



PERSONEELSBELEID IN ONDERWIJS:

Een review van veelvoorkomende HRM-
praktijken in scholen

Vanblaere, B.; Tuytens, M. & Devos, G.



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Voorwoord

De belangrijke impact die leerkrachten hebben op de effectiviteit van scholen wordt breed erkend (Hattie, 2009). Er wordt hierbij steeds meer gefocust op het potentieel dat een goed personeelsbeleid heeft voor het verhogen van de kwaliteit van het lerarenteam en bijgevolg dus ook van het onderwijs. Toch blijkt HRM nog steeds minder ontwikkeld in onderwijs en een systematische en comprehensieve visie op HRM ontbreekt vaak in scholen (Runhaar, 2016). Via een grondige reviewstudie proberen we een overzicht te geven van de verschillende aspecten waar scholen rekening moeten mee houden wanneer zij hun personeelspraktijken en hun totale personeelsbeleid vormgeven.

In deze review worden vier belangrijke personeelspraktijken belicht die bijdragen aan de bekwaamheid en de motivatie van leerkrachten: personeelsinzet, professionele ontwikkeling, leerkrachtevaluatie en beloningssystemen (Runhaar, 2016). Per personeelspraktijk belichten we wat in onderzoek als relevante factoren (zowel antecedenten als uitkomsten) zijn aangeduid. Hierbij bespreken we zowel kwantitatieve als kwalitatieve studies gepubliceerd tussen 2000 en 2016. De resultaten per personeelspraktijk worden vervolgens naast elkaar gelegd om zo zicht te krijgen op variabelen die voor meerdere personeelspraktijken belangrijk zijn en dus voor een goed algemeen personeelsbeleid in scholen zorgen. Na een toetsing van deze resultaten aan het oorspronkelijke onderzoeksmodel van deze onderzoekslijn (zie Appendix 6), wordt een aangepaste versie van het dit model gepresenteerd dat gebruikt zal worden in het verdere onderzoek van deze onderzoekslijn.

De verschillende hoofdstukken zijn opgesteld in het Engels, maar dit rapport omvat tevens een uitgebreide Nederlandstalige beleidsamenvatting.

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Beleidssamenvatting

Introductie

Dit rapport geeft een synthese van onderzoeksliteratuur over vier belangrijke domeinen van personeelsbeleid in onderwijs: personeelsinzet, professionele ontwikkeling, leerkrachtevaluatie, en beloningssystemen. Per personeelspraktijk wordt eerst gefocust op kwantitatieve studies, waardoor we statistisch significante relaties en variabelen kunnen identificeren. Vervolgens wordt door middel van het bestuderen van kwalitatieve studies dieper ingegaan op de betekenis van deze variabelen. Elke review wordt afgesloten met een beschrijving van de waardeketen, waarin antecedenten en uitkomsten van die specifieke HRM-praktijk samengevat worden. Vervolgens worden deze waardeketens vergeleken om zo een zicht te krijgen op variabelen die cruciaal zijn voor een goed overkoepelend personeelsbeleid in scholen. Ten slotte dient deze overkoepelende waardeketen als input voor het verfijnen van het oorspronkelijke onderzoeksmodel van deze onderzoekslijn.

Wat betreft het selecteren en coderen van de studies opgenomen in het rapport, is het belangrijk om mee te geven dat alle studies per review door eenzelfde onderzoeker werden gecodeerd. Dit gebeurde echter steeds in samenspraak: tijdens regelmatige overlegmomenten tussen de onderzoekers werden problemen of twijfels voorgelegd om gezamenlijk tot coherente criteria en interpretaties te komen.

Hoofdstuk 1: Theoretisch kader

1.1 Strategisch personeelsbeleid (SHRM) in onderwijs

De belangrijke impact die leerkrachten hebben op de effectiviteit van scholen wordt breed erkend (Hattie, 2009). Er wordt hierbij steeds meer gefocust op het potentieel dat een goed personeelsbeleid heeft voor het verhogen van de kwaliteit van het lerarenteam en bijgevolg dus ook van het onderwijs. HRM (human resource management) kan gezien worden als ‘people management’ (Knies & Leisink, 2014) en omvat een strategische, coherente en geïntegreerde aanpak van aanwerving, ontwikkeling en welzijn van personeel in een organisatie (Armstrong & Taylor, 2014). In een HRM-aanpak staat een strategisch en proactief beleid centraal, waarin de realisatie van de doelen van de organisatie cruciaal is en waarbij het personeelsbeleid geïntegreerd is in een breder organisatiebeleid (Middlewood & Lumby, 1998). Strategisch HRM-beleid speelt dan in op het afstemmen van de doelen van de school en HRM-praktijken, schoolcontext en HRM-praktijken, en verschillende HRM-praktijken binnen de school (Becker & Huselid, 2006; Boselie, 2014).

1.2 Belangrijke HRM-praktijken in onderwijs

Het concept van strategisch personeelsbeleid heeft een evolutie doorgemaakt. In 1982 werden vier universele HR-praktijken naar voren geschoven (selectie, evaluatie, beloning en ontwikkeling) die volgens de auteurs in alle organisatie aanwezig dienden te zijn (Tichy, Fombrun & Devana, 1982). Recent wordt echter getwijfeld aan het bestaan van dergelijke universele context-onafhankelijke HR-praktijken.

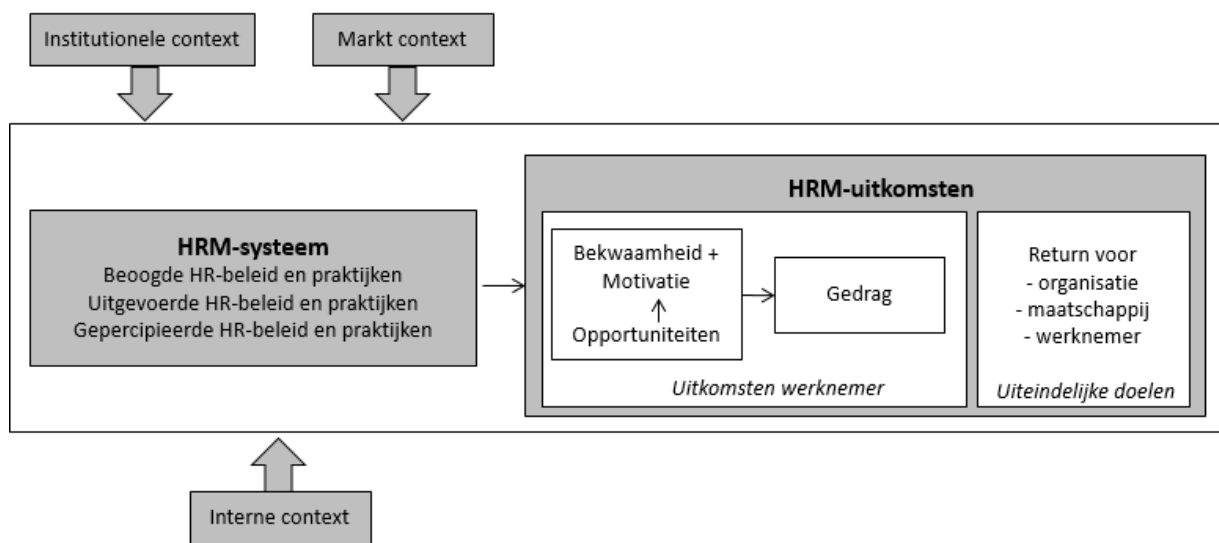
Specifiek voor de onderwijscontext stelde Runhaar (2016) een conceptualisering van HRM voor die scholen kan helpen om een kwaliteitsvol en toegewijd lerarenteam te creëren. Hierbij maakt ze niet alleen de link met schooldoelen, maar ook met de AMO theorie. Deze veelgebruikte theorie stelt dat de belangen van een organisatie het best gediend worden als HRM bijdraagt aan de noodzakelijke bekwaamheid, kennis en vaardigheden van medewerkers ('ability' (A)), maar de medewerkers ook gemotiveerd en aangemoedigd worden ('motivation' (M)) en de noodzakelijke steun en kansen krijgen hiertoe ('opportunities' (O)). Deze AMO's zullen uiteindelijk zorgen voor bepaalde soorten gedrag bij de werknemers (Leisink & Boselie, 2014).

Runhaar (2016) definieert 'HRM-beleid' als het soort HRM-praktijken dat een organisatie nastreeft met betrekking tot missie, strategie en structuur. 'HRM-praktijken' zijn dan de concrete uitwerking van dit beleid in praktijk. Een 'HRM-systeem' is dan een bundel van beleid en strategieën die gebruikt worden door een organisatie.

Als praktijken die vooral bijdragen aan bekwaamheid (A), benoemt Runhaar (2016) in haar model enerzijds aanwerving, selectie en toewijzing van leerkrachten (kortweg: personeelsinzet), en anderzijds professionele ontwikkeling. Met betrekking tot motivatie-bevorderende praktijken (M) gaat het om leerkrachtevaluatie en beloningssystemen. Ten slotte worden job design en participatie genoemd als kansen tot creëren van opportuniteiten voor leerkrachten (O). In deze reviewstudie zullen we de praktijken die bijdragen aan kennis/vaardigheden en aan motivatie als aparte HRM-praktijken in onderwijs behandelen (personeelsinzet, professionele ontwikkeling, leerkrachtevaluatie, beloningssystemen). De praktijken die bijdragen aan opportuniteiten zien we als ondersteunend aan deze praktijken.

1.3 HRM-waardeketen als richtlijn voor goed strategisch personeelsbeleid in scholen

De afgelopen jaren is vooral werk gemaakt van het begrijpen van de manier waarop HRM kan bijdragen aan de realisatie van organisatiedoelen. Dit resulteerde in een 'waardeketen' die enkele verbindende schakels beschrijft. We bespreken hieronder de HRM-uitkomsten, HRM-systemen, en contextvariabelen uit de HRM-waardeketen (zie Figuur 1).



Figuur 1. HRM-waardeketen (vereenvoudiging op basis van Boselie (2014) en Leisink & Boselie (2014))

a. HRM-uitkomsten

Zoals eerder beschreven is het AMO-model één van de meest gebruikte theoretische kaders binnen SHRM (Boselie, 2014). Personeelspraktijken kunnen bijdragen aan de bekwaamheid (A) en motivatie (M) van werknemers, ondersteund door bepaalde opportuniteiten in het werk (O). Deze AMO's zijn op hun beurt gelinkt aan gedrag, zij het gewenst of productief gedrag (bv. veranderingen doorvoeren), zij het ongewenst gedrag (bv. treuzelen). De impact van een HRM systeem op de reactie van werknemers is erg persoonsafhankelijk, wat het belangrijk maakt om na te gaan hoe dit proces vorm krijgt.

De ultieme uitkomsten van SHRM liggen in opbrengsten of return voor de organisatie, maatschappij, en werknemers (Leisink & Boselie, 2014). Voor de onderwijscontext houdt dit in dat de school als organisatie bijvoorbeeld kwaliteitsvoller, innovatiever of flexibeler wordt. Mogelijke uitkomsten voor de leerkrachten omvatten onder andere motivatie, betrokkenheid, of stress. De maatschappelijke uitkomsten kunnen gerelateerd zijn aan sociaal welzijn (bv. jobcreatie) en aan algemene bijdrage aan de huidige maatschappij. Typisch voor HRM in de onderwijssector is het overkoepelende doel van goed onderwijs leveren en leerlingprestaties bevorderen.

b. Het management proces van HRM-beleid en praktijk: HR systeem

Een belangrijke factor in de relatie tussen HRM en HRM-uitkomsten ligt in de uitvoering van het beleid en praktijken. Het is van belang hierbij een onderscheid te maken tussen het beoogde, uitgevoerde en gepercipieerde HRM-beleid en praktijken (Wright & Nishii, 2007).

Het beoogde HRM-beleid en praktijken krijgt vaak vorm aan de top van een organisatie, waarbij beleidsmakers een set van HRM-beleid en praktijken vastleggen die volgens hen tot gewenste

uitkomsten zullen leiden. De input van werknemers hierbij kan erg waardevol zijn. Dit beoogde beleid wordt echter niet steeds letterlijk uitgevoerd door directe leidinggevenden die het beleid en de activiteiten implementeren, waardoor het uitgevoerde beleid kan verschillen van het beoogde. Daar waar het beoogde en uitgevoerde beleid bestaan op een objectief niveau, is het ook van belang rekening te houden met hoe dit beleid en deze praktijken gepercipieerd worden door de medewerkers. Het is meestal via deze gepercipieerde praktijken dat uiteindelijk ingespeeld wordt op de bovengenoemde HRM-uitkomsten.

c. De invloed van context voor HRM-beleid en praktijk

Aangezien men een organisatie niet kan loskoppelen van de context waarin die zich bevindt, is het binnen SHRM van groot belang het HRM-beleid en praktijk goed af te stemmen op de interne en externe omgeving (Leisink & Boselie, 2014; Paauwe, 2004). Binnen de externe context kan een onderscheid gemaakt worden tussen de institutionele context en de markt context. Daarbij zijn sommige contextvariabelen algemeen (bv. EU-wetgeving; welvaart in een land) en zijn anderen sector gebonden (bv. cao's en vakbonden; competitie). Wat de interne context betreft spelen diverse structurele en culturele kenmerken een belangrijke rol.

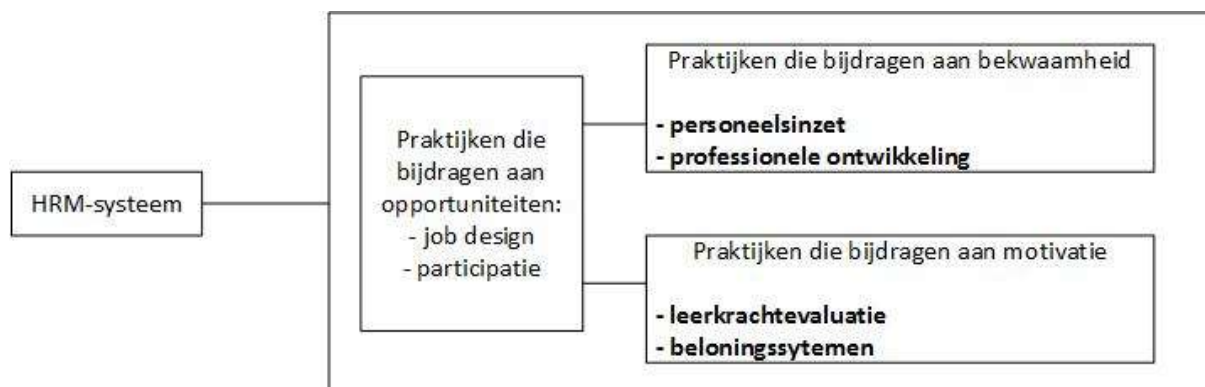
1.4 Afstemming van alle HRM-praktijken voor een sterk HRM-systeem in scholen

Om een sterk pakket aan HRM-praktijken en beleid te verkrijgen binnen scholen, raadt Runhaar (2016) aan om drie kenmerken van een HRM-systeem in rekening te brengen: het onderscheidend vermogen, consistentie en consensus.

