Professional learning in Flemish Secondary Education: contemporary needs, preferences and organising strategies

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Abstract

Although school leadership is considered a key variable in school success and student performance, principals' continuous professional learning (CPL) has only received limited attention from Flemish policymakers. This study maps secondary school principals' current content-wise CPL needs, method-wise preferences and reasons not attend formally organised CPL. In connecting these elements, we derive strategies to organise future professional development efforts. In a survey, 366 Flemish secondary school leaders reported on their CPL habits, needs and preferences. Through semi-structured interviews, an additional 24 principals discussed why certain types of CPL appealed more to them than others. Flemish secondary school leaders express a need for authentic and practical learning experiences, preferably through networked or collective learning designs and mainly in relation to personnel and instruction-oriented topics. Given the exploratory nature of this study, it remains to be confirmed, however, whether the preferred CPL methods prove a worthwhile investment of time and resources. Can those contribute to the needs perceived?

Key words: school leadership; principalship; (continuous) professional learning; professional well-being; secondary education

1 Introduction

Over the past decades, the nature of school principals' jobs changed radically. Schools are no longer considered uniquely responsible for education but also society's well-being (MacBeath, 2011). Next to ensuring future generations of citizens acquire the "skills and competencies they need to succeed in today's society" (OECD, 2019, p. 152), schools are expected to lead social and societal change and contribute to national competitiveness (Forde, 2011). Principals hold a vital position in organising their schools and directing, motivating and supporting their personnel accordingly (Leithwood et al., 2008; Leithwood & Jantzi, 2008). However, due to increased societal complexity and related policy challenges, principals witness a perpetual increase in job responsibilities to meet governmental demands (Klein & Schwanenberg, 2020), albeit without seeing any tasks removed (Smithers & Robinson, 2007).

In this regard, continuous professional learning (CPL) is invaluable to (a) develop, update or modify principals' knowledge, skill and attitude base to accommodate the multitude of expectations and (b) equip them with strategies to cope and sustain professionally. In Flanders, the latter proves a prominent need in itself (Devos et al., 2018). Nevertheless, principal CPL only established its place on the Flemish policy agenda quite recently: the Policy Note on Education 2019 – 2024 (Weyts, 2019) is the first one to acknowledge the importance of principal CPL to improve teaching—and by extension, learning—in schools, and to formulate clear intentions on its organisation. Moreover, unlike in some neighbouring countries (e.g., the UK standards as described by Department for Education, 2020; the Dutch standards as described by SRVO, 2021), no standards for school leadership are applicable in Flemish education. A list of guiding expectations regarding school leaders' knowledge and interpersonal or leadership skills remains up to school boards and umbrella organisations' interpretation, causing a highly diversified offer in formally organised professional

learning initiatives. From this, four intriguing questions this study will address arise:

1. Which content-wise professional learning needs exist among Flemish secondary school leaders?
2. Which method-wise professional learning preferences do Flemish secondary school leaders hold?
3. How are the perceived content-wise needs and method-wise preferences associated with principals' personal characteristics (i.e., gender, level of education, years of principal experience and participation in a principal preparatory programme), school features (i.e., educational network, school size, student composition and geographical embeddedness) and professional self factors (i.e., self-efficacy, job satisfaction and transformational leadership)?
4. Which strategies are to be considered when formally organising professional learning initiatives for Flemish secondary school leaders?

On the one hand, answering these questions within a Flemish setting proves highly relevant from a practical point of view. Given that professionalisation budgets per school and capita in education are relatively limited (Minea-Pic et al., 2021), formally organised CPL designs should be well-considered and of high quality to avoid wasting scarce means.

On the other hand, mapping Flemish secondary school leaders' content-wise CPL needs, method-wise preferences, and the pre-conditions to assess formally organised CPL proves relevant from a research point of view (Daniëls et al., 2019). First, it contributes to the internationally growing body of literature on school leadership and school leader CPL (e.g., Aas & Paulsen, 2019; Klein & Schwanenberg, 2020) from a non-Anglo-Saxon perspective (Hallinger & Kovačević, 2019; Huber, 2011). Second, existent studies have predominantly singled out and studied the added value of specific CPL initiatives for the sake of the initiative itself and, without priorly enquiring whether such initiatives accommodate participants pre-existing needs and preferences (Daniëls et al., 2019)—

although a vital criterium to determine effectiveness (Goldring et al., 2012; Huber, 2013; Peterson, 2002). Third, pre-existing needs and preferences depend highly on the (professional and personal) context a principal finds him or herself (Klein & Schwanenberg, 2020; Lazenby et al., 2020). This learner context is often overlooked when designing, organising and researching principal CPL.

This study thence offers valuable insights for both future CPL initiatives in Flanders and research. In what follows, the reader is firstly provided with a concise literature overview of CPL and research antecedents among (Flemish) school leaders. We then introduce the research design comprising a qualitative and quantitative component and proceed by their analysis. The paper concludes with a discussion of the results and their implications.

2 Literature

2.1 Principal professional learning

Principal CPL encompasses all learning activities and processes that equip school leaders with adequate and up-to-date competencies to thrive professionally. These competencies help them organise their schools so that societal expectations are met or channelled, and staff is kept motivated and provided with sufficient support to improve their teaching. Hence, competencies that indirectly allow pupils to maximally develop their potential (Leithwood et al., 2008). CPL can take place either (a) incidentally or informally; or (b) as a product of formally organised learning, otherwise called continuous professional development (CPD) (Tynjälä, 2008, 2013).

Marsick and Watkins (2015) described informal learning as a by-product of work-related activities and processes, such as consulting with staff, parents or pupils. Learning happens in response to an unforeseen situation where one cannot fall back on a professional routine. Although vital knowledge can emanate from informal learning (Bell et al., 2009; Eraut, 2004), learning from professional experience is rarely perceived as a learning activity in itself (Tynjälä, 2008). For one,

because of the difficulty in measuring it. As this type of learning mainly generates tacit or implicit knowledge, learners are often unaware of what they have acquired (Slotte et al., 2004). Informal learning assessments are bound to underreport learning that occurred (Bell et al., 2009). A second reason workplace learning is often not truly valued is that its outcomes are unpredictable. The iterative process might just as easily lead to the development of bad habits to cope with certain problems or to no solutions at all (Watkins et al., 2018). Moreover, informal learning is always bound up in social interactions which are highly context-specific (Watkins et al., 2018).

Consequently, formal or deliberate learning is indispensable when adaptations to knowledge and skills are pressing (Slotte et al., 2004; Tynjälä, 2013). In a school setting, one cannot wait for the unpredictable process of trial-and-error to run its course. Providers of education—principals, teachers or supporting staff—share a responsibility to stay informed about what is depicted in policy and evaluated by the inspectorate. In these instances, knowledge demands explicit transmitting from teacher to learner, and skills require rehearsing.

Learning can be organised and structured in various ways and through different methods. To categorise the options in subsequent parts, we use the distinction Huber (2011) made between (a) cognitive or theoretical learning methods that focus on transmitting information (e.g., lectures, or self-reading), (b) cooperative and communicative process-oriented procedures (e.g., communities of practice, or group work) that serve situational knowledge and abilities to apply or adapt specific skills and (c) reflective methods (e.g., self-assessment or coaching).

Several authors (e.g., Aas & Paulsen, 2019; Huber, 2011, 2013; Peterson, 2002) stress the importance of integrating different methods into hybrid designs. Moreover, purposely linking formal and informal learning by integrating and exploiting what principals learned informally and making this implicit knowledge explicit (e.g., by assessing lessons learned or examining past mistakes) is believed profitable (Tynjälä, 2008).

2.2 Factors determining CPL needs and preferences

Several studies analysed how personal characteristics, school features and professional self factors impact principals' CPL needs—and, assumably, preferences. This is visually summarised by figure 1 (cf. infra). Regarding personal characteristics, Duncan (2013) identified principals' years of experience to explain their CPD needs. Inexperienced principals' CPD needs were highest in domains of personnel management, while those of their experienced colleagues were predominantly situated on an instructional front. Other researchers, too, recognised the existence of different career phases in principalship, leading to differences in CPD needs (e.g., Lazenby et al., 2020; Oplatka, 2010; Peterson, 2002). Duncan (2013) also found gender to play a role as American female principals reported higher CPD needs than their male counterparts. One's education level—or, more specifically, following a principal preparatory programme—was not found to impact principals' CPD needs (Klein & Schwanenberg, 2020).

