and the trainers. Activities in this session aim to build a community of honors teachers. Furthermore, the three dimensions of honors teaching approaches are discussed (Principle 1), participants' current learning objectives, personal interests, and problems are expressed (Principle 2), and all participants are stimulated to think about a research project they will perform during the course (Principle 4). Students are present during the first day and dinner to discuss with the teachers their vision of honors and honors teaching and to pitch their personal journeys in honors so far (Principle 7).

The 24 hour session is followed by four formal *meetings*, eight hours each, during the academic year. The formal one-day meetings are being held in the school of one of the participants; a tour through the school is included into the program (Principle 1). Three meetings concentrate on a main theme: community building, academic competence, or bounded freedom. During the meetings concerning community building and bounded freedom, honors students are joining the meetings during several activities (Principle 6 & 7). The last formal meeting is focused on subjects the participants come up with during the course. These can be subjects they miss in the program or subjects they want to deepen further with an expert (Principle 2 & 6).

In between the formal meetings, five *Community of Practice* (COP) meetings are scheduled in consultation with the participants. A COP is a meeting with a smaller group of participants and one of the trainers as moderator. During these meetings, participants define the content of the program, and there is room for sharing knowledge and experience, giving each other feedback, and jointly constructing knowledge (Principle 6).

During the course, participants perform a *research study* in their own practice. This research study must be theoretically sound, relevant for teachers' own teaching practice, and aiming to improve education for honors students (Principle 4). Participants consult trainers and the research expert when they need to. They describe their research project, the literature used, and the results in an abstract. The abstracts are bundled and handed out during the closing symposium (Principle 6).

The final meeting of the course is a symposium during which the teachers present their research study and most valuable learning outcomes to colleagues and other interested people (Principle 6).

Activities: The activities used in the program are supported by literature and empirical research as much as possible (Principle 3). Examples include using Lego serious play to develop and share ideas (Peabody & Noyes, 2017) and using the last class to promote reflection and evaluation (Bleicher, 2011). The activities used in the course are also translated to the participants' practice: the honors program with students. So, participants can apply the activities directly to their honors program and the trainers fulfill a role model function in this (Principle 5).

Trainers: The trainers of the course use the honors didactics in the organization and facilitation of the course (Principle 5). The group of trainers consists of one or two main trainers who are experienced teacher trainers as well as experienced honors coaches. Experts concerning research, coaching, and academic competence are consulted and perform as trainer during the course when required (Principle 8).

After finishing the course: The morning before the closing symposium is used to evaluate the course and reflect on participants' own learning during the course. Also, a longer time after the course (1-3 years), participants will be asked if and how they use what was learned during the course in their teaching practice (Principle 3). Follow up meetings and masterclasses are being organized for alumni of the course.

Evaluation

During the oral end-evaluation of the course, participants indicated that they liked the different work formats that were used during the course, and they were able to implement these formats in their own honors courses. They were very positive about the sharing of knowledge and experiences and felt they became a community of learners together. In total 7 of the 10 participants of the course started in September 2016 answered the questionnaire. Table 3 shows the results.

Table 3. Summary of respondents (N=7)

Scale	Question	(Totally)* Agree	Neutral	(Totally)* Not agree
Teacher Reaction	I have positive memories of the course ATRE	6	1	0
	I enjoyed the course ATRE very much.	5	1	1

	The course ATRE has been very beneficial to my teaching.	6	1	0
Teacher Learning	Participating in the course ATRE is very useful for my teaching.	5	2	0
	As a result of the course ATRE, I know substantially more than I did before.	5	2	0
	I have learned a lot of new things from the course ATRE	6	1	0
	In my daily classroom practice, I often apply what I learned from the course ATRE	4	3	0
Outcomes	I successfully apply the content of the course ATRE in my daily classroom practice.	4	2	1
	As a result of the course ATRE, my students' learning has improved.	2	5	0
	My students have benefited from me receiving the course ATRE.	4	3	0
Organizational response	Overall, the culture and procedures in my school have improved due to the course ATRE.	1	3	3
	My school encouraged and supported teachers in implementing what they learned from the course ATRE	1	4	2

* The number of respondents that answered 'totally agree' and the respondents that answered 'agree' were summarized as were the numbers of respondents that answered 'totally not agree' and 'not agree'.

Table 3 shows that concerning teachers' level (Teacher Reaction and Teacher Learning) the participants were predominately positive. Most participants enjoyed the course and indicated that they had learned a lot. With regards to the question about outcomes, around half of the participants answered positive and half answered neutral on the statements. Especially the improvement of student learning is answered as 'neutral' by most participants. The questions about the level of organizational response showed that the participants were neutral or negative. One participant wrote as comment that honors education is not always supported by the management team.

6. Discussion and conclusion

Teacher development courses should be based on both research and literature to promote their success and impact in practice (Van Veen et al., 2012; Merchie et al., 2016). The design principles we distinguished from literature were translated into a professional development program for honors teachers called 'A Teacher's Road to Excellence.' This resulted in a one-year course based on the honors pedagogy Wolfensberger (2012) identified in her research. According to one group of participants, the impact of following this course was clearly positive for themselves, positive or still unclear on the level of outcomes, and unclear or negative on the level of organizational response.

The design principles were helpful in developing this course for honors teachers, which had, according to this group of participants, a positive influence on their learning. The evaluation questionnaire concentrated on different levels of impact, of which the impact on the first level was needed to reach impact on the second level, etc. (McChesney & Aldridge, 2018). The results show that the impact on the first two levels is clearly reached and on the third level, outcome, the impact is almost reached. Probably, to see impact on the level of outcomes, especially on student learning outcomes, more time is needed. This result could also indicate that we have to make changes to the course to reach more impact on this important level. More information is needed to gain insight into how following this course impacts student learning outcomes and how this could be further improved by making changes to the course. If the impact on the third level could be improved, this may also influence the last level, organizational response.

So, the guidelines described are helpful when developing a course. The course 'A Teacher's Road to Excellence' seems to be instructive for honors teachers and impact on student learning outcomes is seen. More research is needed to improve its impact further on an organizational level.

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