1.5 Doel van de studie

In deze reviewstudie zullen we de praktijken die bijdragen aan bekwaamheid (personeelsinzet, professionele ontwikkeling) en praktijken die bijdragen aan motivatie (leerkrachtevaluatie, beloningssystemen) als aparte HRM-praktijken in onderwijs bespreken. Door deze praktijken initieel apart te bestuderen en vervolgens de bevindingen met elkaar te vergelijken, zullen we uiteindelijk een volledig beeld krijgen van een HRM-systeem in scholen. Dit komt ook tegemoet aan de beperking dat weinig onderzoek het hele HRM-systeem in zijn geheel bestudeert.

Met het oog op onze review verfijnen we het model van Runhaar (2016) als volgt (zie Figuur 2):



Figuur 2. Aangepast AMO-model

We schuiven hierbij volgende onderzoeksvragen naar voren:

1. Hoe wordt de HRM-praktijk gedefinieerd in de literatuur?
2. Welk deel van het managementproces wordt bestudeerd (beoogde, uitgevoerde of gepercipieerde)?
3. Welke externe contextvariabelen (markt en institutionele context) worden geïdentificeerd als faciliterend of beperkend?
4. Welke interne variabelen zijn belangrijk gezien de HRM-praktijk?
5. Wat zijn de effecten van de HRM-praktijk voor leerkrachten (bekwaamheid, motivatie, gedrag)?
6. Welke variabelen kunnen gezien worden als opportuniteiten?
7. In welke mate worden ook (indirecte) uitkomsten van de HRM-praktijk benoemd voor de school, leerling, of maatschappij?
8. Welke andere variabelen die niet opgenomen zijn in de waardeketen, worden vernoemd in de literatuur?
9. Welke variabelen zijn belangrijk in deze studies over de HRM-praktijk? Een overzicht.

In wat volgt gaan we eerst in op de gehanteerde methodologie van de reviews. Vervolgens wordt per personeelspraktijk een overzicht gegeven van de waardeketen waarin de bevindingen uit de beschikbare kwantitatieve en kwalitatieve literatuur samengevat worden. Ten slotte worden de resultaten per personeelspraktijk naast elkaar gelegd om zo zicht te krijgen op variabelen die voor meerdere personeelspraktijken belangrijk zijn en dus voor een goed algemeen personeelsbeleid in scholen. Een aangepast onderzoeksmodel voor deze onderzoekslijn wordt vervolgens naar voor geschoven.

Hoofdstuk 2: Methodologie en resultaten review studies

2.1 Methode

In deze review zijn empirische studies over personeelsinzet, professionele ontwikkeling, leerkrachtevaluatie, en beloningssystemen in het leerplichtonderwijs opgenomen. Hierbij zochten we naar peer reviewed artikels die verschenen tussen 2000 en 2016. Tabel 1 bevat een overzicht van de gehanteerde zoektermen per personeelspraktijk.

Tabel 1. Overzicht gehanteerde zoektermen per personeelspraktijk

Personeelspraktijk	Gehanteerde zoektermen
Personeelsinzet	'teacher selection', 'teacher recruitment', 'teacher assignment', 'teacher hiring', 'attracting teachers', 'identifying teacher candidates', 'teacher admission', 'teacher applicants'
Professionele ontwikkeling	'professional development' + 'teacher', 'professional learning' + 'teacher', 'teacher learning', 'teacher training'
Leerkrachtevaluatie	'teacher evaluation', 'teacher assessment', 'teacher appraisal'
Beloningssystemen	'teacher tenure', 'teacher career', 'expert teacher', 'senior teacher', 'teacher leader', 'teacher leadership', 'teacher promotion', 'teacher opportunities', 'teacher compensation', 'teacher benefits', 'extrinsic motivators', 'teacher recognition', 'teacher incentives', 'teacher contract', 'performance pay', 'merit pay'

Voor het identificeren van kwantitatieve studies voerden we een systematische review uit in verschillende internationale databanken: Web of Science (SSCI en ESCI) en EBSCO, aan de hand van volgende zoektermen: 'correlation', 'cluster', 'regression', 'quantitative', 'multilevel', 'path', 'SEM', 'structural equation', 'anova' en 'analysis of variance'.

Wat betreft de kwalitatieve review werd beroep gedaan op Web of Science (SSCI en ESCI) met volgende zoektermen: 'qualitative', 'case study', 'interview', 'focus group', 'narrative', 'observation', en 'Delphi study'.

Tabel 2 duidt voor elke personeelspraktijk aan hoeveel studies weerhouden zijn voor de review, na zorgvuldige screening van de abstracts en volledige artikels. De referenties van deze studies zijn opgenomen in Appendix per personeelspraktijk.

Tabel 2. Overzicht weerhouden studies per personeelspraktijk.

Personeelspraktijk	Kwantitatieve studies	Kwalitatieve studies
Personeelsinzet	9 studies	7 studies
Professionele ontwikkeling	104 studies	47 studies
Leerkrachtevaluatie	15 studies	21 studies
Beloningssystemen	15 studies	17 studies

2.2 Resultaten

a) Welke variabelen zijn belangrijk in de studies rond personeelsinzet?

In wat volgt wordt de waardeketen omtrent personeelsinzet besproken. Hierin worden steeds de bevindingen uit de beschikbare kwantitatieve en kwalitatieve literatuur samengevat (zie Figuur 3 achteraan dit hoofdstuk). Met het gebruik van kleuren geven we aan dat een studie significant was in één kwantitatieve studie (blauw) of in meerdere kwantitatieve studies (groen). Bijkomstige variabelen die enkel uit kwalitatief onderzoek naar voren komen, zijn aangeduid in het rood.

Daar waar kwantitatieve studies rond personeelsinzet enkel focussen op rekrutering en aanwerving, wordt in kwalitatieve studies ook aandacht besteed aan opdrachttoewijzing van leerkrachten binnen scholen.

Personeelsinzet wordt even vaak bestudeerd als uitgevoerde en als beoogde beleid en praktijk in kwantitatief onderzoek. De beoogde personeelsinzet wordt vaak geoperationaliseerd als ‘geprefereerde leerkrachtkenmerken’ in kwantitatieve studies die personeelsinzet bekijken vanuit de insteek van de school. Kwalitatieve studies focussen ook op gepercipieerde personeelsinzet, naast de beoogde en uitgevoerde personeelsinzet. Om dit gepercipieerde aspect te vatten worden zowel percepties van leerkrachten als schoolleiders gemeten. In mindere mate worden beleid en praktijken rond personeelsinzet (bv. prioriteiten bij opdrachttoewijzing, inspanningen bij rekrutering) op een andere manier onderzocht in de kwantitatieve en kwalitatieve literatuur.

Verschillende kwalitatieve studies omvatten extern beïnvloedende contextvariabelen, namelijk collectieve arbeidsovereenkomsten en het beleid op mesoniveau (bv. beleid in een Amerikaanse staat) op institutioneel vlak, en de beschikbare pool van sollicitanten op marktniveau. Slechts één kwantitatieve studie beschrijft extern beïnvloedende contextvariabelen, maar de meeste hiervan blijken niet significant te zijn. Slechts één variabele, namelijk gemiddelde ervaring van leerkrachten in een school, is significant. Deze variabele is volgens onze indeling echter een structurele intern beïnvloedende contextvariabele eerder dan een externe variabele. Verschillende andere structurele intern beïnvloedende variabelen zijn significant in meerdere studies: school type, school niveau en schoolprestatie. SES, locatie en het bestaan van een welkomstbonus zijn significant in

één kwantitatieve studie. De kwalitatieve review voegt nog schoolgrootte, charter status en middelen van de school toe als belangrijke interne schoolcontext variabelen voor personeelsinzet.

Naast de structurele intern beïnvloedende variabelen, nemen kwantitatieve studies in onze review ook vaak leerkrachtvariabelen mee in hun analyse. Daarom voegen we deze toe aan de waardeketen als belangrijke invloeden voor het HRM-systeem en HRM-uitkomsten. Deze leerkrachtvariabelen zijn vaak demografisch van aard, waarbij ervaring van leerkrachten en ras significant zijn in meerdere studies. Naast leerkrachtvariabelen is ook schoolleiderschap niet opgenomen in de oorspronkelijke waardeketen. Op basis van onze kwantitatieve en kwalitatieve review pleiten we ervoor om deze variabele toe te voegen. Vervolgens wordt in kwalitatieve studies ook verwezen naar andere personeelspraktijken, die we bijgevolg ook een plaats geven in de waardeketen. Verschillende studies nemen variabelen op die gezien kunnen worden als belangrijke opportuniteiten in scholen (bv. loopbaanmogelijkheden en nieuwe hervormingsmaatregelen).

Wanneer we op zoek gaan naar gerapporteerde significante uitkomsten van rekrutering, aanwerving en opdrachttoewijzing, blijken deze zelden bestudeerd te worden. Enkel kwantitatieve studies die vertrekken vanuit de insteek van de kandidaat, focussen op zulke uitkomsten. Deze variabelen zijn allen gesitueerd op het gedragsniveau, met leerkrachtretentie als vaakst voorkomende significante uitkomst. Eén kwalitatieve studie bestudeert ook een motivationele leerkrachtuitkomst, namelijk de tevredenheid van leerkrachten met de werkomstandigheden. In de kwalitatieve studies worden daarnaast ook twee organisatorische uitkomsten op schoolniveau blootgelegd, namelijk de coherentie van het instructieprogramma en het tempo waaraan vacatures opgevuld raken.

b) Welke variabelen zijn belangrijk in de studies rond professionele ontwikkeling?

In wat volgt wordt de waardeketen omtrent professionele ontwikkeling (afgekort als PD) besproken. Hierin worden steeds de bevindingen uit de beschikbare kwantitatieve en kwalitatieve literatuur samengevat (zie Figuur 4 achteraan dit hoofdstuk). Met het gebruik van kleuren geven we aan dat een studie significant was in twee, drie of vier kwantitatieve studie (blauw) of in meer dan vijf kwantitatieve studies (groen). Omwille van het grote aantal betrokken studies, worden in deze waardeketen geen variabelen benoemd die slechts in één studie significant zijn. Bijkomstige variabelen die enkel uit kwalitatief onderzoek naar voren komen, zijn aangeduid in het rood.

PD activiteiten kunnen onderverdeeld worden in vier groepen: samenwerkingsactiviteiten (bv. coaching, mentoring, professionele leergemeenschap, samenwerking), ‘updating’ activiteiten (bv. workshops, online bronnen, lezen), ongedefinieerde activiteiten (bv. aantal uren algemene PD gevolgd) en reflectieve activiteiten (bv. reflecteren, experimenteren). De waardeketen toont aan dat PD beleid en praktijk vooral bestudeerd wordt als uitgevoerde en gepercipieerde praktijk. Wanneer PD opgenomen is in een studie als een uitgevoerde praktijk, gaat dit vaak om een

beschrijving van een specifiek professionaliseringsinitiatief of de feitelijke aanwezigheid van leerkrachten op formele of informele PD activiteiten. In mindere mate gebruiken onderzoekers observationele data of gegevens verkregen van de schoolleider over praktijken op school om uitgevoerde PD te vatten. Kwalitatieve studies maken ook gebruik van documentanalyse. Wat de gepercipieerde PD betreft, gaat het vaak om de percepties die leerkrachten hebben omtrent de aanwezigheid of de stimulans omtrent bepaalde PD praktijken in hun school. Daarnaast wordt ook ingegaan op de persoonlijke waarden en percepties van leerkrachten omtrent PD in het algemeen, net als op percepties van leerkrachten omtrent hun engagement in PD, gemeten door vragenlijstonderzoek (kwantitatief) of interviews (kwalitatief). Beoogde PD praktijk en beleid wordt slechts in één kwantitatieve studie meegenomen en is dus verwaarloosbaar in vergelijking met de andere categorieën.

Verschillende kwantitatieve studies tonen een significante link tussen PD en andere personeelspraktijken, met name leerkrachtevaluatie. Dit toont het belang aan van een strategisch en geïntegreerd personeelsbeleid aangezien personeelspraktijken elkaar betekenisvol kunnen beïnvloeden.

De geselecteerde studies bevatten geen extern beïnvloedende variabelen op marktniveau. Daarentegen worden verschillende institutionele variabelen specifiek voor de onderwijscontext geïdentificeerd in kwalitatief onderzoek (bv. No Child Left Behind-beleid, noodzaak en verwachtingen omtrent uitvoering van verplicht curriculum, steun voor formele leerkrachtgroepen). Daarnaast wordt ook gewezen op maatschappelijke normen van collectivisme en op institutionele variabelen op districtniveau.

Wat betreft de structurele intern beïnvloedende variabelen, duiken school niveau, SES, en school type het vaakst op in studies. Etnische achtergrond van studenten, schoolgrootte en locatie worden in mindere mate genoemd in kwantitatieve studies. Kwalitatieve studies wijzen ook op het belang van organisatorische structuren die PD ondersteunen.

Naast de structurele intern beïnvloedende variabelen, nemen vele studies in onze review ook leerkrachtvariabelen mee in hun analyse. Deze worden daarom toegevoegd aan de waardeketen. Deze leerkrachtkenmerken zijn voornamelijk demografische variabelen, waarvan ervaring, geslacht, onderwijsachtergrond, verantwoordelijkheden, klasniveau en leeftijd in vijf of meer studies significant zijn. Bijkomstig zijn ook enkele algemene persoonlijkheidskenmerken van leerkrachten significant. Daarnaast voegen we ook schoolleiderschap toe aan de waardeketen aangezien deze variabele in diverse studies significant is. Transformationeel leiderschap en kenmerken van gedeeld leiderschap worden het frequentst genoemd, terwijl andere leiderschapsrollen (bv. instructioneel, charismatisch en algemeen leiderschap) in sommige studies geïdentificeerd worden.