Turning to school features affecting principals' needs and preferences, research identified student composition (Louie et al., 2019), school location and embeddedness (Salazar, 2007) and school size (Spanneut et al., 2012). For example, principals of smaller schools—most often found in rural areas—were confronted with challenges such as finding sufficient and apt personnel. Hence, personnel and team-building topics were high on these principals' CPD needs lists.

Moreover, Klein and Schwanenberg (2020) identified a third layer of factors connected to how one perceives oneself and feels professionally. The authors found self-efficacy to affect principals' CPD needs substantially. In the areas where they felt most confident professionally, German principals reported lower professional development needs than their less confident colleagues. These findings align with earlier studies suggesting principals' self-efficacy beliefs affect their type of school leadership (Leithwood & Jantzi, 2008). Similarly,

Leithwood and Jantzi (2000) found transformational leaders to enhance organisational outcomes substantially. Translating these findings to an individual level, it is not unreasonable to assume that transformational leaders develop different CPD needs and preferences because of the different experiences their leadership style renders them.
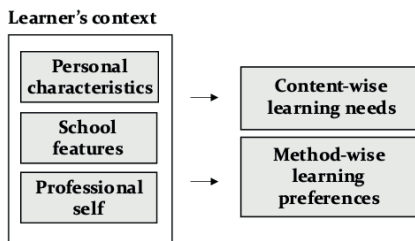

Figure 1
Visual summary of the relation between learner context and, learning needs and preferences.

2.3 Motives to refrain from CPD enrolment

Despite increased attention to principal CPD by the Flemish legislator, many queries still exist—as does room for an improved and increased embedding of CPD in Flemish principals' jobs and daily routines (Vekeman et al., 2022). Through its latest TALIS 2018 results, the OECD (2019) identified seven possible reasons that can keep principals from CPD. Among principals in Flemish (lower) secondary education, the fee and a cumbersome combination with one's professional work scheme are the two main reasons to abstain from enrolment (Van Droogenbroeck et al., 2019). It remains to be seen if these motives also hold true for the larger population of Flemish secondary principals.

2.4 Prescripts for qualitative principal professional development

Finally, in designing CPD initiatives, one should consider the (pre)conditions confirmed by research to influence a principal's learning and transfer intentions positively. In their review study, Daniëls et al. (2019) listed five characteristics of CPD that were cited most frequently by research literature: (a) a CPD design that is attuned to principals' needs and prior knowledge or experiences; (b) that allows experimental and reflective learning in an authentic setting; (c) offers a purposeful integration of different methods for content to sink in and translate to the school floor; (d) in which principals can consult with colleagues as networking has the potential to reactivate tacit knowledge, exchange ideas and gain perspective whilst adding to principals professional well-being. Moreover, (e) CPD is ideally not a one-time shot, but a manifold effort spread over time instead. The question is if Flemish secondary school principals attach equal importance to these five conditions as strong-held beliefs about what is desirable or needed can influence principals' predisposition towards specific initiatives, their learning readiness and, hence, an initiative's eventual potential (e.g., Coenen, Schelfhout, et al., 2021; Huber, 2011; Kirkpatrick & Kirkpatrick, 2006). Consequently, conditions Flemish secondary principals find particularly important ideally translate into organising strategies.

3 Data and Methods

3.1 Data Source

In March 2018, all Flemish mainstream secondary education principals received an invitation to participate in a survey that questioned their leadership and professional learning, and well-being. We sent 939 pre-paid envelopes consisting of an invitation letter and paper questionnaire via the Belgian postal service. Of those, 366 were returned with a filled-out copy, equating to a 39% response rate. This study reduced the sample a first time to 339 principal respondents as 23 assistant principals and 4 coordinators also completed the questionnaire. In order to conduct a complete-case analysis, an additional 37 respondents were omitted as they showed missing values to one or more of the independent variables elaborated on hereafter. A sample of 302 principal respondents was retained.

In addition to the survey data, in-depth accounts on the same topics were collected

from 24 semi-structured interviews with mainstream secondary school principals (i.e., we collected 19 between December 2017 and January 2018 and an additional 5 between October and December 2018 as part of another research project). Interviewees were selected via purposeful snowball sampling: from each educational network, the head of pedagogical services was contacted and asked to refer to either novice or experienced principals within their network who held strong opinions on school leadership and CPL. An interview took 44.8 minutes on average and was held at the interviewee's school or office. 17.9 hours of audiotaped interview data were transcribed verbatim and analysed via NVivo.

Table 1 presents the demographics of the questionnaire and interview participants. It illustrates our samples approximate the Flemish secondary school population with a small overrepresentation of considerably large schools.

3.2 Variables

Learning needs, preferences and motives not to attend CPD

The questionnaire presented respondents with a list of thirteen topics for CPL. Items included personnel-oriented topics (e.g., coaching and motivating staff), instruction-oriented topics (e.g., educational trends and innovations), organisation-oriented topics (e.g., financial awareness) and self-management-oriented topics (e.g., time management). For each topic, principals indicated on a 7-point Likert scale the extent to which they perceived a learning need.

Table 1
Principal demographics

	Survey n=302	Interviews n=24	Flanders n=939
Personal demographics			
Female principals	46%	46%	40%
Years of professional experience as a principal			
Low (< 3 years)	30%	25%	n/a
Medium (3-9 years)	33%	21%	n/a
High (> 9 years)	37%	54%	n/a
Educational level – high[a]	71%	86%	n/a
Preparatory programme[b]	49%	68%	n/a
School demographics			
Educational network			
State education	18%	8%	23%
Subsidised official education	8%	46%	7%
Subsidised free education	74%	46%	70%
School size			
Small (< 300 pupils)	18%	21%	37%
Medium (300–900 pupils)	56%	50%	56%
Large (> 900 pupils)	26%	29%	7%
Student composition[c]			
Limitedly disadvantaged (0-40%)	79%	77%	72%
Moderately disadvantaged (41-60%)	10%	0%	15%
Highly disadvantaged (61-100%)	11%	23%	13%
Urban school[d]	39%	63%	39%

Sources: Statistical Yearbook for Education in Flanders, 2017 – 2018 (Vlaams Ministerie van Onderwijs en Vorming, 2019) and the Overview of pupil characteristics in Flemish Secondary Education, 2017 – 2018 (AGODI, 2018).

[a] *University level education or having minimally obtained a Master's degree.*

[b] *Either participated in such a programme in the past or is currently participating in one.*

[c] *Based on the Flemish indicators for Equal Education Chances (GOK). The number expresses the percentage of students who comply with at least one of four indicators (i.e., language spoken at home; one's mother's education level; being allowed a scholarship, or residing in a deprived neighbourhood).*

[d] *A school located in a 'Central City' (cf. Ruimtelijk structuurplan Vlaanderen) or Brussels Capital Region.*

Answer categories ranged from '0=no need at all' to '6=a very strong need'.

Respondents' method-wise CPL preferences were measured through a list of fifteen methods. Among those were four methods categorised as informal types of learning (e.g., contacts with parents and/or pupils). The remaining eleven formal types of learning can be divided into cognitive or theoretical methods (e.g., one or multiple-day training), cooperative and communicative process-oriented methods (e.g., professional learning communities with fellow principals) and; reflective methods (e.g., coaching trajectories). For each method, respondents indicated the degree to which they believed the method could be of added value to their CPL. The 7-point Likert scale answer categories ranged from '-3=not useful at all', over '0=nor useful, nor useful' to '3=very useful'. Furthermore, an adjacent table questioned the respondents about whether they actually did partake in a certain method over the past six months or were currently partaking in one.

The questionnaire also enquired principals about their motives not to attend CPD. Respondents could check none, one or more motives from a seven-item list we derived from the OECD's Teaching and Learning International Survey (TALIS) (2014, 2019).

Within the interview design, principals were presented with the following three questions:

a. Which actions do you undertake to develop your professional competencies?
b. How are CPD initiatives ideally designed and structured, and why?
c. For which themes or topics does a CPL need present itself to Flemish secondary school leaders? Why precisely these themes or topics?

Learner contextual factors
In order to answer the third research question, this study considers how eleven learner contextual factors associate with their CPL needs and preferences. We take into account school principals' personal characteristics (a) gender (1=female; 0=male); (b) years of principal experience (1=low or less than three

years; 2=medium or between three and 9 years; 3=high or more than nine years); (c) educational level (1=university level; 0=sub-university level) and (d) (having) participate(d) in a principal preparatory programme or not (1=yes; 0=no).

Regarding school features, the analysis includes (a) the educational network a principal's school is affiliated with (1=state education; 2=subsidised official education; 3=subsidised free education); (b) their school's size (1=small or less than 300 pupils; 2=medium or between 300 and 900 pupils; 3=large or more than 900 pupils) and (c) student composition (1=limitedly disadvantaged; 2=moderately disadvantaged; 3=highly disadvantaged) and (d) geographical location (1=urban; 0=rural).

We consider an additional three professional self factors: job satisfaction, one's perceived transformational leadership practice and self-efficacy. For each of these three variables, we used internationally validated question batteries by respectively Caprara et al. (2003), the Headmaster's Transformational Leadership Scale (HTLS) (Moolenaar et al., 2010) and the Norwegian Principals Self-efficacy Scale (NPSES) (Federici & Skaalvik, 2011). Through 7-point Likert scales, principals could indicate the extent to which a question item applied to them. Given that each of the scales was validated in educational contexts that differ from ours, we ran background checks to confirm that the underlying assumed models also fitted Flemish data. Respectively one exploratory factor analysis (EFA) in IBM SPSS 27 and two confirmatory factor analyses (CFA) in IBM SPSS AMOS 27 confirmed the applicability of the scales in a Flemish setting and provided the regression factor scores for the subsequent analyses. For an overview of the items we retained from each scale, model fits and estimates, the reader is referred to supplement A.

3.3 Data analysis
The results section is divided into four subsections, each corresponding to one research question. A standardised way of analysis is chosen throughout each section as

we start by analysing and describing the quantitatively acquired data. In a second step, these findings are provided with detail and nuances through the interview data.

In addressing the first two research questions, this way of proceeding leads to descriptive statistics on the central variables of content-wise CPL needs and method-wise CPL preferences, supplemented with interview data. For coding purposes, we use the same categorisation for the qualitative data as we do for the quantitative data.

To answer the third research question, we use binominal logistic regressions. We explore how CPL needs and preferences, operationalised as dichotomous variables, associate with learner contextual factors. Hence, we distinguish between principals who perceived high learning needs or preferences in a certain domain or concerning a certain method and those who did not. We speak of a high learning need or preference when respondents indicated the two highest scores for at least half of the options within a topic or method category.

For the fourth and final research question, we describe principals' motives not to attend CPD. We connect this information to their in-depth descriptions of how CPD should be designed and the (pre)conditions they deem important. Based on those interconnections, we formulate strategies to structure and organise future principal CPD. This time, we take a theory-driven approach to coding as we use the five (pre)conditions for effective principal CPD as described by Daniëls et al. (2019) as a starting point for labelling and counting. A sixth and undefined category was added to capture expectations or complaints that could not be connected to existing categories.

A detailed description of all coding constructs, together with exemplary quotes, can be found in supplement B.

4 Results

4.1 Content-wise professional learning needs

As can be derived from Table 2, overall, principals reported the highest learning needs in personnel-oriented topics such as coaching and motivating staff. Among the five topics ranked highest, we also found the instruction-oriented topic of educational trends and innovations and the self-management-oriented topic of adequate time management. In the areas of organisation management,

Table 2

Descriptives on principals' perceived CPL needs per topic (n=302).

PD topic	Category	*n*	High PD needs [a]
Educational trends or innovations	(2)	302	57%
Incite staff to practice the school's mission and vision	(1)	302	54%
Coaching and motivating staff	(1)	301	42%
Developing and implementing a CPD policy	(1)	302	33%
Time management	(4)	301	30%
Organising and conducting performance interviews	(1)	300	29%
Developing the school's mission and vision	(3)	301	29%
Delegating tasks and responsibilities	(4)	301	28%
Organising and conducting classroom visits	(2)	300	25%
Legal literacy	(3)	302	23%
Financial literacy	(3)	301	18%
External communication	(3)	302	16%
Internal communication	(3)	301	11%

Note. Topic categories signify: (1)=personnel-oriented topics; (2)=instruction-oriented topics; (3)=organisation-oriented topics; (4)=self-management-oriented topics.

[a] High CPL needs pertains to the percentage of principals who, on a 7-point Likert scale ranging from '0' to '6', reported they experienced either '5=strong' or '6=very strong' needs to develop themselves in a topic professionally.

Table 3
Content-wise CPL needs as discussed within the interview design (n=24).

CPL topics	References	Sources
Personnel-oriented topics	9	5
Instruction-oriented topics	10	8
Organisation-oriented topics	9	6
Self-management-oriented topics	3	3
Pragmatic reflections	9	9

Note. 'Source' indicates every unique respondent within the interviews. 'Reference' indicates every unique reference made to a (pre)condition across sources.

principals reported the lowest CPL needs.

Similar trends as the ones displayed in Table 2, we found among the interviewees as they too mentioned instruction-oriented topics (i.e., especially those connected to educational trends and innovations) among the one's in which they experienced the most apparent learning needs. Unlike Table 2, Table 3 shows how organisation-oriented topics were referred to as often as were personnel-oriented topics. Of course, we explicitly sampled novice and experienced principals, leaving mid-experienced principals aside:

[Learning needs] depend on the phase of your principalship. During the first phase, you do not need to improve in instruction-oriented topics since you just left the classroom—those things you are already accustomed to. As a novice principal, you are not accustomed to management tools and skills: How do I handle budgets? How do I organise working hours? On those topics, you need to amass information so that gradually—when those things have become natural—you can direct yourself to instruction and educational policy again (Principal 6 – male – 20 years of experience).

This explanation also seems to apply to personnel-oriented topics as six out of ten were formulated by interviewees with less than two years of principal experience.

Moreover, 9 out of 24 interviewees took a pragmatic stance as they indicated that the topic in itself was unimportant. Instead, they felt like participating in any topic that was relevant to them at a given point in time, or could give them a confirmation about how they approach(ed) things:

When I receive endorsement for what I am doing while participating in professional development, I am already satisfied. Gaining insight or acquiring knowledge as such, at times, is of secondary importance (Principal 21 – female – 2 years of experience).

Hence, what is considered relevant does not only connect to a particular topic but also personal considerations and, as we will show hereafter, the methods used to organise CPD and the strategies considered in its organisation.

4.2 Method-wise professional learning preferences

Participating principals deemed one to multiple day training among the most effective methods to develop themselves professionally, as shown in Table 4 (cf. infra). Methods categorised as communicative and cooperative complete their preference top-five. Not to principals' liking were online courses and webinars as the average score (i.e., -.13) even indicated an appreciation level that fell below the neutral point of 'nor effective, nor ineffective'.

Whereas only 18% of survey respondents took part in a coaching or mentoring trajectory six months prior to the survey, half of the principals (i.e., 54%) within the survey design believed coaching and mentoring of considerable value. Within the interview design, this type of CPD was even among the ones ascribed most value as reflective types of learning have the advantage of offering more immediate and hands-on or practical answers or solutions to principals' problems.

However, Tables 4 and 5 (cf. infra) indicate that a discrepancy exists between the formal methods of learning principals prefer and the ones they participate in regularly. Principals tend to stick to traditional activities such as

Table 4

Descriptives on principals' estimation of a method's effectiveness for their CPL (n=302).