Wanneer we opportuniteiten op scholen bekijken, verschijnt een wijde range aan variabelen, waarvan samenwerking, steun, participatieve besluitvoering, gedeelde visie en jobkenmerken (bv. autonomie, werkbelasting) de belangrijkste blijken te zijn. Andere significante opportuniteiten liggen in het schoolklimaat en het klasklimaat.

Bij het bestuderen van belangrijke uitkomstvariabelen in de geselecteerde studies, valt het op dat veel studies een significante relatie vinden tussen PD en bekwaamheid van leerkrachten. In het algemeen omvat dit de bekwaamheid van leerkrachten op vlak van vakdidactiek, terwijl enkele studies ook focussen op de inhoudelijke vakkennis van leerkrachten. Leerkrachten krijgen ook nieuwe ideeën en kennis door PD, zoals blijkt uit kwalitatief onderzoek. Wat betreft motivatie als een uitkomstvariabele, worden vooral professioneel welzijn en opvattingen en attitudes van leerkrachten vaak teruggevonden. Op vlak van gedrag wijzen de meeste studies op veranderingen in klaspartijen, ofwel in het algemeen ofwel gerelateerd aan een bepaald onderwerp. Een aantal studies focussen ook op veranderingen in interacties tussen leerkrachten of intenties voor gedragsveranderingen. Op basis van deze literatuurstudie merken we dat deze variabelen (bekwaamheid, motivatie en gedrag) sterk samenhangen. Daarnaast komen vele van deze variabelen ook terug als antecedenten van PD of als controlevariabelen. Zo vinden bijvoorbeeld meerdere studies dat opvattingen van leerkrachten ook hun gebruik van PD activiteiten kunnen beïnvloeden. Bijgevolg menen we dat het belangrijk is om in gedachten te houden dat de relatie tussen deze AMO variabelen en personeelsbeleid van een wederkerige aard is. Verder nuanceren verschillende kwalitatieve studies ook de potentiële impact van PD, wat belangrijk is om te onthouden wanneer leeruitkomsten bestudeerd worden.

Ten slotte worden verschillende uitkomstvariabelen geïdentificeerd op school- en maatschappij niveau. In kwantitatieve studies wordt het meest gefocust op leerlinguitkomsten, zij het als toegenomen leerlingcores of als algemeen en breder leren van leerlingen. Sommige studies vinden ook een link tussen PD en affectieve leerlingkenmerken, zoals tevredenheid van leerlingen. Daarnaast worden uitkomsten benoemd op schoolniveau die verwijzen naar schoolverbetering en schoolklimaat als uitkomstvariabelen. Kwalitatieve studies identificeren ook verschillende veranderingen op schoolniveau, zoals veranderingen in visie, professionele capaciteit en collectief leren. Er worden geen bijkomende werknemersuitkomsten gevonden in de literatuur omtrent PD.

c) Welke variabelen zijn belangrijk bij de studies rond leerkrachtevaluatie?

In wat volgt wordt de waardeketen omtrent leerkrachtevaluatie besproken. Hierin worden steeds de bevindingen uit de beschikbare kwantitatieve en kwalitatieve literatuur samengevat (zie Figuur 5 achteraan dit hoofdstuk). Met het gebruik van kleuren geven we aan dat een studie significant was in één kwantitatieve studie (blauw) of in meerdere kwantitatieve studies (groen). Bijkomstige variabelen die enkel uit kwalitatief onderzoek naar voren komen, zijn aangeduid in het rood.

De waardeketen toont aan dat leerkrachtevaluatie beleid en praktijk vooral bestudeerd wordt als uitgevoerde praktijk in de kwantitatieve studies in deze review. De score die toegekend wordt aan leerkrachten in het kader van leerkrachtevaluatie wordt hiervoor vaak gebruikt. Dit is hoofdzakelijk het geval in de Amerikaanse context, waar men formele leerkrachtevaluatiesystemen heeft die zulke scores toekennen. Daarnaast worden ook gepercipieerd en beoogd beleid en praktijk onderzocht, zij het minder vaak. De grote meerderheid van de kwalitatieve studies combineert verschillende aspecten van leerkrachtevaluatie (beoogd, uitgevoerd, en/of gepercipieerd), als een gevolg van kwalitatieve onderzoekstechnieken die dit mogelijk maken (bv. interviews, observaties, document analyse en focusgroepen). Bijna alle kwalitatieve studies omvatten een vorm van gepercipieerde praktijken, terwijl uitgevoerde en beoogde praktijken en beleid ook frequent voorkomen.

Verschillende kwalitatieve studies wijzen op een belangrijk link tussen leerkrachtevaluatie en andere domeinen van personeelsbeleid, zoals bijvoorbeeld personeelsinzet, professionele ontwikkeling en beloningssystemen. Dit wijst op het belang van een geïntegreerd en systematisch personeelsbeleid.

Terwijl de kwantitatieve onderzoeksliteratuur geen extern beïnvloedende variabelen identificeert omtrent leerkrachtevaluatie, wijzen verschillende kwalitatieve studies wel op het belang van de externe context. De meerderheid van de geïdentificeerde variabelen zijn institutionele variabelen die specifiek zijn voor de onderwijscontext (bv. wetgeving, beleid en vakbonden). Bijkomend worden verschillende culturele factoren erkend. Daarnaast wordt de staat van de arbeidsmarkt benoemd als belangrijk marktvariabele.

Wat de intern beïnvloedende schoolvariabelen betreft, vinden we één variabele die significant is in meerdere kwantitatieve studies, namelijk SES. Andere significante interne contextvariabelen zijn stedelijkheid (locatie), schoolgrootte, loon van leerkrachten, en ouderbetrokkenheid, hoewel deze elk slechts in één kwantitatieve studie significant bleken. Slechts enkele kwalitatieve studies gaan in op structurele schoolkenmerken. Deze wijzen op de rol van tijd, andere aspecten van schoolbeleid, en schoolniveau.

Vervolgens wijzen de studies in onze review ook op het belang van leerkrachtkenmerken, waardoor deze toegevoegd zijn aan de waardeketen. In de kwantitatieve studies worden vaak demografische leerkrachtkenmerken bestudeerd, zoals bijvoorbeeld ervaring, dat significant is in verschillende studies. Kwalitatieve studies wijzen ook nog op opleiding van leerkrachten, inzicht van leerkrachten omtrent evaluatie, positie en status.

Daarnaast voegen we ook schoolleiderschap toe aan de waardeketen aangezien deze variabele significant blijkt te zijn in diverse kwantitatieve studies. Vanuit een kwalitatieve insteek wordt zowel gekeken naar algemeen leiderschap als leiderschap dat zich focust op de uitvoering van leerkrachtevaluatie.

Slechts enkele opportuniteiten op scholen worden geïdentificeerd. Samenwerking blijkt hierbij de meest belangrijke variabele te zijn, maar ook leerkrachtautonomie en schoolcultuur spelen een rol.

Uitkomsten op leerkrachtniveau situeren zich in kwantitatieve studies vooral op het niveau van gedrag. Verschillende studies bestuderen namelijk het ondernemen van bepaalde professionele leeractiviteiten als reactie op de feedback die leerkrachten ontvangen hebben tijdens de evaluatie. Hierbij kan de link gemaakt worden tussen leerkrachtevaluatie en professionele ontwikkeling (als personeelspraktijk), hoewel deze specifieke studies de individuele acties van leerkrachten bestuderen en niet het schoolbeleid met betrekking tot professionele ontwikkeling. Toch menen we dat dit aantoont dat het nodig is om aandacht te hebben voor systematisch personeelsbeleid waarin de verschillende HRM-praktijken en beleid verweven zijn. Kwalitatieve studies focussen op het potentieel van leerkrachtevaluatie voor bekwaamheid, motivatie, en gedrag van leraren, maar benadrukken ook mogelijke negatieve uitkomsten van leerkrachtevaluatie, vooral op vlak van motivatie.

Ten slotte merken we dat kwantitatieve studies afkomstig uit de Verenigde Staten focussen op de mogelijke effecten en het potentieel van leerkrachtevaluatie op leerlingresultaten. In kwalitatieve studies duiken ook enkele waarschuwen op omtrent mogelijke negatieve gevolgen voor leerlingen als teveel tijd gependend wordt aan leerkrachtevaluatie. Eén kwalitatieve studie benoemt nog het potentieel van leerkrachtevaluatie voor het verbeteren van de kwaliteit van onderwijs in de school als geheel.

d) Welke variabelen zijn belangrijk bij de studies rond beloningssystemen?

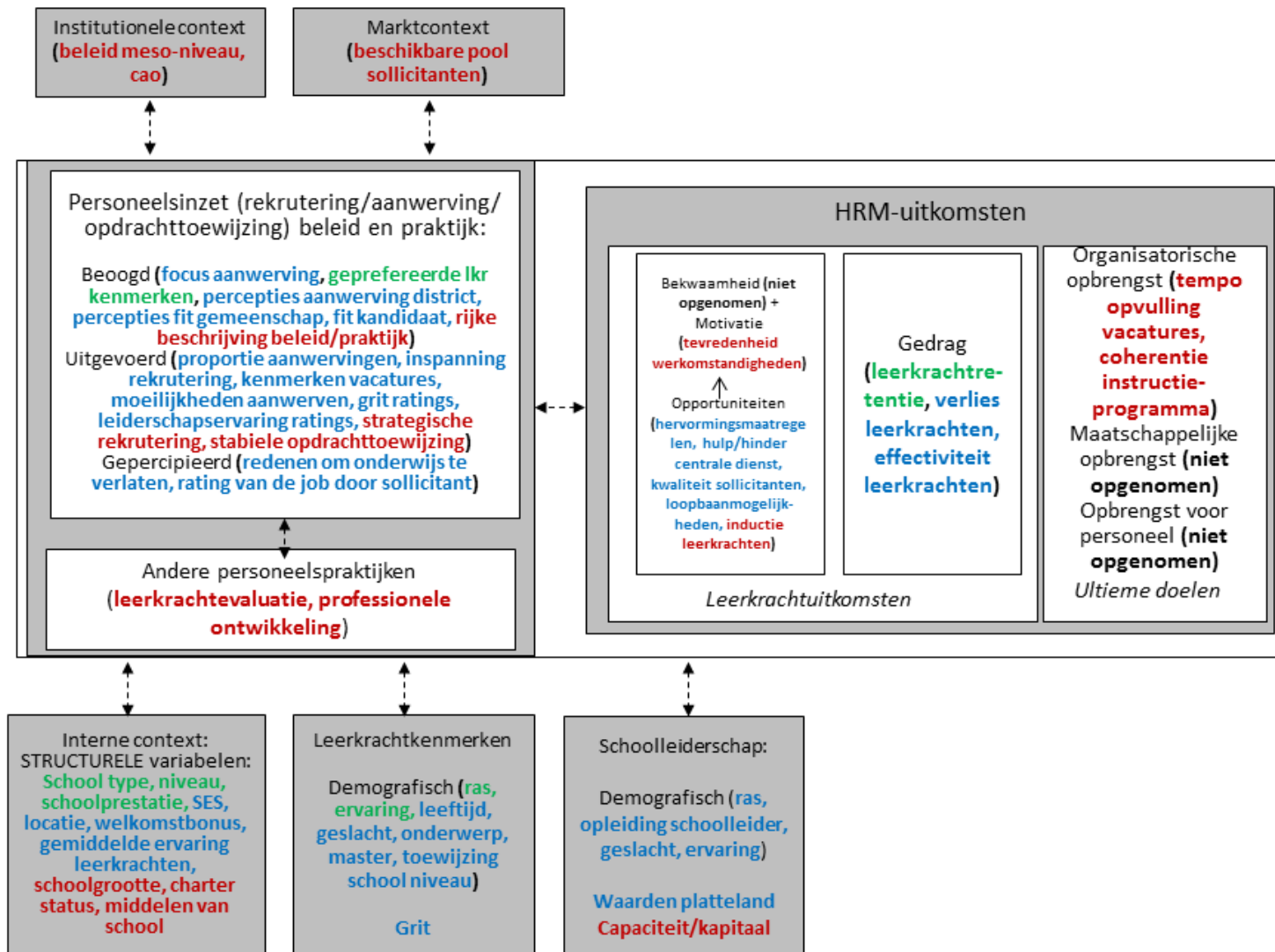
In wat volgt wordt de waardeketen omtrent beloningssystemen besproken. Hierin worden steeds de bevindingen uit de beschikbare kwantitatieve en kwalitatieve literatuur samengevat (zie Figuur 6 achteraan dit hoofdstuk). Met het gebruik van kleuren geven we aan dat een studie significant was in één kwantitatieve studie (blauw) of in meerdere kwantitatieve studies (groen). Bijkomstige variabelen die enkel uit kwalitatief onderzoek naar voren komen, zijn aangeduid in het rood.

Beleid en praktijk omtrent beloningssystemen worden in de literatuur beschreven als financieel of niet-financieel van aard. Zowel kwantitatieve als kwalitatieve studies focussen voornamelijk op niet-financiële motivatoren (bv. teacher leadership en erkenning van leerkrachten). Daarnaast ligt de nadruk in kwantitatieve en kwalitatieve literatuur voornamelijk op het gepercipieerde beloningsproces, waarbij vooral percepties van leerkrachten gemeten worden. Minder studies meten ook uitgevoerde beloningssystemen zoals verschillende loonschalen of bijkomstige verantwoordelijkheden van leerkrachten. Het beoogde beloningsproces in vergelijking amper onderzocht, zowel kwantitatief als kwalitatief. Dit toont aan dat beloningssystemen (vooral niet-financiële beloningen) vaak niet geformaliseerd zijn in scholen, maar misschien wel informeel gebruikt worden in de praktijk.