CPL methods	Category	*n*	Highly Effective [a]	Percentage participating [b]
Multiple day training	(B1)	299	79%	73%
Advice, help or feedback from colleagues within school	(B2)	301	77%	90%
Intervision or learning communities with fellow principals	(B2)	296	77%	61%
One day training	(B1)	300	76%	92%
Advice, help or feedback from colleagues outside school	(B2)	300	72%	73%
Individual reflection on situations that went good or bad	(A)	298	68%	73%
Multiple year training	(B1)	296	66%	33%
Informal meetings during training or study days	(A)	300	66%	90%
Contact with parents and pupils	(A)	300	64%	93%
Coaching and mentoring trajectories	(B3)	294	54%	18%
Contact with specialised services or experts	(A)	301	52%	86%
Lectures, seminars or study days	(B1)	300	49%	90%
Reading literature (e.g., reports, books, etc.)	(B1)	301	42%	91%
Observation at a fellow principal's school	(B3)	291	41%	12%
Online course of webinar	(B1)	292	9%	14%

Note. Method categories signify: (A)=informal learning; (B1)=formal learning – cognitive and theoretical methods; (B2)=formal learning – cooperative and communicative process-oriented methods; (B3)=formal learning – reflective methods.

[a] Highly effective indicates the percentage of principals who, on a 7-point Likert scale ranging from '-3' to '3', reported they perceived a particular method either '2=effective' or '3=very effective' for their CPL.

[b] Percentage participating indicates the relative number of principal respondents who did participate in a similar initiative six months prior to the survey.

Table 5

Method-wise CPL preferences as discussed within the interview design (n=24).

CPL method	Preference		Actual participation	
	References	Sources	References	Sources
Informal types of learning	4	4	7	5
Formal types of learning				
Cognitive and theoretical methods	6	6	22	11
Communicative and cooperative methods	14	12	13	10
Reflexive methods	16	13	1	1

Note. 'Source' indicates every unique respondent within the interviews. 'Reference' indicates every unique reference made to a (pre)condition across sources.

one-off courses, seminars or training, which are considered less impactful (OECD, 2021; 2019) than are communicative and collaborative forms such as coaching, intervision or professional learning communities. Moreover, one-off CPD initiatives also entail a downside compared to multifaceted, long-term CPD trajectories: knowledge is less prone to take root and find an actual transfer to the school floor. Of course, given the limited resources for CPD per capita in education, such initiatives are hard to organise. This situation can cause principals to follow one-off initiatives instead or restrict themselves to auto didactics such as reading specialised literature in their spare time.

The opposite conclusion, we draw for informal types of learning. Although principals engage in those frequently (e.g., no less than 92% of principals reported contacts with pupils and parents over the six months prior to the survey), the overall value principals ascribe those falls behind that of some formally organised types of CPL. Within the interviews, too, only four out of

Table 6

Logistic regression (full) models explaining perceiving content-wise CPL needs in a particular domain, excluding outliers.

Variables	Model 1 (n=302) β (SE)	OR	Model 2 (n=302) β (SE)	OR	Model 3 (n=299) β (SE)	OR	Model 4 (n=299) β (SE)	OR
Personal characteristics								
Gender (ref=male)	.547 (.247)*	1.728	.137 (.259)	1.146	.908 (.427)*	2.480	.382 (.254)	1.465
Principal experience–low	.814 (.309)**	2.258	.585 (.322)	1.795	1.683 (.608)**	5.380	.429 (.316)	1.536
Principal experience–medium	.221 (.293)	1.247	.398 (.302)	1.489	1.436 (.638)*	4.205	.052 (.302)	1.054
Educational level (ref=non-university level)	.659 (.281)*	1.933	-.777 (.306)*	.460	.727 (.496)	2.070	-.404 (.281)	.667
Principal prep programme (ref=no)	-.266 (.272)	.766	.160 (.286)	1.173	-.959 (.495)	.383	.023 (.280)	1.023
School features								
Network state education	-.031 (.375)	.970	-.406 (.388)	.666	.761 (.635)	2.141	.023 (.280)	1.660
Network subsidised official education	-.744 (.494)	.475	.780 (.604)	2.181	1.026 (.695)	2.790	.507 (.376)	.389
Size–small	.393 (.354)	1.481	.359 (.384)	1.432	-1.115 (.711)	.328	-.945 (.582)	1.533
Size–large	-.184 (.295)	.832	.047 (.306)	1.048	-.204 (.489)	.816	.427 (.355)	1.367
Diversity–moderate	-.137 (.748)	.872	.280 (.450)	1.323	.131 (.714)	1.140	-.268 (.441)	.765
Diversity–high	-.184 (.417)	.832	.410 (.454)	1.506	.201 (.775)	1.223	.547 (.429)	1.728
Location (ref=rural)	-.079 (.263)	.924	-.173 (.272)	.841	-1.159 (.521)*	.314	.023 (.271)	1.023
Professional self								
Self-efficacy	-.371 (.244)	.690	-.229 (.253)	.795	.762 (.437)	2.142	.126 (.251)	1.134
Job satisfaction	.090 (.151)	.814	.169 (.155)	1.184	.488 (.292)	.758	-.435 (.157)**	.806
Transformational leadership	.399 (.363)	.732	.411 (.380)	1.508	-.277 (.634)	1.630	-.215 (.376)	.647
Constant	-.766 (.494)		.550 (.513)		-4.531 (1.052)		-.634 (.508)	
Nagelkerke pseudo R^2	.113		.092		.252		.122	
Hosmer and Lemeshow test	.345		.077		.406		.586	
χ^2 (15)	26.715*		20.819		40.367***		28.576*	

Note. *p< .05, **p< .01, ***p< .001; β=regression coefficient; SE=standard error; OR=odds ratios.
Model 1=personnel management-oriented topics; model 2=instruction-oriented topics; model 3=organisation management-oriented topics; model 4=self-management-oriented topics.

twenty-four principals explicitly confirmed the added value of informal types of learning to their personal development

4.3 Factors intermediating content-wise CPL needs and method-wise preferences

Through eight logistic regressions, we aim to predict whether principals (a) experience learning needs in the categories of personnel, instruction, organisation or self-management and (b) express a preference for informal or formal types of learning based on personal characteristics, school features or professional self factors. Whereas we included each set of learner factors to the logistic regression model stepwise, Table 6 and 7 (cf. infra) will, for conciseness' sake, only disclose the full models' parameters and coefficients.

The first full model presented in Table 6 shows how being female, a novice principal and educated at university level significantly increased the odds of experiencing high learning needs in personnel-oriented topics. The third model presents similar trends about perceived learning needs in organisation management. Again, the factors' gender' and 'years of principal experience' added significantly to the estimation: female principals seemed to perceive more learning needs than male counterparts. In contrast, school principals with nine or more years of experience perceived considerably fewer. Principals from schools in an urban environment also experienced fewer learning needs in organisation management. An explanation might be that, overall, urban schools tend to be larger with a more diverse student population for which local authorities

and city councils offer more specialised or tailored support.

Regarding development needs in the domain of self-management-oriented topics, model 4 shows how only job satisfaction is of considerable predictive value: the more satisfied a principal is in his or her job, the less likely he or she is to report high CPL needs in at least one of the two self-management-oriented topics.

In none of our models did the preparatory programme factor reach statistical significance. Participants in a preparatory programme (some time ago or at the time) remained open to further development in each topic category. Furthermore, the odds of experiencing specific CPL needs were not associated with principals' network affiliation. Although the Flemish educational networks differ in size, structure and resources, we found no economies of scale between networks to accommodate their principals' CPL needs.

We deliberately did not discuss the second model presented in Table 6 as it failed to reach statistical significance. A poor model fit indicates that our variables are of no or little predictive value in estimating whether Flemish secondary school principals will or will not experience high CPL needs regarding instruction-oriented topics. A plausible explanation might be that all principals simply need a regular updating on instructional topics, issues, trends or innovations, regardless of the context they find themselves in.

In analysing predictors for CPL methods preferred by Flemish secondary school principals (see Table 7), model A found school size and transformational leadership to have significant explanatory power. Principals of schools with less than 300 pupils, and who perceive themselves as transformational leaders had higher odds of perceiving informal types of learning as beneficial to their CPL. A possible explanation might be that within smaller schools, principals have smaller teams of co-workers too. It is, consequently, easier or less time-consuming to engage in talks or conversations with staff daily, which forms tighter connections and allows for more meaningful informal

exchanges. Furthermore, transformational leadership is highly co-worker-directed, allowing more informal learning.

Again, we deliberately do not discuss the second model (B1) as it failed to reach statistical significance. Consequently, principals perceived cognitive or theoretical methods as highly effective regardless of personal, school or professional differences. Despite their limitations, these types of learning appear a 'necessary evil' to update all principals' knowledge and skill bases in a timely and effective manner (Slotte et al., 2004; Tynjälä, 2013). Contrarily, all other types of learning meet with an appreciation by a specific type of principal.

According to model B2, small school principals who perceive themselves as transformational leaders again were more likely to mention a preference for communicative and cooperative CPD methods. Being mid-experienced, female, and highly educated too increased the odds of perceiving those methods as highly effective. The odds seemed to decrease significantly when one is principal in a considerably large school. Presumably, they are allowed larger teams or middle management assistance, which lowers their perceived need for collegial consulting. Finally, model B3 shows how female and transformational school leaders were likelier to ascribe particular value to reflective CPD methods.

4.4 Strategies for organising and structuring effective principal CPD in Flanders

How should we then organise and structure CPD to guarantee Flemish secondary school principals experience an added value to their daily practice? Table 8 (cf. infra), shows tight work schedules are the primary motive for refraining from enrolling in CPD among principals surveyed. Following further behind are motives that indicate a lack of affordable and relevant CPD. Considering the 'other motives' category (n=13) in more detail, we find that respondents specified additional motives that closely connect to the three motives above. Nine principals indicated that the benefits of participating are often not worth the costs, such as the loss of precious

Table 7

Logistic regression (full) models explaining the preference for particular CPL methods or not, excluding outliers.

Variables	Model A (n=297)		Model B1 (n=302)		Model B2 (n=293)		Model B3 (n=300)	
	β (SE)	OR	β (SE)	OR	β (SE)	OR	β (SE)	OR
Personal demographics								
Gender (ref=male)	.360 (.325)	1.433	-.334 (.259)	.716	.981 (.364)*	2.668	1.126 (.281)***	3.038
Principal experience–low	.118 (.402)	1.125	-.321 (.321)	.725	.105 (.424)	1.111	.596 (.342)	1.814
Principal experience–medium	-.053 (.383)	.948	-.289 (.316)	.749	1.073 (.456)*	2.924	.155 (.319)	1.167
Educational level (ref=non-university level)	.312 (.352)	1.367	-.213 (.296)	.808	.910 (.383)*	2.484	.139 (.299)	1.149
Principal prep programme (ref=no)	.065 (.338)	1.067	.637 (.295)*	1.891	.193 (.390)	1.213	.408 (.297)	1.503
School demographics								
Network state education	-.295 (.519)	.745	-.901 (.398)*	.406	-1.430 (.571)	.239	.568 (.451)	1.764
Network subsidised official education	-.662 (.674)	.516	-.652 (.498)	.521	-.829 (.788)	.437	.753 (.589)	2.124
Size–small	3.008 (1.055)**	20.248	.063 (.368)	1.065	2.364 (.822)**	10.636	.187 (.400)	1.206
Size–large	-.150 (.352)	.861	-.393 (.310)	.675	-1.007 (.402)*	.365	-.233 (.317)	.792
Diversity–medium	.544 (.581)	1.722	-.102 (.434)	.903	.016 (.616)	1.016	.452 (.501)	1.572
Diversity–large	.472 (.573)	1.603	-.135 (.436)	.873	-.759 (.564)	.468	-.631 (.454)	.532
Location (ref=rural)	-.136 (.335)	.873	.353 (.281)	1.423	-.177 (.371)	.838	-.495 (.286)	.609
Professional demographics								
Self-efficacy	.198 (.299)	1.219	-.237 (.258)	.789	-.552 (.357)	.576	-.311 (.270)	.733
Job satisfaction	.106 (.181)	1.112	.023 (.159)	1.023	.485 (.206)*	1.624	-.123 (.170)	.884
Transformational leadership	1.526 (.474)***	4.600	.583 (.388)	1.791	1.962 (.559)***	7.117	.961 (.406)*	2.616
Constant	-1.423 (.666)		.770 (.523)		-.781 (.662)		-.909 (.535)	
Nagelkerke pseudo R²	.238		.073		.316		.213	
Hosmer and Lemeshow test	.816		.044		.439		.695	
χ² (15)	49.785***		16.166		63.321***		50.154***	

Note. *p< .05, **p< .01, ***p< .001; β=regression coefficient; SE=standard error; OR=odds ratios.

Model A=informal types of learning; model B1=formal types of learning – cognitive or theoretical methods;

model B2=formal types of learning - communicative methods; model B3=formal types of learning – reflective methods.

time or cumbersome commutes due to a lack of practicability of things taught.

Which (pre)conditions cause their cost-benefit analysis to turn out positive? Table 9 provides the reader with an overview of (pre)conditions mentioned most frequently during the interviews. Authentic, reflective and experimental learning combined with networking or collegial consulting stood out against all other conditions as (nearly) half of the interviewees mentioned both spontaneously. To these principals, the effectiveness of CPD depended on receiving practically useful answers or solutions to their problems. The best way to guarantee practicability, is through authentic learning—

Table 8
Percentage of principals indicating a particular motive not to attend CPD (n = 263).

Motives	Percentage
Professional development conflicts with one's work schedule	76%
Professional development is too expensive	32%
There is no relevant professional development offered	20%
Not having time because of family responsibilities	12%
Other motives	5%
Already developing oneself professionally through different means	5%
Not having the prerequisites	2%
There is a lack of employer support	2%

Table 9
(Pre)conditions for effective principal PD (n=24).

Description	+ (R)	+ (S)	* (R)	* (S)	Total (R)	Total (S)
Research based (pre)conditions confirmed by respondents						
Attuned to needs and prior knowledge or experience	3	3	1	1	4	4
Authentic, reflexive or experimental learning	11	8	6	5	17	12
Integration of a variety of PD methods	4	4	1	1	5	5
An element of networking or collegial consulting	9	7	7	5	16	11
A manifold effort spread over time	0	0	0	0	0	0
Additional (pre)conditions specified by respondents						
Not being too far or long removed from one's school	0	0	7	7	7	7
A safe learning environment	2	2	3	3	5	5
A diverse and challenging learning environment	1	1	3	3	4	4
Not too many trimmings	3	2	0	0	3	2
Evidence based material	0	0	1	1	1	1

Note. 'Source' (S) indicates every unique respondent within the interviews. 'Reference' (R) indicates every unique reference made to a (pre)condition across sources.

'+' includes all references to a condition considered important.

'' includes all references to a condition considered important but of which a respondent also explicitly expressed concerns that too often this condition was not applicable or met (yet).*

settings, situations or environments centred around principals' relevant and recognizable day-to-day lived challenges:

What we do more often is visit [other schools] to see examples in practice. That is truly interesting: convening with other schools, their principals and teachers, and working with them for a day on specific projects to learn from each other (Principal 9 – female – 10 years of experience).

Authentic learning experiences in themselves will not suffice, however. Despite their need for practical tools and directly applicable answers, principals recognised that those are often hard to implement directly or 'copy-paste' to their schools. According to

them, therefore, an additional advantage of authentic learning lies in its ability to incite critical reflection on one's practice or experiences:

To copy-paste? No. To acquire new ideas instead and question yourself on how to transform things at your school. If not, you remain at your school thinking: "I am doing great", while the world around you changes. Others can help you see what you can do differently (Principal 1 – female – 12 years of experience).

Too often, however, some found, too little time remains to practice or experiment with what has been learned in one's school setting and refer back in a meaningful way. Too often

furthermore, CPD initiatives remain too vague or theoretical, lowering the chance of thorough reflection and an actual transfer to the work floor as translating theory into practice requires a considerable amount of principals' precious time. Consequently, principals frequently evaluate the effectiveness of CPD against its ability to accommodate them with opportunities to consult, reflect, and cooperate with colleagues and learn from one another. Networked learning presupposes applied learning as principals convene around a specific topic, shared issue or concern. Time can be spared as answers, solutions, or tools require less modification when converting from one school to another instead of from theory to practice.