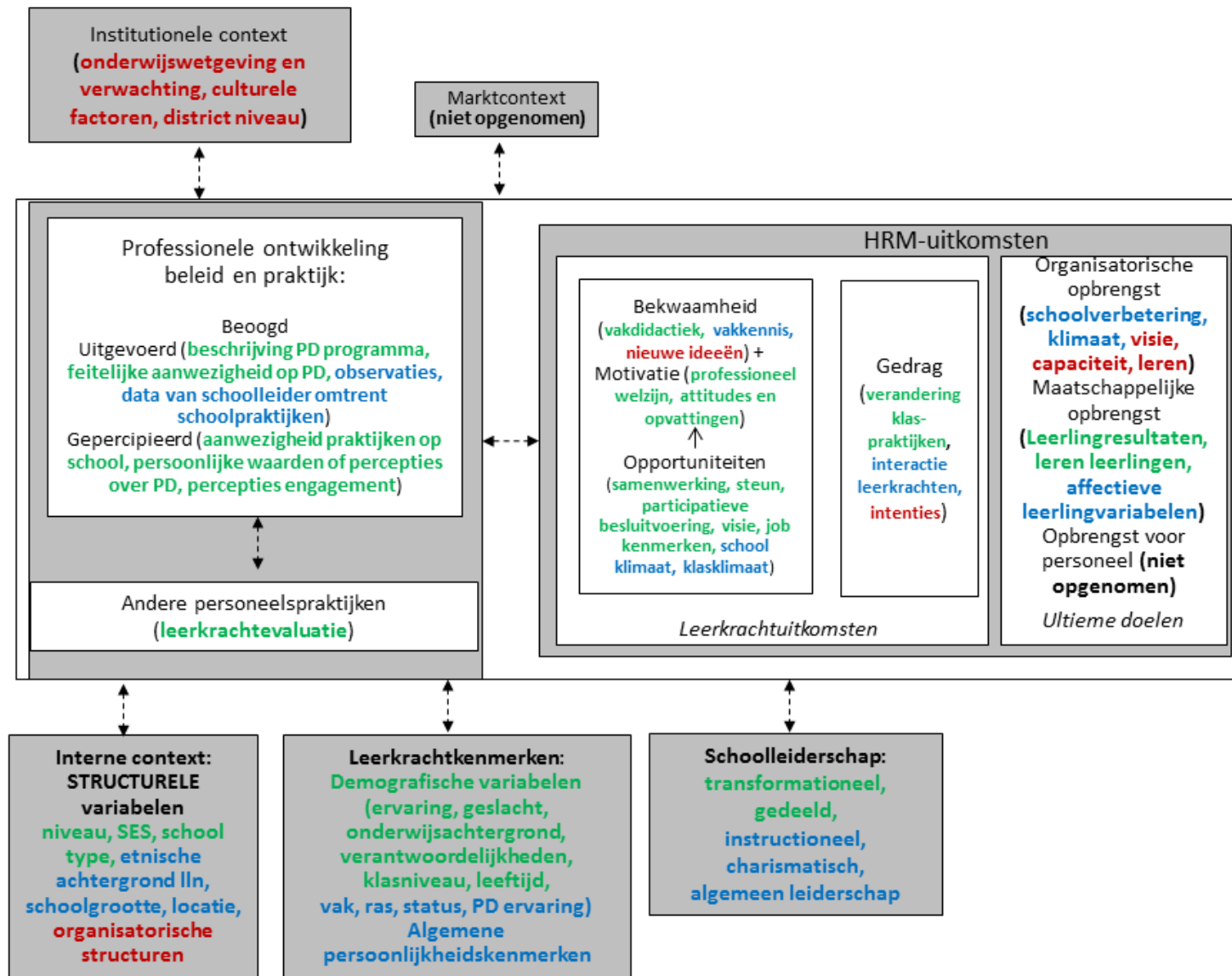
Extern beïnvloedende contextvariabelen vinden we slechts terug in vijf kwalitatieve studies, die allen de institutionele beleidscontext meten. Intern beïnvloedende schoolvariabelen worden vaker opgenomen door auteurs, vooral in kwantitatief onderzoek. De belangrijkste schoolcontext variabelen gebaseerd op kwantitatief onderzoek blijken te zijn: locatie, schoolgrootte, SES, middelen van de school, en salaris van leerkrachten. Schoolniveau wordt zowel kwantitatief als kwalitatief onderzocht.

Uitkomsten voor leerkrachten op vlak van bekwaamheid, motivatie en gedrag worden frequent gerapporteerd. Hier zijn we dat kwantitatieve studies vooral rapporteren over variabelen die te maken hebben met verloop van leerkrachten (feitelijk verloop en intentie om school te verlaten), terwijl motivationele uitkomsten dominant zijn in kwalitatieve studies, met betrokkenheid van leerkrachten en gevoel van doelmatigheid als vaakst voorkomende uitkomsten. Wat betreft uitkomsten op school-, leerling- of samenlevingsniveau kunnen we concluderen dat kwantitatieve studies soms variabelen op leerlingniveau opnemen, terwijl kwalitatieve studies uitkomsten op schoolniveau bekijken.

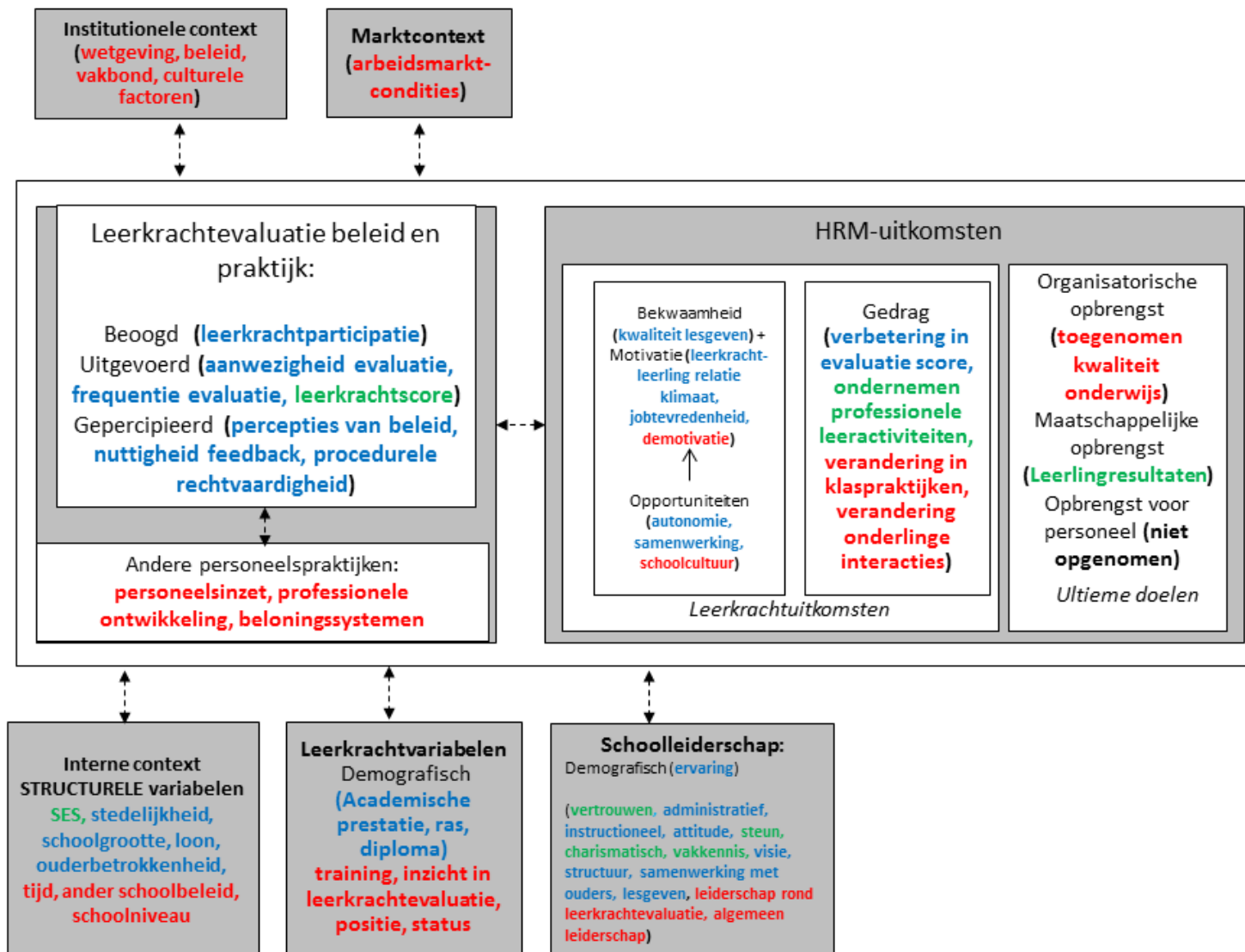
Opportunities worden frequent geïntegreerd in zowel kwantitatief als kwalitatief onderzoek. Voornamelijk variabelen omtrent schoolcultuur, schoolklimaat en samenwerking zijn hierbij veelvoorkomend. Met betrekking tot variabelen die niet initieel tot de waardeketen behoorden, merken we opnieuw dat twee categorieën variabelen naar voren komen die we in eerdere reviews ook al teruggevonden hadden: demografische leerkrachtvariabelen (voornamelijk in kwantitatief onderzoek) en schoolleiderschap (voornamelijk in kwalitatief onderzoek).



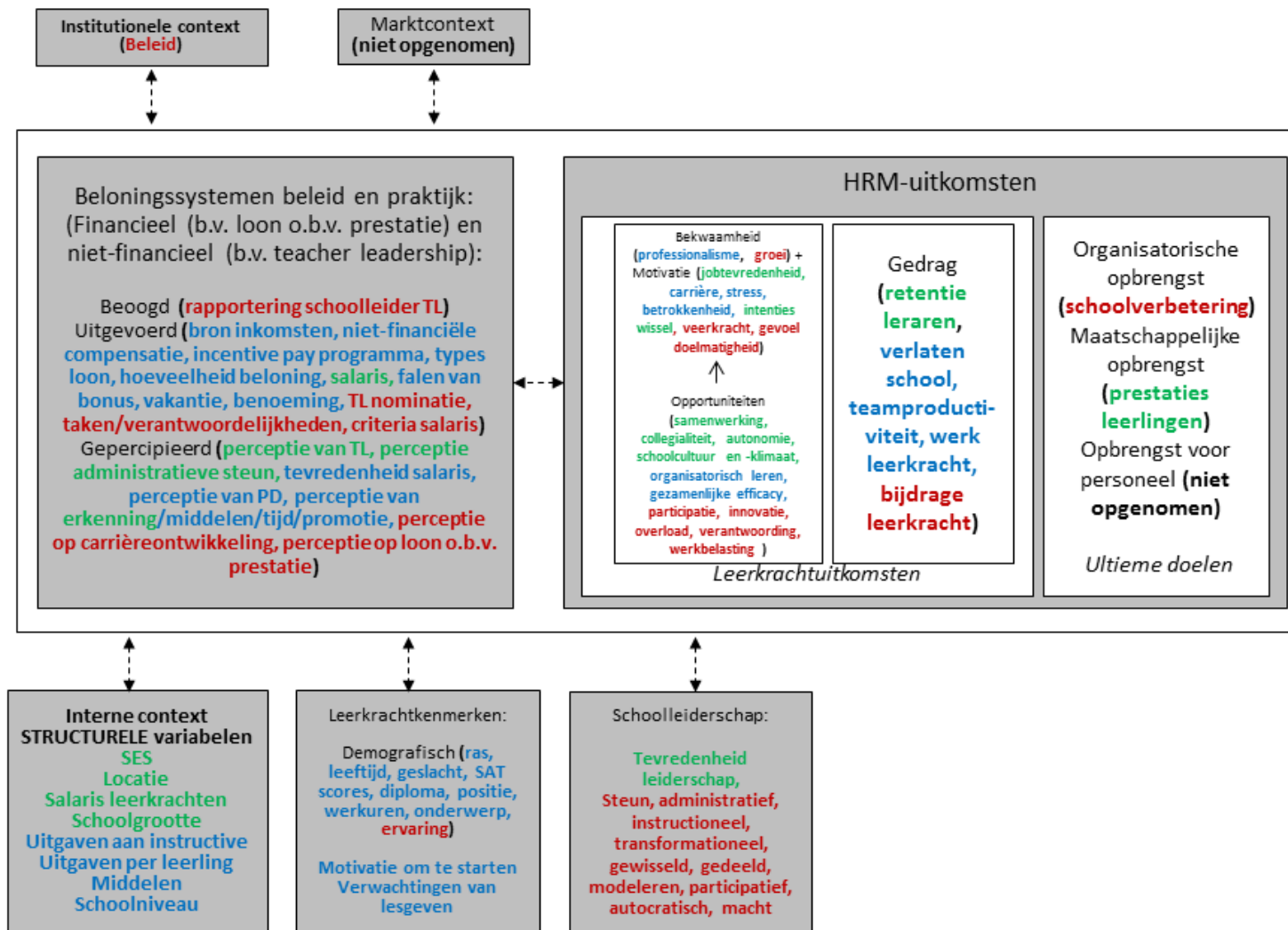
Figuur 3. Waardeketen voor personeelsinzet, gebaseerd op kwantitatief en kwalitatief onderzoek



Figuur 4. Waardeketen voor professionele ontwikkeling, gebaseerd op kwantitatief en kwalitatief onderzoek



Figuur 5. Waardeketen voor leerkrachtevaluatie, gebaseerd op kwantitatief en kwalitatief onderzoek



Figuur 6. Waardeketen voor beloningssystemen, gebaseerd op kwantitatief en kwalitatief onderzoek

Hoofdstuk 3: Conclusie

Dit rapport bestaat uit vier reviews: één voor elke HRM-praktijk die we naar voren hebben geschoven (personeelsinzet, professionele ontwikkeling, leerkrachtevaluatie en beloningssystemen). We zijn ons echter bewust van de beperking die het apart bestuderen van deze personeelspraktijken met zich meebrengt gezien het belang van de afstemming tussen deze personeelspraktijk en de visie van de school. De keuze om deze toch apart te bestuderen aan de hand van vier reviews werd echter ingegeven vanuit de mogelijkheid om de afzonderlijke bevindingen per review te integreren om zo inzicht te krijgen in het volledige HRM-systeem in scholen. Daarenboven is het zo dat praktisch gezien er ook weinig tot geen onderzoek voor handen is dat meerdere HRM-praktijken bestudeert. Dit werd ook bevestigd in onze reviews waarin we geen empirische studies vonden over de vier praktijken en slechts een beperkt aantal studies, vooral kwalitatieve studies, die een link vermelden tussen verschillende praktijken.

In deze conclusie willen we dan ook een geïntegreerd overzicht bezorgen op basis van de vier afzonderlijke reviews. We vergelijken hiertoe de vier waardenketens die we na elke review hebben gepresenteerd en zoeken de gemeenschappelijke variabelen in deze waardenketens die als belangrijk zijn geïdentificeerd in de literatuur voor verschillende HRM-praktijken. Deze variabelen presenteren we dan ook in een geïntegreerde waardenketen (Figuur 7). Deze omvat variabelen die minstens in drie reviews als belangrijk werden bestempeld (aangeduid in het zwart in de figuur) en variabelen die in twee reviews als belangrijk werden bevonden (aangeduid in het paars in de figuur).

Met betrekking tot de externe contextvariabelen blijken twee variabelen belangrijk met betrekking tot de institutionele context: beleid komt voor in vier reviews en de invloed van de vakbond komt voor in twee reviews (personeelsinzet en leerkrachtevaluatie). Variabelen gerelateerd aan de arbeidsmarkt komen niet veelvuldig voor in de reviews.

Verschiedende schoolcontextvariabelen worden in de empirische literatuur naar voren geschoven als belangrijk voor alle vier de HRM-praktijken. Concreet gaat het om schoolniveau, SES en schoolgrootte. Ook schoollocatie wordt in drie reviews (met uitzondering van leerkrachtevaluatie) als belangrijk gevonden. Daarnaast zijn er een aantal variabelen die in twee reviews vermeld worden: middelen van de school, schooltype en schoolprestatie.

Zoals reeds eerder aangegeven werden leerkracht- en schoolleiderschapskenmerken toegevoegd aan alle waardenketens. Hierbij worden verschillende demografische leerkrachtvariabelen in minstens drie reviews vermeld: ras, ervaring, geslacht, leeftijd en vak. Ook positie en status zijn demografische leerkrachtvariabelen die in twee reviews naar voren komen. Met betrekking tot schoolleiderschap is er slechts één demografische variabele, namelijk ervaring, die in twee reviews vermeld wordt. Er zijn echter verschillende leiderschapstijlen die naar voren komen in de

literatuur: transformationeel en instructioneel leiderschap worden het meest genoemd (drie reviews of meer). Maar ook administratief, gedeeld en algemeen leiderschap en de steun van de leider komen elk in twee reviews voor.

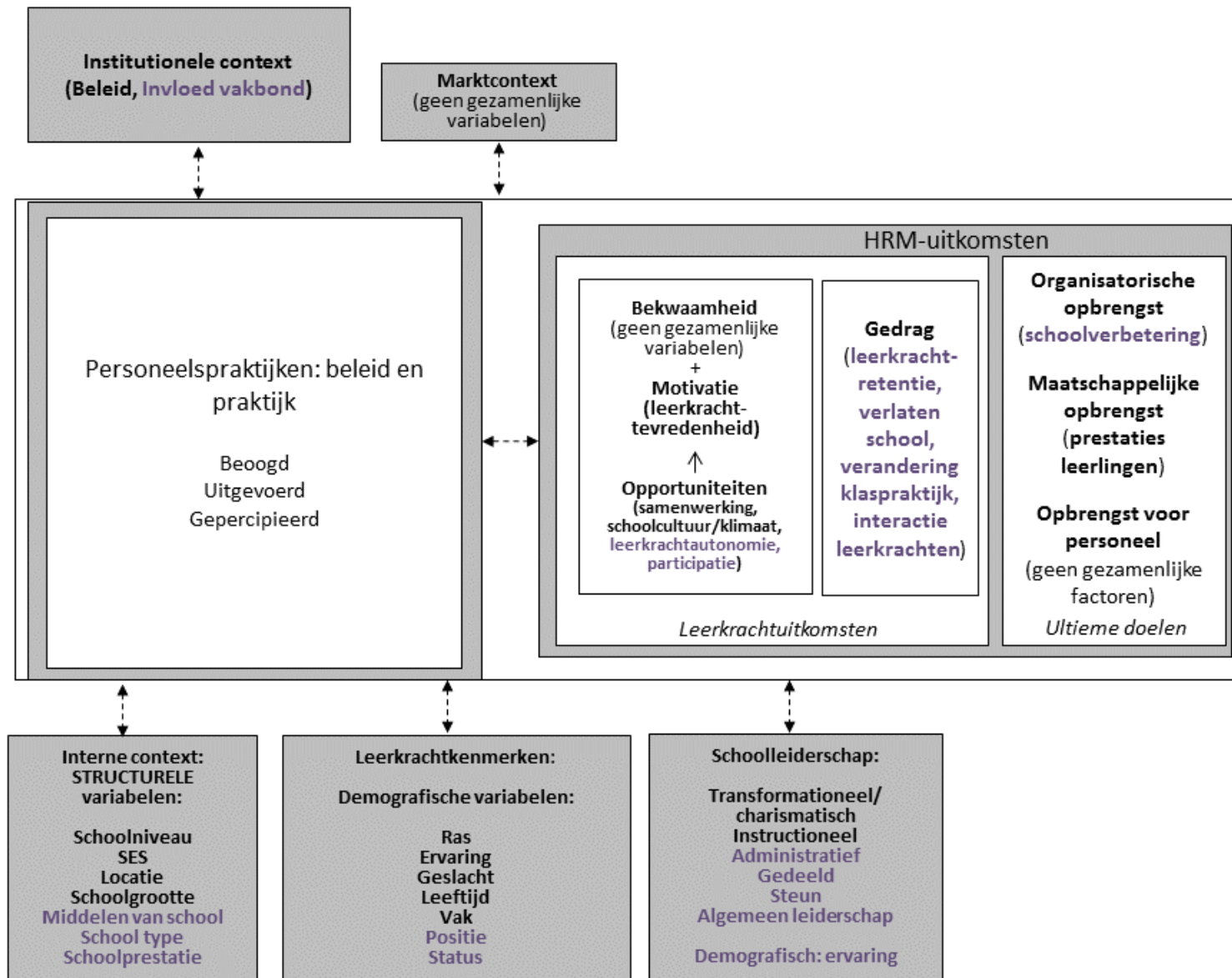
Alle reviews rapporteren uitkomsten op leerkrachtniveau. Deze bevinden zich vooral op het niveau van motivatie en gedrag. Op het niveau van bekwaamheid is er geen gemeenschappelijke uitkomst over de reviews. Met betrekking tot motivatie duikt de tevredenheid van leerkrachten op in drie reviews (met uitzondering van professionele ontwikkeling). Gerelateerd aan het gedrag van leerkrachten zien we verschillende variabelen die elk in twee reviews genoemd worden: leerkrachtretentie, het verlaten van de school door leerkrachten, veranderingen in de klaspraktijk en de interactie tussen leerkrachten. Ruimere opbrengsten worden ook gerapporteerd: als organisatorische opbrengst gaat het om schoolverbetering dat voorkomt in twee reviews en de maatschappelijke opbrengst situeert zich op het niveau van prestaties van de leerlingen in minstens drie reviews (met uitzondering van personeelsinzet).

In de literatuur worden er ook verschillende opportuniteiten binnen de schoolcontext geïdentificeerd. Samenwerking tussen leerkrachten en schoolcultuur/klimaat komen in minstens drie reviews voor (met uitzondering van personeelsinzet). Ook leerkrachtautonomie en -participatie worden benoemd als belangrijk in twee reviews.

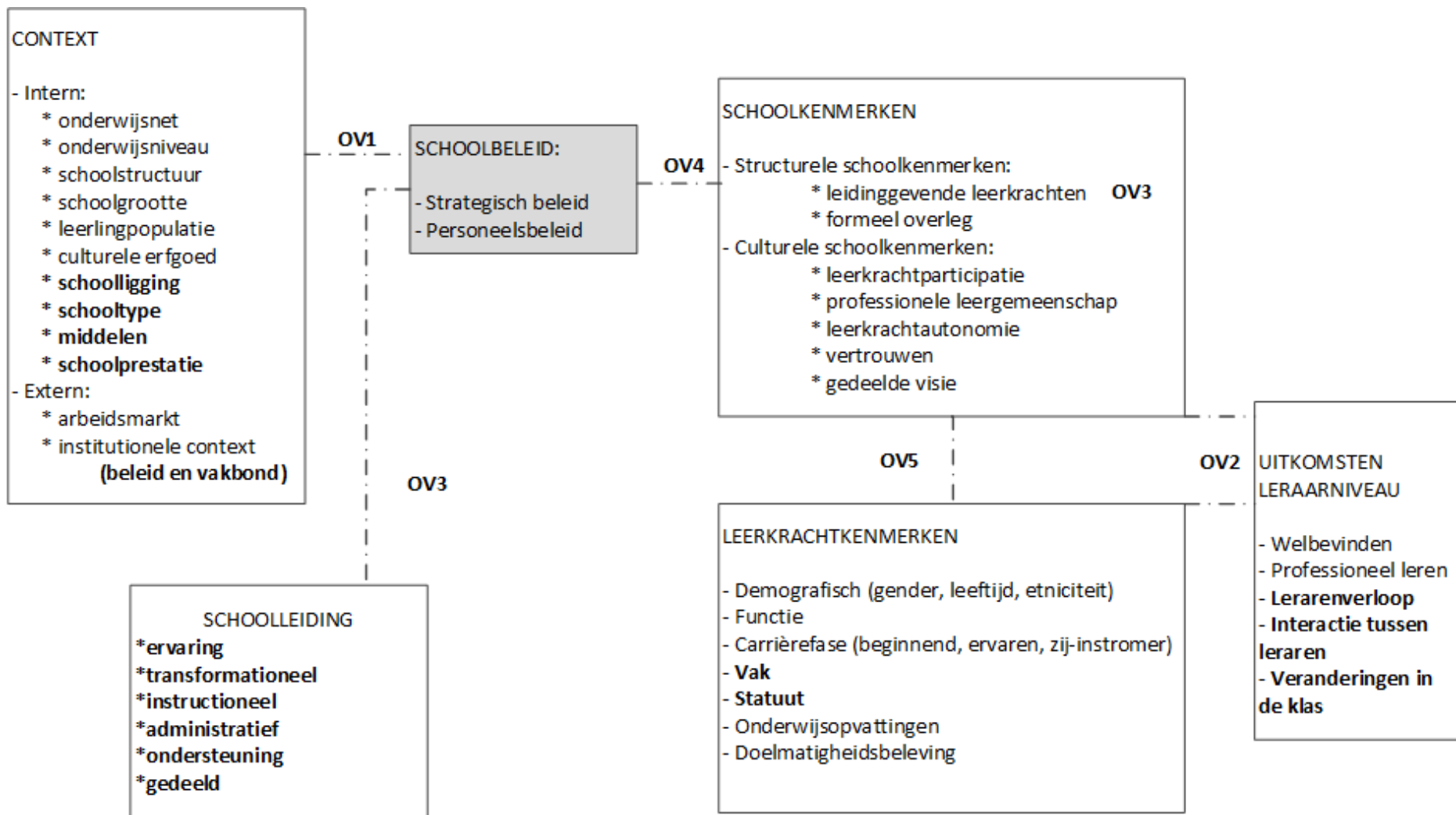
Bij het vergelijken van de geïntegreerde waardenketen in Figuur 7 en het oorspronkelijke onderzoeksmodel dat wij bij aanvang van het project vooropstelden (zie Appendix 6), kunnen we concluderen dat beide modellen heel wat variabelen gemeen hebben. De reviews hebben echter wel geleid tot een aantal bijkomende inzichten met betrekking tot de belangrijke variabelen voor personeelsbeleid in scholen. Wij hebben dan ook ons oorspronkelijk onderzoeksmodel aangevuld met deze bijkomende inzichten. Dit aangevulde onderzoeksmodel is opgenomen in Figuur 8. Hierbij willen we benadrukken dat we enkel variabelen hebben toegevoegd aan het model. Hoewel een aantal variabelen uit het oorspronkelijke onderzoeksmodel niet voorkomen in de geïntegreerde waardenketen, werden deze wel in de individuele reviews als belangrijk naar voren geschoven. Een voorbeeld hiervan is de doelmatigheidsbeleving van leerkrachten. Deze variabelen behouden we dus uiteraard in ons onderzoeksmodel.

De aangevulde variabelen in het onderzoeksmodel zijn de volgende: bij **institutionele context** kunnen wij specificeren welke variabelen hier cruciaal zijn en voegen we dan ook het beleid en de invloed van de vakbond toe aan het model. Ook bij de **interne schoolcontextvariabelen** kunnen we op basis van de literatuurstudie volgende variabelen toevoegen: schoolligging, schooltype, de middelen van de school en schoolprestatie. Vak en statuut worden aangevuld bij de demografische **leerkrachtkenmerken**. Ook **leiderschap** kunnen we meer specificeren op basis van onze reviews. Hiertoe voegen we dan ook de verschillende leiderschapsstijlen toe die uit de reviews naar voren komen als cruciaal alsook het demografische leiderschapskenmerk ervaring. De **uitkomsten op leerkrachtniveau** worden ook aangevuld. Hierbij zien we dat vooral de uitkomsten op

gedragsniveau initieel niet in het onderzoeksmodel werden opgenomen. Lerarenverloop, interactie tussen leraren en veranderingen in de klas worden dus toegevoegd.



Figuur 7. Geïntegreerde waardenketen voor de 4 personeelspraktijken



Figuur 8. Aangepast onderzoeksmodel op basis van de reviews

Introduction

This report provides a synthesis of the literature on personnel policy in education for four common HRM-practices (staffing, professional development, teacher evaluation, and reward systems). In order to thoroughly analyze the literature, we decided to first focus on the literature that reports on quantitative studies per personnel practice. In a second phase, we analyzed the qualitative evidence per personnel practice. This way, in the first phase, we mapped the variables that are described as influential from a quantitative viewpoint, thus with larger samples that allow to identify significant relationships among these variables. By adding the qualitative insights during the second phase, we gained a more detailed understanding about how these significant relationships work. Each review resulted in a description of the value chain, summarizing key antecedents and outcomes for that specific HRM-practice.