Moreover, principals stressed the added value of collegial consulting in terms of their professional well-being:

I consider networks [with colleagues] enormously important. I know a few colleagues who do not or rarely engage in networks. Then I think to myself: "How can you carry on?" I cannot do without my networks and the inspiration I find there, offered by colleagues (Principal 23 – female – 13 years of experience).

Whereas Table 4 (cf. supra) showed how a considerable percentage (i.e., 61%) of principals participated in principal networks such as intervision groups or learning communities, five interviewees criticised the quality of the networks they were in from an activity point of view as well as a composition point of view:

With the principals from all schools of [educational network X], we convene once a month. However, there we only discuss practical issues such as new legislation. Rarely does time remains to enquire colleagues about how they go about things. We all face similar challenges left unattended (Principal 13 – female – 12 years of experience).

What I am missing is exchanges with fellow principals I can consider my peers. I think you have very competent principals all over Flanders whom I would like to meet. Exchange. I have colleagues within the

province with whom I can talk about technical issues: "Did your application get approved?" However, colleagues who think about developing wealthy education and ensuring quality, I have too little. Sounding boards with which I can have captivating conversations. I am not pretentious: I think there are plenty of them in Flanders, yet I do not have those in my professional circle as they are not part of the same educational network (Principal 24 – male – 12 years of experience).

It, therefore, seems that principals engage in networks with fellow principals relatively often because the term 'network' allows a broad interpretation. A clear need, nonetheless, seems to exist for more qualitative—and prestigious—networks that bring principals together to inspire each other, cooperate and learn:

[Networks] are something I profoundly believe in. It will be the key to making people develop professionally over the coming years simply because the wheel does not need to be reinvented in several schools. [The former minister of Education] had this initiative in which the most innovative schools in Flanders convened. […] Truly amazing what was discussed in a large group of approximately 25 principals. That is something to put in your recommendations: the minister of Education is obliged to facilitate such initiatives (Principal 20 – male – 10 years of experience).

Among the (pre)conditions described by our interviewees yet not included among Daniëls et al. (2019) review study's top five, we found CPD initiatives that are organised in the neighbourhood of the principals' schools and do not require too much of their professional time as seven out of them were either wary about keeping their schools unattended or workload piling up. Finally, eight principals mentioned either a safe or heterogeneous learning environment (pre) condition(s) for effective CPD. Definitely, within CPD initiatives that concentrate on learning from and among peers, feeling safe to open up one's private practice, share critical reflections and accept those from colleagues in return is highly important to guarantee that group learning processes can

occur. This, so considered these interviewees, was easier to accomplish among principals whose schools are not in direct competition.

5 Discussion

To sum up, we found participating principals to experience high CPL needs in personnel and instruction-oriented topics. Novice principals mentioned personnel-oriented topics more frequently, confirming the premise of different career paths in principalship (e.g., Duncan, 2013; Lazenby et al., 2020; Oplatka, 2010; Peterson, 2002). Contrarily, this association did not hold for instruction-oriented topics: participants expressed equally high needs in this regard. Both findings are hardly surprising given principals' predominant occupation with ad hoc (personnel) problems (Coenen, Hondeghem, et al., 2021) and easily altering and broadening expectations by policymakers readily deferring societal challenges to education (MacBeath, 2011).

Withal, it comes down to accommodating those needs in a cost and time-efficient way as principals mainly refrain from participation in formally organised learning initiatives because of time and financial constraints. From that perspective, principals' foremost participation in classic cognitive or theoretical methods is self-evident as those require only a limited time investment. On average, however, principals ascribed greater value to communicative and cooperative methods. Furthermore, our analysis confirmed Slotte et al.'s (2004) assertion that the learning potential of day-to-day lived experiences and conversation often goes underestimated. Although principals engage in informal learning daily, they only perceive learning resulting from teaching or being taught of considerable value. Raising principals' awareness of what they obtained as a by-product of their work-related activities, for example, by training them to reflect critically and systematically on their own professional experiences (both the good and bad ones), appears of utmost importance. Policymakers and future research should

consider ways to incorporate tacit knowledge strategically in formal learning designs and make it permeate into principals' daily practice (Tynjälä, 2008).

Despite its ascribed value in literature (e.g., Bush, 2018)—yet in line with findings by Klein and Schwanenberg (2020) among German principals—participation in a preparatory programme was not able to significantly decrease particular CPL needs. Nor did the educational network factor add substantial explanatory power to our regression analyses. Principals perceive needs regardless of their pre-service preparation and the network-specific support they receive. Because there is little research on the pre-service and in-service training of Flemish secondary school principals, future research might want to address their organisation and the conditions that determine their added value.

From the list of conditions confirmed valuable by research (Daniëls et al., 2019), two were ascribed of particular value by the interviewees: principals appreciate CPD initiatives that allow authentic and experimental learning greatly, definitely when combined with an element of collegial consulting that adds to their ability to reflect on their professional conduct critically. Apart from the predefined list, interviewees identified (a) not being too far or long removed from their schools and (b) a diverse, challenging and (c) safe learning environment as primordial to CPD success. Too often, principals perceived, those conditions did not apply, or organisers happened to overlook them.

Combining the findings and reflections above, we recommend policymakers and organisers of future principal CPD to consider networked designs (e.g., group reflective learning programmes, professional learning communities, or intervision trajectories) more actively as those meet the (pre)conditions identified by both literature and participating principals in a variety of ways. For one, networked learning allows principals to cope with challenges more adequately (Flückiger et al., 2017) whilst strengthening their knowledge, skills and capacity to reflect on their professional conduct (e.g., Aas, 2017; Coenen, Schelfhout, et al., 2021; Daniëls et al., 2020)

and, reactivate and enhance valuable tacit knowledge (Vescio et al., 2008). Initiatives that stimulate learning from one's own and others' experience also allow practical answers to highly context-bound concerns such as frequently mentioned personnel-oriented topics. At least, when organised of high quality (e.g., Aas, 2017), integrating a diverse set of perspectives and experiences (Chapman & Muijs, 2014) and guided adequately (Brown & Grant, 2010; Coenen, Schelfhout, et al., 2021; Raes et al., 2015).

Moreover, networked designs are favourable to principals' professional well-being as they shape a sense of connectedness, identification and recognition (e.g., Brandmo et al., 2021; Coenen, Schelfhout, et al., 2021; Zonoubi et al., 2017), increase self-efficacy (Aas & Paulsen, 2019; Weißenrieder et al., 2015) and job enthusiasm (Bolam et al., 2005) while reducing an often perceived emotional and professional isolation (Lazenby et al., 2020). In that sense, collegial consulting appears the more critical in smaller schools where the opportunities to engage in inspiring and same-level debates are far more limited than in large schools because of the more concise entourage principals find there.

Although research on collective professionalisation methods gained in importance internationally over the past three decades, national applications remain limited, as is research on its implementation. Do these methods prove worthwhile? Can they live up to the international expectations by contributing to principals' professional learning on the one hand and their professional well-being on the other? And, under which conditions? We are aware that for some learning needs (e.g., a plain update on new legislation), a classic cognitive set-and-get approach might better accommodate principals' expectations and needs.

6 Limitations and future research possibilities

We already described three avenues for future research (i.e., as to tacit knowledge incorporation, pre-service and in-service principal preparation and successful implementation of collective CPD methods) but believe those efforts would also benefit from considering some of this study's limitations. First, following Tynjälä (2013) and Slotte and colleagues' (2004) logic, we deliberately did not look into the added value principals ascribe one method over another as each method has its merits yet under different conditions with deviating output and outcomes. Nevertheless, Aas and Paulsen (2019) already showed that assessing methods' relative value when integrated into one CPD design allows valuable insights on how methods can supplement each other.

Second, although our binominal logistic regression models included a diverse set of learner contextual factors to explain particular CPL needs and preferences, research by Klein and Schwanenberg (2020) reveals one school feature of potentially substantial influence was left out of the equation: the characteristics of principals' teacher teams. In that sense—and building on Daniëls et al. (2019)—future studies would do well by adding this perspective or layer to their designs. Moreover, adding perspective can also happen by collecting data from other relevant actors such as students, teachers and other co-workers to assess the prevalence of features such as a principal's transformational leadership. The presented design only offered a partial and subjective view into some of those as we relied entirely on (principal) perception data.