After completing the individual reviews per HRM-practice, a comparison was made to identify those variables that are crucial for several personnel practices and hence, for a good general personnel policy in schools. Based on this information, we assessed the research model which we presented earlier in our research proposal for this research line and alterations are discussed.

With regards to the selection and coding of the studies included in this report, it is important to note that all abstracts and full texts with regards to the same review (e.g., quantitative review on teacher evaluation) were read and coded by the same researcher to ensure consistency during this review process. However, any issues or doubts were discussed during regular meetings between the authors. During these meetings, inclusion criteria were refined when necessary. In addition, several abstracts or full texts about which doubts persisted with regards to inclusion or interpretation of variables, were independently coded by the second researcher. We then met to discuss our findings and resolve all interpretative discrepancies.

Chapter 1: Theoretical framework

1.1 Strategic Human Resource Management (SHRM) in education

The impact of teachers on the effectiveness of schools has been widely recognized (Hattie, 2009). There is a growing interest in the potential that a good personnel policy holds with regards to increasing the quality of the teaching team and, consequently, the effectiveness of the school. For instance, Loeb, Kalogrides, and Béteille (2012) described that attracting and hiring effective teachers, assigning teachers to students in a more equitable fashion, and retaining excellent teachers can play an important role in effective schools. Personnel policy as a concept has been through a transformation in the past decennia from a more bureaucratic approach to a human resource management (HRM) approach (Armstrong & Taylor, 2014). Building on the literature about organizations and management, HRM can be defined as people management (Knies & Leisink, 2014) and encompasses a strategic, integrated, coherent approach about hiring, development, and wellbeing of employees in an organization (Armstrong & Taylor, 2014). In a HRM approach, a strategic and pro-active policy is central in which the realization of the organization's goals is crucial and the personnel policy is integrated in the broader organizational policy (Middlewood & Lumby, 1998).

In HRM, the attainment of goals is of central importance (Armstrong & Taylor, 2014). While US scholars typically put a heavy emphasis on financial and organizational outcomes, other views reflect a more balanced approach (Paauwe, 2004) through also identifying desired (long term) goals for the individual and society, next to organizational goals (Boselie, 2014; Boxall & Purcell, 2011).

In the educational field, strategic HRM (SHRM) is an increasingly popular HRM approach (Smylie, Miretzky, & Konkol, 2004). SHRM is focused on aligning the goals of the school and the development of HRM-practices, the linkage between the school context and HRM-practices, and the fit between different HRM-practices within a school (Becker & Huselid, 2006; Boselie, 2014). As such, at the head and heart of a strategic HRM-policy lie meaningful school goals, which are essential, sufficiently operationalized, and take the school context into account. All stakeholders should have a clear idea of how their personal goals relate to these organizational goals, in order to obtain an optimal 'line of sight' (Leisink & Boselie, 2014).

1.2 Which HRM-practices are common in education?

Already in 1982, Tichy, Fombrun and Devana discussed the concept of strategic HRM. They argued that three elements are of importance for a successful organization: mission and strategy, organization structure, and HRM. Hence, these authors put forward HRM as a strategic part of the

organization and claim that the three elements should be aligned with one another. Together these aspects all impact performance (both on the individual level and on the organizational level). In their classic HR-cycle, Tichy et al. (1982) introduced four generic HR-practices that are linked to performance in one cycle which they claim, should be present in all organizations: 1) selection, 2) appraisal, 3) rewards, and 4) development (Figure 1).

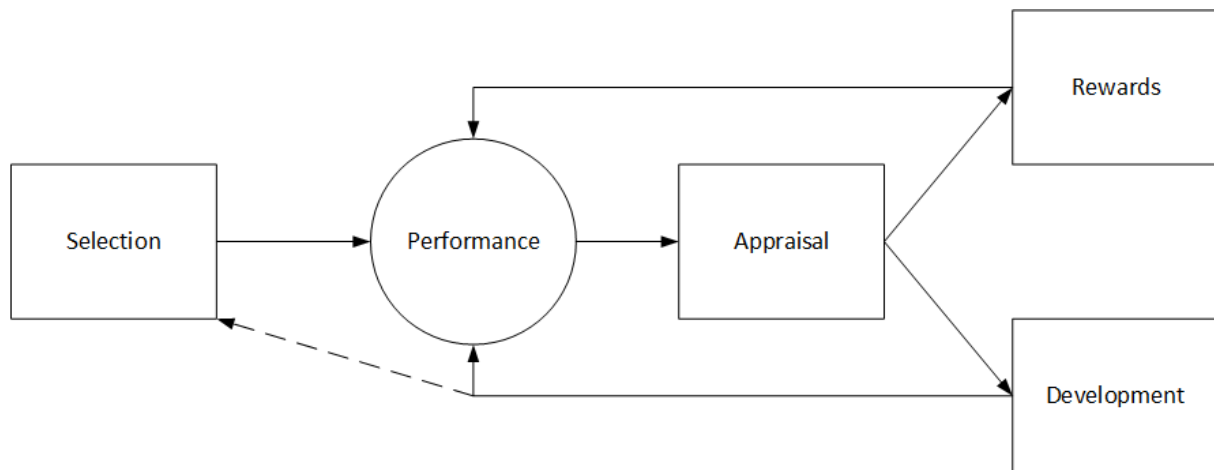


Figure 1. The classic HR-cycle of Tichy, Fombrun and Devanna (1982)

However, in more recent years, there has been a discussion about whether such ‘best universal HR practices’, as Tichy et al. (1982) put forward, really exist or if the relevance of HR-practices and their effectiveness are more context-specific (Clinton & Guest, 2013). In this regard, the difference between profit and non-profit organizations should not be ignored (Knies, Boselie, Gould-Williams & Vandenabeele, 2015).

Therefore, Runhaar (2016) puts forward a conceptualization of HRM that helps schools to create a high-quality and committed teacher team. She relates her conceptualization both to strategic HRM and AMO theory of performance. Hence, this means that Runhaar (2016), on the one hand, argues that HRM practices should be related to the goals and strategy of the organization. On the other hand, Runhaar (2016) states that HRM-practices should be Ability, Motivation, and Opportunity (AMO) enhancing. The AMO model is one of the most commonly used theoretical frameworks in strategic HRM (Boselie, 2014) and argues that organizational interests are best served when HRM practices are designed to contribute to the ability (A), motivation (M), and opportunities (O) of employees (Knies & Leisink, 2014; Runhaar, 2016; Wright & Nishii, 2007). The underlying rationale is that people perform well when they not only have the necessary skills and knowledge (ability), but also want to do the job and are incentivized (motivation), and receive the necessary support and possibilities in their work environment to effectively do their job (opportunity) (Appelbaum, Bailey, Berg, & Kalleberg, 2001; Boxall & Purcell, 2011). These AMO’s will ultimately result in certain employee behaviors (Leisink & Boselie, 2014).

In her conceptual framework, Runhaar (2016) distinguishes an HRM-system from HRM-policy and HRM-practices. More specifically, policy refers to the kind of HRM-practices an organization envisions related to their mission, strategy, and the organization structure, while practice refers to the concrete manner and concrete activities used to put a policy in practice. An HRM-system is then the bundle of several HRM-policies and HRM-practices that an organization uses.

More specifically, in the educational context, Runhaar (2016) puts forward the following HRM-practices as relevant related to the AMO-theory (Figure 2):



Figure 2. HRM-practices related to AMO-theory (based on Runhaar, 2016)

The *ability enhancing practices* are aimed at having competent teachers in the school and increasing the knowledge, skills, and abilities of teachers. Two HRM-practices are especially aimed at this, namely staffing and professional development. **Staffing** deals with the recruitment and selection of new teachers from outside the school. Also, staffing contains the teacher assignment of all teachers within the organization. **Professional development** as an HRM-practice aspires the stimulation of continuous professionalization of teachers. Here, schools should decide on what should be learned by teachers, but also schools should take into account how teachers should learn (i.e., formal and informal learning activities).

The *motivation enhancing practices* have as primary objective to increase teacher motivation for their job. Two common HRM practices are put forward with this aim: performance appraisal and reward systems. **Performance appraisal** (or teacher evaluation which is a synonym) has both formative and summative objectives. In essence, it holds teachers accountable, but is also a mean to improve teachers' practice. Both objectives require accurate assessments of teachers' performance based on a clear description of teacher standards. **Reward systems** can be financial (e.g., merit pay), although this is still rare in the educational context, or non-financial. Research has

shown that teachers are highly intrinsically motivated, hence schools should pay attention to teachers' intrinsic motivators in order to stimulate such intrinsic motivators (e.g., providing positive feedback, allocation of a challenging project, development opportunities).

The *opportunity enhancing practices* provide teachers with opportunities to put their abilities and motivations in practice in their daily work. Hence, as we see it, these opportunity enhancing practices provide a stimulating work environment for teachers in the school. In this regard, these practices can be seen less as individual HRM practices, but rather function as general stimulants within the school for the ability and motivation of teachers. Two stimulants are put forward as opportunity enhancing: job design and participation. **Job design** deals with the job characteristics leading to positive teacher outcomes. Related to the self-determination theory (SDT) of Deci and Ryan (1985), three job characteristics can stimulate the intrinsic motivation of teachers: providing teacher autonomy, taking into account teachers' self-efficacy, and allowing teacher interaction and collaboration. The more these characteristics are present in the school, the more teachers will feel motivated. **Participation** ensures that teachers are involved in the decision-making process. Hence, the voice of teachers is heard. This can be done in two domains: the technical domain (involves pupils and teaching itself) and the managerial domain (involves school operation and administration). It depends on the individual teacher in which domain his/her interest lays. Also, it is important as a school to think about the right amount of participation as too much participation might increase the workload of teachers.

In our review study, we will take into account the ability and motivation enhancing practices as separate HRM-practices in education. The opportunity enhancing practices will be taken into account as characteristics of stimulating school environments for teachers and hence, as stimulants for the separate ability and motivation enhancing HRM-practices.

1.3 The HRM-value chain as a guideline for a good SHRM-system in schools

In an attempt to understand how the SHRM-system contributes to the realization of organizational goals, Leisink and Boselie (2014) present a value chain that can be used as a tool to pinpoint what the content of an SHRM-system should be, given a certain context (Figure 3). We will use this value chain as a framework in our review study to collect and map the insights from empirical research on the different HRM-policies and practices that form the HRM-system of schools.

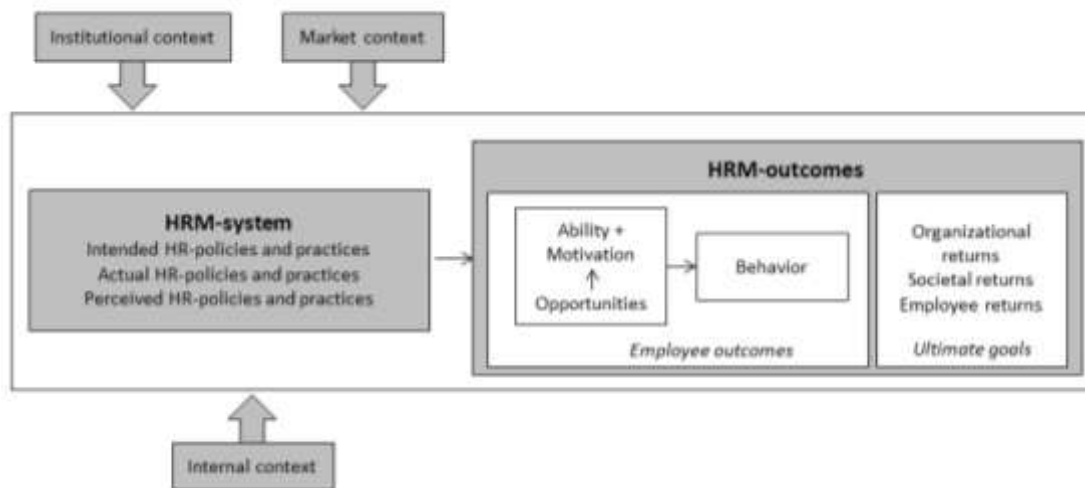


Figure 3. HRM Value chain – Simplification based on Boselie (2014) and Leisink and Boselie (2014)

Leisink and Boselie (2014) discerned two fundamental processes through which HRM-policies and practices contribute to organizational, societal, and employee goals. First, HRM-policies and practices can have a positive impact on the ability, motivation, and opportunities (AMO) of employees, that reflect in how employees behave and, in turn, contributes to several types of outcomes. Second, the process through which administrators and leaders develop HRM-policy and practices and implement these, is critical for how employees see HRM-policies and practices and perceive their contribution to organizational goals.

In the following paragraphs, these processes will be described and linked to the educational context. Also, these processes do not appear in a vacuum, hence, we will also discuss influential context variables for HR-policies and practices.

1.3.1 HRM-outcomes

As earlier described, the AMO model is one the most commonly used theoretical frameworks in SHRM (Boselie, 2014) and argues that organizational interests are best served when HR policies and practices are designed to contribute to the ability (A), motivation (M), and opportunities (O) of employees as outcomes (Knies & Leisink, 2014; Runhaar, 2016; Wright & Nishii, 2007). The underlying rationale is that people perform well when they not only have the necessary skills and knowledge (ability), but also want to do the job and are incentivized (motivation). Several incentives can be provided in the work environment to support teachers' ability and motivation (opportunity) (Appelbaum, Bailey, Berg, & Kalleberg, 2001; Boxall & Purcell, 2011). These AMO's will ultimately result in certain employee behaviors as the following outcome (Leisink & Boselie, 2014).

This theoretical stance emphasizes that the impact of HRM-policies and practices on employees' reactions and behavior will depend on individual differences and perceptions (Wright & Nishii, 2007). The resulting behavior of employees can be intended productive behaviors (e.g., extra-role

behavior, more focus on the job) but also counterproductive behavior aimed at hurting the organization (e.g., theft of goods) (Knies & Leisink, 2014; Wright & Nishii, 2007). As such, it is very relevant to investigate which HRM-policies and practices make a contribution to desired behaviors and how AMO mediates this relationship between HR-policies and practices and employees' behavior (Knies & Leisink, 2014).

Ultimately, the final outcomes of SHRM lie in achieving returns for the organization, society, and employees through the behavior of employees (Leisink & Boselie, 2014). Translated to the educational context, increased effectiveness of the organization (i.e., schools) can imply features such as quality, innovation, and flexibility. As for the individual welfare of the employee, outcomes can include motivation, commitment, satisfaction, or stress (Leisink & Boselie, 2014). Societal outcomes of HRM in schools relate to social welfare (e.g., creating teaching jobs) and a contribution to the knowledge economy, democracy, and social cohesion through providing good education. Ultimately, the goal of education relates to students and schooling. As such, although not typically identified in HRM models outside the educational sector, an overarching goal can be recognized: HRM-policies and practices can also have a positive influence on student performance and on the provision of high quality schooling and education (Desimone, 2009).

1.3.2 The management process of HRM-policies and practices: HR system

A second important factor that influences the link between HRM and outcomes, is the management process itself. In this regard, we build on the distinction between intended, actual, and perceived HRM-policies and practices, as described by Wright and Nishii (2007).

The intended HRM-policies and practices are generally designed by leaders, staff, and/or directors at the top of the organization (Boselie, 2014). Usually, decision makers have proactively analyzed the situation and determined that a certain set of HRM-policies and practices will be best to elicit the desired responses from the employees in a given context (Wright & Nishii, 2007). Of course, the input of employees throughout this process is very valuable. This way, policy makers can keep in tune with employees' perceptions regarding the goals of the organization, their contribution to those goals, and the kind of HRM-policies and practices that can support them (Leisink & Boselie, 2014).

However, intended HRM-policies and practices are not necessarily enacted as such: maybe not all strategies are implemented or their implementation may differ from the initial intention (Wright & Nishii, 2007). Actual HRM-policies and practices reflect implemented and enacted policies and practices by line managers (i.e., direct supervisors or leaders in organizations) who hold a crucial position (Leisink & Boselie, 2014; Wright & Nishii, 2013). According to Becker and Huselid (2006), effective HRM-policy and practice implementation is a key mediating variable between HRM and performance of an organization. It is important to take into account that sometimes multiple individuals implement the HRM-policies and practices, who will probably not be completely uniform in their implementation (Zohar, 2000).

While actual HRM-policies and practices implemented by direct supervisors exist on an objective level, they must be perceived and interpreted subjectively by each employee, making it individually perceived HRM-policies and practices (Wright & Nishii, 2007). It are these perceived HRM-policies and practices that are expected to influence employees' AMO outcomes, behavioral outcomes, and ultimately HRM outcomes (Boselie, 2014).

The necessity for researchers to distinguish between these levels is emphasized by Wright and Nishii (2007). For instance, observed variance across organizations on HRM-policies and practices is assumed to represent true differences in policies and practices. However, it may in fact represent error variance if HRM-policies and practices that are captured are 'actual' HRM-policies and practices in some organizations, 'intended' policies and practices in others, and 'perceived' policies and practices in yet other organizations.

1.3.3 The influence of context for HRM-policies and practices

Organizations do not operate in a vacuum (Leisink & Boselie, 2014). Hence, HRM-policies and practices need to be tuned to the context of the organization, as a good alignment between the organization and its environment is crucial in SHRM (Boselie, 2014; Paauwe, 2004). In an organization's internal and external context variables lie several key issues that differ for each organization and that need to be taken into account by those developing HRM-policies and practices (Leisink & Boselie, 2014; Paauwe, 2004).

With regards to external context variables, Boselie (2014) distinguishes the institutional context and the market context. Some of these context variables are general, while others are specific for each sector or population. The institutional context refers to social, cultural, and legal context variables (Paauwe, 2004). Hence, it reflects several pressures that stem from legislations, protocols and procedures, routines, and values. General institutional variables include country legislation, EU legislation, and societal norms and values (e.g., general attitudes towards part-time work), while population institutional variables include the influence of social partners (e.g., work councils and trade unions), collective agreements, and the influence of other sector-specific regulations (e.g for education: M-decree, regulations concerning hiring/tenure, and pension reforms) (Boselie, 2014).

On the other hand, the market context refers to market mechanisms that affect all organizations in a country (e.g., macroeconomic situation and labor market conditions, value of euro, prosperity in a country) or in a specific sector (e.g., competition, maturity of the market, lack of qualified employees in a certain region) (Leisink & Boselie, 2014). Overall, it reflects the external contexts in terms of products, markets, and technology (Paauwe, 2004)

Besides external context variables, taking the internal context of an organization into account when designing and implementing HRM-policies and practices is primordial. On the one hand, this internal context captures several aspects of the structure of the organization (e.g., number of locations, orientation), systems (e.g., IT, communication), organizational size (e.g., number of staff), and characteristics of the workforce (e.g., background, age) (Leisink & Boselie, 2014). Taking

it one step further, Paauwe (2004) stressed the importance of taking the organizational, cultural, and administrative heritage of an organization into account. This includes the prevailing culture, but also pieces of the organization's history, stories, rituals, and symbols. Hence, literature clearly distinguishes between structural school characteristics and cultural school characteristics.

1.4 The alignment of all HRM-practices in a strong HRM-system in schools

In order to have a strong bundle of HRM-practices and policies in a strong HRM-system in schools, Runhaar (2016) recommends to take into account three characteristics of the HRM-system. First, it should be **distinctive**. This means that the HRM-system should be visible and accessible for teachers (e.g., portal on the internet, 'open door policy'). Second, the HRM-system should be **consistent**. This involves the vertical alignment of the HRM-system with the goals and strategy of the school. In addition, it also refers to the horizontal alignment within the HRM-system: the different HRM-practices should work together and strengthen one another. Third, there should be a strong **consensus** in the school about the goals and features of the HRM-system in the school. Consensus among policy makers and executors in the school will stimulate consensus among the teachers. This also relates to what we described earlier as the management process of HRM-policies and practices.

1.5 Purpose of study

In this study, we will perform a review study for the common HRM-practices in education as described by Runhaar (2016). As mentioned earlier, we will explicitly focus on the ability and motivation enhancing practices as separate HRM-practices in education. The opportunity enhancing practices will be taken into account as characteristics of stimulating school environments for teachers and hence, as stimulants for the separate ability and motivation enhancing HRM-practices. We feel this is in line with the strategic approach of HRM which encourages the linkage between the several HRM-practices in organizations. In this regard, studying the separate HRM-practices might be seen as artificial as we claim that all personnel practices need to be aligned with one another. However, from a theoretical viewpoint, we believe that studying the separate HRM-practices might enable us to, in the end, compare the separate findings per personnel practice and incorporate these in the bigger picture of the complete HRM system in schools. Moreover, from a practical viewpoint, we also have to take into account that there is only very limited research available that takes into account the entire HRM system in schools. Most research still focuses on the separate HRM practices and hence, in order to perform review studies, we need to take into account the separate HRM practices as well.

For the purpose of our review studies, we refine the model of Runhaar (2016) as shown in Figure 4.

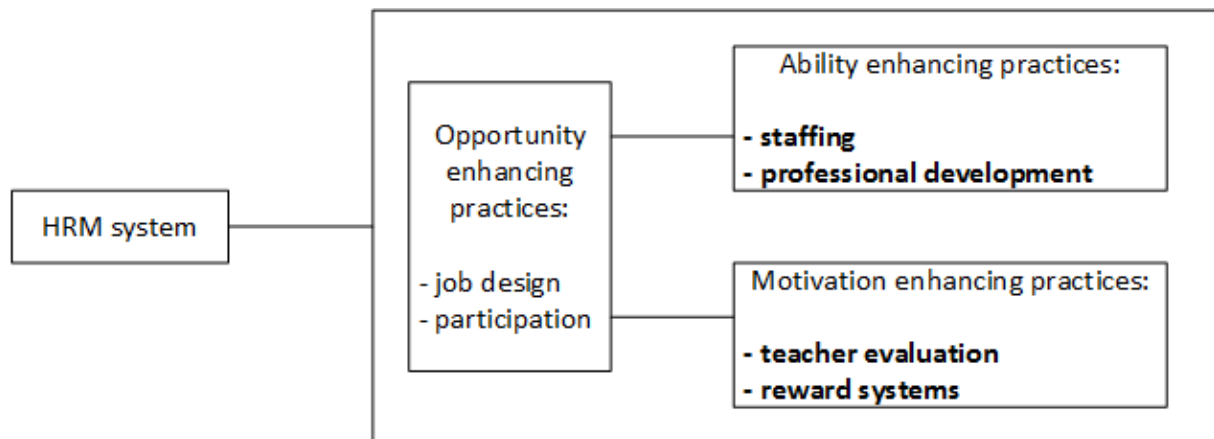


Figure 4. The adjusted AMO-model

Hence, this means we will perform a separate review study for the following HRM-practices: staffing, professional development, teacher evaluation, and reward systems. We put forward the following research questions for each review based on the AMO-theory and the value chain which we described earlier:

1. How is the HRM-practice defined in the literature?
2. Which part of the management process (intended, actual, perceived) is researched?
3. What external context variables (market and institutional context) are identified as facilitating or inhibiting?
4. What school internal context variables are important in light of the HRM-practice?
5. What are the effects of the HRM-practice for teachers (ability, motivation, behavior)?
6. Which variables are included that can be identified as opportunities?
7. To what extent are (indirect) outcomes of the HRM-practice identified at the school, student, or society-level?
8. Which other variables, that are not included in the value chain, are included in the literature?
9. Which variables are important in light of the HRM-practice?

Chapter 2: Review of research on staffing in schools

2.1 Methodology

2.1.1 Literature search and inclusion criteria

In this review, empirical studies (2000-2016) on staffing in schools are integrated. We used the description of Runhaar (2016), who explains that staffing deals with the recruitment and selection of new teachers from outside the school and also contains the assignment of all teachers within the organization. Therefore, we used several keywords to identify studies on staffing in schools such as ‘teacher selection’, ‘teacher recruitment’, ‘teacher assignment’, ‘teacher hiring’, ‘attracting teachers’, ‘identifying teacher candidates’, ‘teacher admission’, ‘teacher applicants’, and derivatives of these keywords (e.g., ‘selecting teachers’, ‘hiring teachers’). We excluded all research on higher education because our focus is on K-12.

a) Quantitative

We conducted a systematic search for quantitative empirical studies on staffing using the above described keywords across several online databases: Social Science Citation Index (SSCI) and Emerging Sources Citation Index (ESCI) through Web of Science (WOS) and Education Resources Information Center and Bibliography of Asian Studies through EBSCO information services (EBSCO). We searched for English or Dutch peer-reviewed articles published in the time period of January 2000 through December 2016 in the Educational research category. Next, because we aim to identify quantitative research on staffing in schools, we used several keywords to only maintain quantitative empirical studies such as ‘correlation’, ‘cluster’, ‘regression’, ‘quantitative’, ‘multilevel’, ‘path’, ‘SEM’, ‘structural equation’, ‘anova’, and ‘analysis of variance’. In a next step, we screened the articles by reading the abstract or the full article if necessary. During this screening, we removed articles that were not on topic.

In Table 2.1, we provide an overview of the number of studies that appeared after each search in the databases and after initial screening as explained above.

After initial screening, 15 articles remained that were included in the study for literature analysis. However, during the literature analysis and hence, a thorough reading in order to answer our research questions, certain articles were removed from the study for several reasons: one article was removed because it only contained a validation of a measurement instrument, one article was removed because it only contained descriptive statistics, and four articles were removed because they did not contain any variables at the school level.

Table 2.1. Results of searches for quantitative empirical studies in databases

Search	Number of papers	
	WOS	EBSCO
'teacher selection', 'teacher recruitment', 'teacher assignment', 'teacher hiring', 'attracting teachers', 'identifying teacher candidates', 'teacher admission', 'teacher applicants', and derivatives	169	287
AND 'correlation' OR 'cluster' OR 'regression' OR 'quantitative' OR 'multilevel' OR 'path' OR 'SEM' OR 'structural equation' OR 'anova' OR 'analysis of variance'	28	33
Screening	13	11
Total number of articles for review (after removing the articles present both in WOS and EBSCO)	15	
Total number of articles that were included in the literature analysis (after removing articles during a second thorough screening)	9	

Hence, for the literature analysis, nine articles were integrated that deal with staffing in the primary or secondary school context as a specific HRM-practice or policy. This number illustrates that there is not a lot of quantitative empirical research about staffing as an HRM-practice in schools. The selected studies are almost all published from 2011 onwards. Only two studies were published earlier (i.e., in 2005 and in 2007). All studies were executed in the USA, except for one study that stems from China. Three articles were published in *Educational Administration Quarterly*, three in *Teachers College Record* and three in other journals (*Education Finance and Policy*, *Journal of School Leadership*, and *Asia Pacific Education Review*). All articles that were included in the literature analysis on staffing can be found in Appendix 2.1. All articles deal with teacher recruitment/hiring. Some articles also focus on the retention of hired teachers, next to the hiring process itself. Hence, no quantitative studies were found that deal with the assignment of teachers in the school.

b) Qualitative

A systematic literature search was conducted in the Social Science Citation Index (SSCI) and Emerging Sources Citation Index (ESCI) through Web of Science¹. We searched for peer-reviewed articles published in the time period of January 2000 through December 2016. In Table 2.2, we provide an overview of the number of articles that appeared after each search in the databases and after screening, as explained below.

The aim of this review was to identify qualitative empirical research on staffing in schools. Hence, keywords referring to qualitative research (i.e., “qualitative”, “case study”, “interview”, “focus

¹ We decided to refrain from including the EBSCO database in the search for qualitative articles to insure the quality of selected qualitative articles (Hightower & Caldwell, 2010).

group”, “narrative”, “observation”, and “Delphi study”) and derivations of these words were added. We excluded research on higher education because our focus is on K-12. We limited our search to articles in the Educational research category in Web of Science, written in English or Dutch. After applying these selection criteria, 56 articles remained.

During a first screening, the abstracts of these 56 articles were thoroughly read which lead to the selection of 13 articles that were of interest for our review of qualitative empirical articles on staffing in schools. The articles that were removed in this step, were not of interest for several reasons: 11 articles were completely off topic (e.g., because they deal with assignments teachers give to students), 12 articles dealt with pre-service teachers, 11 articles contained no link with school policy, and 9 articles did not use qualitative methods.