Third, as participation in both questionnaires and interviews was voluntary, our sample was prone to selection bias. For example, only highly motivated principals with strong opinions on CPL might have completed the questionnaire, rendering an overestimation of learning needs and a distorted picture of method-wise preferences. Fourth—and closely related to our previous validity point—we only questioned mainstream secondary school principals. Nevertheless, in the school year 2017–2018, principals in special secondary education accounted for 11% of the total population of Flemish secondary school leaders (Vlaams Ministerie van Onderwijs en Vorming, 2019).

Their CPL deserves equal consideration. Continuing on this external validity point, we recognise that one might question the relevancy of this study given its focus on Flemish education. However, given the fact that we were able to amplify several recent Western-European studies (i.e., in a British, German, Norwegian and Swedish context), we speculate the Flemish context and, hence, this article's recommendations for future principal CPD, can be of relevance to neighbouring educational systems. The more so because research consistently shows school principals to struggle with similar challenges (e.g., elevated pressure of work, eroding professional well-being, increased governmental demands in the wake of societal shifts, etc.) despite national differences in school organisation and culture (e.g., MacBeath & Cheng, 2008). Comparative study design might be conclusive on this matter.

Finally, this research was conducted prior to the COVID-19 crisis. It is reasonable to assume that some of the learning needs and preferences we described lost—or contrarily gained—in importance. Withal, the crisis put unprecedented pressure on education providers (i.e., principals and teachers alike) to shift their ways of teaching and convert to digital means. That might have led some to consider the advantages of digital CPD set-ups in more detail or experience them first-hand for the first time. Moreover, the exchange of good practices with fellow principals about sustaining promising practices initiated by COVID-19 might have also gained popularity.

7 Conclusion

This study contributes to the understanding of Flemish secondary school principals' content-wise learning needs and method-wise preferences to improve professional learning. It identified personnel management and instruction as the domains in which Flemish secondary school principals experience the most apparent learning needs. Whereas gender and years of principal experience help explain perceived needs in the former, we found these learner contextual factors irrelevant to the latter. Principals simply require an equal amount of regular updates on instructional trends, innovations and adjusted expectations by the government. Updates that can—and are foremost—delivered through classic learning methods such as one to multiple-day training. Participants did, however, ascribe communicative and cooperative methods, such as learning communities, more value regarding their professional learning. Despite principals' relatively high participation rate in such initiatives, we discovered that there are still gains to be made in its application. Networked learning should not only be organised more frequently and of higher quality, but it should also allow a richer diversity of school principals to convene. Various experiences and diverse viewpoints can inspire principals to intriguing exchanges and stimulate solutions to shared problems. Convening over mutual concerns, furthermore, allows a relatability proven favourable to the present members' professional well-being.

Work pressure, tight agendas or deadlines, and scarce financial means were the main reasons principals skip CPD. Given that principals often let a cost-benefit analysis precede their decision to register for new initiatives, those ideally guarantee practically applied and/or authentic learning opportunities, an element of collegial consulting and a reactivation of tacit knowledge in a safe environment. After all, the success of principal CPL does not depend on an increased or broadened attention by the Flemish legislator—although this can form a first and vital step in firmly embedding CPL in principals' jobs—but on its ability to contribute to their daily practice—and increasingly so, professional well-being.

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Samenvatting

Leiderschapsontwikkeling in het Vlaams Secundair Onderwijs: hedendaagse noden, voorkeuren en strategieën voor aanpak

Ondanks de voorname rol die schoolleiders bekleden in school- en leerlingenresultaten, bleef hun professionele ontwikkeling vooralsnog onderbelicht in Vlaamse beleidsvoering. Deze studie verkent de actuele leernoden en -voorkeuren bij schoolleiders en onderzoekt de redenen die hen weerhouden deel te nemen aan professionele ontwikkelingsinitiatieven. Via een vragenlijst, berichtte 366 Vlaamse secundaire schoolleiders over hun inhoudelijke opleidings- noden en didactische opleidingsvoorkeuren. Daarnaast gaven 30 schooldirecteurs via semigestructureerd interviews inkijk in het waarom bepaalde initiatieven hen sterker interesseren dan anderen. De koppeling van beiden stelt ons in staat aanbevelingen te formuleren voor toekomstige ontwikkelings- initiatieven. Vlaamse secundaire schoolleiders onderschrijven immers een nood aan authentieke en praktisch toegepaste leerervaringen, bij voorkeur door middel van netwerkende of collaboratieve leerdesigns en gelinkt aan personeel- of instructie gerelateerde onderwerpen. Gezien de explorative aard van dit onderzoek valt evenwel op lange termijn te bekijken of een dergelijke invulling eveneens een waardevolle investering van schaarse tijd en middelen impliceert. Kan deze effectief bijdragen tot de noden die Vlaamse schoolleiders ervaren?

Kenwoorden: school leiderschap; directeurschap; professionele ontwikkeling; professioneel welzijn; secundair onderwijs

Supplementary materials

Supplement A

Table A. Operationalisations of transformational leadership and concomitant CFA results

Source	Constructs and corresponding survey items	Factor loadings (Critical ratio)	α	AVE	CR
	Vision building		.814	.467	.820
HTLS_1	Refer explicitly at our school's goals during decision-making processes.	.691 (-)			
HTLS_2	Explain the relationship between the school's vision and initiatives of the school district, collaborative projects, or the government.	.578 (8.960)***			
HTLS_3	Discuss the school vision's consequences with the team, students, parents and others.	.741 (11.108)***			
HTLS_4	Use all possible moments to share the school's vision with the team, students, parents and others.	.691 (10.486)***			
HTLS_5	Incorporate the vision and goals to talk about current issues and problems facing the school.	.705 (10.670)***			
	Individualized consideration		.718	.296	.735
HTLS_6	Encourage teachers to go as far as they can.	.717 (-)			
HTLS_7	Take opinions of individual teachers seriously.	.450 (6.455)***			
HTLS_8	Listen carefully to team members' ideas and suggestions.	.438 (6.775)***			
HTLS_9	Be attentive to problems that teachers encounter when implementing innovations.	.524 (8.056)***			
	Intellectual stimulation		.822	.421	.848
HTLS_10	Show appreciation when a teacher takes initiative to improve education.	.556 (8.646)***			
HTLS_12	Encourage teachers to experiment with new didactic strategies.	.689 (-)			
HTLS_13	Involve teachers in a constant discussion about their own professional goals.	.665 (10.138)***			
HTLS_14	Encourage teachers to try new strategies that match their personal interests.	.642 (12.186)***			
HTLS_15	Help teachers reflect on new experiences.	.632 (9.704)***			
HTLS_16	Motivate teachers to look for and discuss new information relevant to the school's development.	.700 (10.605)***			
	Transformational leadership		.952	.806	.967
Second order	Vision building	.753 (0.185)			
	Individualized consideration	.992 (0.006)			
	Intellectual stimulation	.931 (0.050)			

Source. Headmasters' Transformational Leadership Scale (HTLS) as presented in Moolenaar, et al. (2010).

Note (1). In comparison to the 18-item original scale, one item (i.e., 11) was not included in the survey as item-wording (i.e., 'Help teachers talk about their feelings') was marked odd in preliminary survey testing. An additional two items (i.e., 17 and 18) were omitted from further factor analysis based on poor factor loadings and elevated modification indices.

*Note (2). α = Cronbach's alpha; AVE = average value extracted; CR = composite reliability; (-)= unstandardised regression weights assumed as 1; *** = p<.001.*

Note (3). Fit indices: χ²/df(81)= 1.566, p= .001; GFI= .948; (A)GFI= .923; CFI= .972; NFI= .928; TLI= .964; RMSEA= .043.

Table B. Operationalisations of self-efficacy and concomitant CFA results

Source	Constructs and corresponding survey items	Factor loadings (Critical ratio)	α	AVE	CR
	Instructional leadership		.708	.565	.753
NPSES_1	Develop this school's instructional platform.	.703 (-)			
NPSES_2	Initiate, plan and carry out instructional development.	.797 (8.716)***			
	Financial management		.847	.746	.7615
NPSES_3	Keep track of the school's finances.	.828 (7.880)***			
NPSES_4	Be sure that the finances of the school are under control.	.898 (-)			
	Organisational management		.616	.367	.651
NPSES_5	Follow up and implement all decisions taken.	.599 (8.640)***			
NPSES_6	Have an ongoing evaluation of all activities at school and follow these up.	.703 (-)			
N/A	Involve co-workers in decision-making processes.	.497 (7.281)***			
	Teacher support		.716	.401	.737
NPSES_9	Support and assist teachers with challenges or problems.	.674 (9.543)***			
NPSES_10	Attend to and support teachers who are struggling with strain or exhaustion.	.566 (8.365)***			
NPSES_13	Develop a school in which all teachers experience well-being.	.613 (8.902)***			
NPSES_14	Engage your employees in their professional development.	.674 (-)			
	External Relations		.703	.568	.654
NPSES_19	Collaborate with higher authorities on the school's future direction.	.668 (7.185)***			
NPSES_20	Use the resources in the school's community (e.g., parents, civil society, business, …).	.830 (-)			
	Self-efficacy		.805	.524	.834
	Instructional leadership	.719 (7.043)***			
Second order	Financial management	.252 (3.508)***			
	Organisational management	.980 (-)			
	Teacher support	.913 (8.227)***			
	External relations	.494 (6.223)***			

Table C. Operationalisations of job satisfaction and concomitant EFA results

Source	Constructs and corresponding survey items	Factor loading	Communality	α if item deleted	α
	Job satisfaction				.807
Jobsat_1	I am fully satisfied with my job.	.813	.661	.698	
Jobsat_3	I am satisfied with what I achieve at work.	.891	.794	.651	
Jobsat_4	I feel good at work.	.601	.361	.837	

Source. All question-items were derived from Caprara, et al. (2003).

Note (1). In comparison to the original 4-item scale, item 2 (i.e., 'I am happy with the way my colleagues and superiors treat me') was not included in the survey as most Flemish principals do not have a direct superior nor colleagues at their level within the school.

Note (2). α = Cronbach's alpha.

Supplement B

Table A. Coding tree CPL needs (n=24) with an overview of unique references, sources and exemplary quotes

Codes	R (S)	Exemplary quotes
Personnel-oriented	9 (5)	How do I delegate? How do I direct people? How can I differentiate between main and side issues? Because, of course, when you move from being a colleague to being a school leader, that is not evident. You need to make sure everyone is happy. I don't think it would be bad if people were more trained in these things beforehand. That would significantly add to the policymaking capacity within schools (principal 15 – male – 13 years of experience).
Instruction-oriented	10 (8)	I give you an example: I am currently occupied with a reorganisation in line with the inspectorate ['s expectations]. Their new reference framework on educational quality is forthcoming yet about which we learn nothing [in the principal preparatory programme]. We only look at quality performance management, but I would have at least expected some linkage was made to the new reference framework (principal 2 – male – 4 years of experience).
Organisation-oriented	9 (6)	For me, the most important are legislative updates: what is precisely heading our direction? What is it we will have to do in order to meet the targets? That is my focus, for example, GDPR and data protection. New legislation is something I jump at (principal 14 – male – 6 years of experience).
Self-management-oriented	3 (3)	The needs for school principals? I think [self]management: managing your time and paperwork. Definitely (principal 23 – female – 13 years of experience).
Pragmatic reflections	9 (9)	It is really a combination of things. There are very few things I do by default. I look purely at content: if relevant, I go (principal 8 – male – 8 years of experience).

Note. 'S' refers to 'sources', indicating every unique respondent within the sample, whilst 'R' refers to 'references', indicating every unique reference made to a coded for element across sources.

Table B. Coding tree CPL methods (n=24) with an overview of unique references, sources and exemplary quotes

Codes	Preference	Actual participation	Exemplary quotes
	R (S)	R (S)	
Informal types of learning	4 (4)	7 (5)	As a school leader, you just have to take your time to reflect now and then (principal 23 – female – 13 years of experience).
Formal types of learning			
Cognitive and theoretical methods	6 (6)	22 (11)	Self-study, such as by reading a book (principal 16 – male – 10 years of experience).
Communicative and cooperative methods	14 (12)	13 (10)	Networking, we do that too little. It is to say, poorly structured. I consider that important (principal 13 – female – 12 years of experience).
Reflexive methods	16 (13)	1 (1)	I notice [a novice colleague] has a few learning questions. Which makes sense, so I told him: 'What you need is a coach'. Some sort of sounding board that you can turn to when you are stuck on something and need to discuss. That would be more efficient than everything taught today (principal 20 – male – 10 years of experience).

Note. 'S' refers to 'sources', indicating every unique respondent within the sample, whilst 'R' refers to 'references', indicating every unique reference made to a coded for element across sources.

Table C. Coding tree (pre)conditions (n=24) with an overview of unique references, sources and exemplary quotes

Codes	+ R (S)	* R (S)	Exemplary quotes
(Pre)conditions identified by research			
Attuned to needs and prior knowledge or experience	3 (3)	1 (1)	Yes, [I] regularly [take part in CPD], dependent on the themes our school is currently working on. A few years ago, for example, we restructured our evaluation system. Of course, you don't have to invent all those things yourself, so we followed training and listened to possible ways to do that. In the next step, we involved the teachers (principal 9 – female – 10 years of experience).
Authentic, reflexive or experimental learning	11 (8)	6 (5)	Often, [the weakness of formally organised CPD] involves their practical approach: several theoretical frameworks are offered – which, in itself, can be useful – but efforts to really master those by practice is often lacking (principal 4 – female – 1 year of experience).
Integration of a variety of PD methods	4 (4)	1 (1)	Principal 18 (female – 5 years of experience): 'When [new colleagues] start [the principal preparatory programme], I notice, because of the cases they work on, the input they can give, the webinars and knowledge clips, which all combine nicely …' Interviewee: Blended learning? Principal 18: 'Yes. I notice that they become more eager [to learn]'.
An element of networking or collegial consulting	9 (7)	7 (5)	[Collegial consulting] is something you should do. Something you are in genuine need of too because there is a lot you can learn from each other in searching for possible solutions: How do you do that? You don't always have to reinvent the wheel (principal 5 – male – 12 years of experience).
A manifold effort spread over time	0 (0)	0 (0)	N/A
(Pre)conditions specified by respondents			
Not being too far or long removed from one's school	0 (0)	7 (7)	I don't really like to leave my school unattended. Sometimes, people take advantage of your absence to leave their mark or turn back decisions you took. That, I am wary of (principal 10 – female – 4 years of experience).
A safe learning environment	2 (2)	3 (3)	Often, that has to do with the idea that someone is someone else's rival. Of course, it is not always put that way, but that is what it comes down to. If another school [in your direct environment] offers the same programmes as you do, but they are doing great while your student numbers are dropping, the other school's principal might be reluctant to share good practices. However, I am convinced that would be truly interesting (principal 19 – male – 1 year of experience).
A diverse and challenging learning environment	1 (1)	3 (3)	That is the advantage [of a principal preparatory programme]: school leaders from all over Flanders convene, allowing opportunities to exchange ideas. With [school from a neighbouring municipality], we do not have to exchange ideas because they are only six kilometres away. That is not innovative. That is not useful (principal 8 – male – 8 years of experience).

Not too many trimmings	3 (2)	0 (0)	I don't always need the trimmings or diverse learning activities. Those moments [during training] to give your own opinion, I don't need that. For me, the most important part is to gain information and have an opportunity to ask questions (principal 14 – male – 6 years of experience).
Evidence based material	0 (0)	1 (1)	Very often, [CPD] – when you listen carefully – is based on gut feeling. […] Palavering. I always tell that to [the organisers of a CPD initiative]: Try to work with objective facts. Make a thorough analysis of your audience. Please look at how they enter [the training] and leave. Make sure you have those stats because it isn't so difficult (principal 20 – male – 10 years of experience).

Note. 'S' refers to 'sources', indicating every unique respondent within the sample, whilst 'R' refers to 'references', indicating every unique reference made to a coded for element across sources. A '+' indicates all references to a condition considered important. A '' includes all references to a condition considered important yet too often not applicable.*