A next step included the retrieval of the studies’ full text. Following full reading of these articles, additional studies not meeting the inclusion criteria were eliminated mainly because staffing was described without any link to schools or school policy (e.g., as a national policy). Hence, seven qualitative articles were included in the analysis that deal with staffing in the primary or secondary school context as a specific HRM-practice or policy.

Table 2.2. Results of searches for qualitative empirical studies in databases

Search	Number of papers
‘teacher selection’, ‘teacher recruitment’, ‘teacher assignment’, ‘teacher hiring’, ‘attracting teachers’, ‘identifying teacher candidates’, ‘teacher admission’, ‘teacher applicants’, and derivatives	169
AND “qualitative” OR “case stud*” OR “interview*” OR “focus group*” OR “narrative*” OR “observation*” OR “delphi stud*”	56
Screening abstracts	13
Total number of articles that were included in the literature analysis (after removing articles during a second thorough screening of full texts)	7

Again, parallel to the quantitative review, this number illustrates that there is not a lot of empirical research (neither quantitative nor qualitative) about staffing as an HRM-practice in schools. The selected studies were all published from 2010 onwards and all were executed in the USA. Four articles were published in Educational Administration Quarterly and three in other journals (American Educational Research Journal, Journal of Educational Administration, and Elementary School Journal). All articles that were included in the literature analysis on staffing can be found in Appendix 2.2. Three articles deal with teacher recruitment/hiring and three articles deal with teacher assignment. The remaining study focuses both on recruitment and assignment. Hence, in contrast to the quantitative research, we did find qualitative empirical studies on teacher assignment.

2.1.2 Literature analysis

In a first step, developing a preliminary synthesis, all quantitative and qualitative articles were selectively read, examined, and coded according to the following characteristics: authors, title, year of publication, journal, participants, research method, sample size, position of staffing in the study, and relevant variables.

In a second step, each of the articles in the final selection was thoroughly reread in order to identify significant sections answering the postulated research questions. These sections were coded based upon content analysis and summarized in tables. This included coding for the definition of staffing (i.e., recruitment/hiring/assignment) (RQ1), part of the management process (actual/intended/perceived) (RQ2), external influencing variables (RQ3), internal influencing variables (RQ4), effects on AMO or behavior of teachers (RQ5), opportunities (RQ6), broad outcomes for schools, students, or society (RQ7), and other important variables included in the study (RQ8). Finally, an overview of all important variables was provided and the value chain was completed (RQ9). If necessary, other important information with regards to the study could be added during coding as a comment.

2.2 Results

In the following paragraphs, we describe our results per research question. In this process, we first turn our attention to the results of the quantitative studies, then to the qualitative studies, and we conclude with a comparison of the quantitative and qualitative findings. The results of research question 9 (Figure 1) provide an overview of the main results of our literature review by showing the important variables that were identified in the studies from both our quantitative and qualitative review. For readability of the results, we place all tables at the end of the result section in a separate paragraph (2.2.10 Tables).

2.2.1. How is staffing defined in the literature?

a) Quantitative

To answer our first research question, we provide an overview in Table 2.3 of the descriptions in the quantitative studies used for this review. As was already mentioned, we notice that all selected articles deal with the recruitment and hiring of new teachers as a staffing practice in schools. Hence, the allocation of tasks to people within the school, which is also an important aspect of staffing according to Runhaar (2016), is not the subject of quantitative research in the articles.

Regarding the recruitment and hiring of new teachers, Runhaar (2016) emphasizes that this should be a ‘two-way process’: namely, the school needs to collect sufficient information about the

candidate (school side) and the candidate should get sufficient information about the job and school (candidate side). Hence, both are necessary in order to determine whether there is a good 'fit' between the candidate, the job, and the school.

We offer an overview of the descriptions that are put forward in the selected articles about recruitment/hiring in Table 2.3, which clarifies the focus that authors take in their article. Noticeably, all studies focus on one side, either the school side or the candidate side, with the majority of studies (n=6) focusing on the school side. Hence, we found no studies that take the 'two-way process' of hiring/recruiting into account.

b) Qualitative

Out of the seven qualitative studies in this review, one study discusses both recruitment/hiring and assignment, while three studies exclusively focus on teacher recruitment/hiring and three studies exclusively focus on teacher assignment. Parallel to the review of the quantitative studies on staffing, we offer an overview of the descriptions that are provided of recruitment/hiring and assignment (Table 2.4).

Considering recruitment/hiring, we notice that the four studies use a school side and hence, pay attention to what actions schools undertake or what characteristics they look for when recruiting/hiring. The candidate side is not investigated in the four studies.

The qualitative studies on teacher assignment also all focus on a school side, investigating how the school decides on teacher assignment. However, two studies combine this school side with a candidate side and take into account the potential effects on teachers of the school's decision regarding assignment.

Conclusion

While teacher assignment does not receive any attention in the quantitative literature on staffing, we did find four qualitative studies (out of seven) focusing on teacher assignment. All these qualitative studies focus on the school side regarding teacher assignment and hence, focus on how the school forms its policy and practice of assigning tasks to its teachers. Two studies provide descriptions of teacher assignment that acknowledge that schools' decisions regarding assignment do affect teachers and this should also be taking into account, acknowledging thus that a school and candidate side should be combined.

Regarding teacher recruitment/hiring, both quantitative (n=9) and qualitative studies (n=4) were found. The majority of these studies take a school side focus.

2.2.2 Which part of the management process (intended, actual, perceived) is researched?

a) Quantitative

We summarized in Table 2.5 which data was collected to capture recruitment or hiring in the different studies. Most studies focus on intended or actual recruitment/hiring (three studies report exclusively on intended practices, three studies exclusively on actual practices, and one study combines intended and actual measurements), while two studies report perceived practices .

More specifically, as we explained in the results of research question 1, most studies focus on the school side (n=6). Hence, four studies measure the recruitment/hiring process by asking the principals about their intentions. In all these cases, the focus is on principals' preferences for certain teacher characteristics when recruiting/hiring.

Two of the three studies that focus on the candidate side report on teachers' perceptions regarding the hiring/recruitment process. In one case, these perceptions are of applicants about the job. In the other case, these perceptions deal with reasons of hired teachers to leave the job related to staffing within the school.

Four studies measure the actual recruitment/hiring process. Variables that are used here are, for example, timing of hiring and characteristics of vacancies.

b) Qualitative

In the qualitative studies on staffing in schools, we notice the use of diverse measures of the staffing management process. As is shown in Table 2.6, five studies use a combination of measures (actual, intended, perceived). The two remaining studies both use only actual measures. Both studies try to capture the staffing process in schools by collecting actual information that is then processed by the researcher to categorize the staffing practice in the school (i.e., strategic recruitment or non- strategic recruitment and stable assignment or non-stable assignment).

Of the studies that use a combination of measures, three studies use a combination of the three types of measures (intended, actual, and perceived) to provide a rich description of the staffing policy/practice in the school or district. These studies generally combine interviews with several stakeholders and document analyses.

While several qualitative studies focus on perceived staffing policy or practices, it is remarkable that teachers' perceptions on the staffing policy or practice in their school are largely absent. Only one study interviews several teachers on this matter. Rather, principals are generally interviewed concerning their perceptions on the district practice and policy. This could be related to the fact that most studies concern the USA and hence, consider the important role of districts in the

management of staffing policy/practice. This is also linked to the focus that most studies take on the school side rather than a candidate side.

Conclusion

While studies in the quantitative review mainly focus on one way of measuring the staffing practice/policy (namely perceived, actual, or intended), qualitative research generally uses combinations of several methods. This results in rich descriptions of the staffing policy and practice in the qualitative studies, offering detailed information from several perspectives (e.g., district policy makers, principals, and documents), while quantitative studies focus more on a few characteristics of staffing. We notice that teachers and their perceptions are more taken into account in quantitative research than in qualitative research.

2.2.3 What external context variables (market and institutional context) are identified as facilitating or inhibiting?

a) Quantitative

For recruitment and hiring, only one quantitative study takes into account external context variables. More specifically, Cannata & Engel (2012) measure several teacher labor market variables as control variables: district influence, difficulty recruiting teachers, difficulty retaining teachers, and the mean teacher experience in schools. Only the last variable was significant in relation with the hiring focus of principals. More specifically, there is a negative relationship between both variables: the less teacher experience in the school, the more the principal focuses on hiring. Although the authors label the mean teacher experience in the school as a teacher labor market variable, in our opinion, this could also be seen as a school demographic variable and hence, as a school internal context variable. Hence, we notice that the variables that really focus on the external context, are not significant in this study.

None of the other studies in our quantitative sample include market or institutional variables, which is in line with our results for the other personnel practices. Many authors explain the market and/or institutional context and specific challenges of this context in which teacher recruitment/hiring takes place in the introduction of their article. However, they do not include specific external context variables in their quantitative analyses of their study. In this regard, this can be considered as a gap in the quantitative literature on recruitment/hiring.

b) Qualitative

Of the seven qualitative studies, five studies consider external context variables. Both institutional and market context variables are mentioned in these studies. At the institutional level, state policy concerning staffing is mentioned as restricting in two studies (Dabach, 2015; Donaldson, 2013) and

collective bargaining agreements (industrial or collaborative are is mentioned in one study (Youngs et al., 2015). At the market level, three studies take into account the applicant pool (i.e., size and quality) (DeArmond et al., 2010; Donaldson, 2013; Kolbe & Strunk, 2012).

Conclusion

While only one quantitative study considers external context variables, five qualitative studies take such variables into account. This demonstrates the importance of these external context variables, but also the difficulty in measuring these variables quantitatively.

2.2.4 What school internal context variables are important in light of teacher recruitment/hiring?

As explained in the theoretical framework (Chapter 1), we distinguish between structural school characteristics and cultural school characteristics. The cultural school characteristics can be seen as opportunities in the school context that support teachers. Hence, these cultural school characteristics are coded as opportunities and are described in the result section of research question 6 (see 2.2.6) . Hence, in this section, we include all structural school characteristics that authors use in their analyses in the selected literature.

a) Quantitative

Related to the school internal context variables, we observe that these are more frequently integrated in the selected quantitative studies than the external context variables. Table 2.7 provides an overview of the school internal context variables in the selected studies. We observe that 7 out of the 9 studies do include school internal context variables in their analyses. Several school internal context variables are frequently examined in multiple studies (e.g., SES, school level, and student population), of which school level and school type are often significant. In addition, variables related to student achievement are significant in two studies. School size, school location, SES, and signing bonus are each significant in one study.

b) Qualitative

Four studies use school internal context variables in their study. School size (Donaldson, 2013; Engel & Curran, 2016), school level (Donaldson, 2013; Engel & Curran, 2016), school location (DeArmond et al., 2010; Kolbe & Strunk, 2012) and school achievement (Engel & Curran, 2016; Kolbe & Strunk, 2012) are each mentioned in two studies. Charter status (Donaldson, 2013) and school resources (DeArmond et al., 2010) are each mentioned in one study. The school internal context variables are often mentioned in light of what authors describe in a more general term 'school attractiveness', signifying that depending on the (combination of) internal context variables, some school are more attractive for teacher candidates than others.

Conclusion

Regarding the school internal context variables, we notice that similar variables appear in quantitative and qualitative studies. The most important school context variables seem to be: school level, school achievement, school size, and school location.

2.2.5 What are the effects of teacher recruitment/hiring for teachers (ability, motivation, behavior)?

In our theoretical framework, we explain that the AMO model argues that organizational interests are best served when HRM-practices, such as teacher recruitment/hiring, are designed to contribute to the ability (A), motivation (M), and opportunities (O) of teachers. Ability means necessary skills and knowledge, motivation deals with wanting to do the job and being incentivized, and opportunities refer to the necessary support and possibilities in the work environment to do the job. In the value chain, abilities and motivation enhance the behavior of teachers as the final outcome at the teacher level. Opportunities are placed in the value chain as supporting variables for A and M and hence, we will focus on the opportunities in a next research question (see 2.2.6).

a) Quantitative

When we look at the effects of teacher recruitment/teacher hiring for the ability, motivation, and behavior of teachers that are reported in our selected studies, we notice that most studies do not report such outcomes for teachers (see Table 2.8). Only three studies report teacher level outcomes. Interestingly, in all three studies, these outcomes are on the behavior level, namely teacher effectiveness, teacher retention, and teacher attrition.

Not surprisingly it are the three studies which take a candidate side focus on staffing (see RQ1), that include outcome variables at the teacher level. The remaining studies take a school side focus and tend to focus more on schools' and principals' decision making, as well as antecedents of this decision making, rather than on outcomes.

b) Qualitative

In the qualitative studies in our review, only one study reports an outcome for teachers of the staffing policy/practice, namely teacher satisfaction with working conditions (Youngs et al., 2015). We have the impression that the focus of the qualitative studies is more on the decision making process at the school and district level than on the outcomes of the staffing policy/practice at the teacher level.

Conclusion

Related to the school side which the majority of the studies (both quantitative and qualitative) focus on, few studies on staffing discuss teacher outcomes. We can conclude that this is a gap in the literature on staffing.

2.2.6 Which variables are included that can be identified as opportunities?

a) Quantitative

Only two studies describe variables that can be seen as opportunities (i.e., the necessary support and possibilities in the work environment to effectively do your job) and as explained above can be seen at the same time as cultural school internal context variables. Donaldson (2012) provides an overview of teachers' reasons for leaving the teaching profession. In this overview, certain reasons are related to opportunities within the school (e.g., isolation and lack of collaboration; lack of discipline at school). Only one of these reasons was significant, namely 'did not agree with new reform measures'. Moreover, Opfer (2011) also integrated opportunities in her study. She integrated several school conditions: central office help/hindrance, quality of applicant pool, level of school resources, and opportunities for career development. All of these variables, except for the level of school resources, were significant in the context of teacher recruitment/hiring.

b) Qualitative

Only one study in the qualitative review describes variables that can be seen as opportunities. Youngs et al. (2011) explain that better teacher induction, in the form of teacher collaboration and professional development opportunities, takes place in schools with more stable teacher assignment.

In the other studies, the main focus is on how staffing policy/practice takes place and hence, no other cultural school context variables are described.

Conclusion

Only a few studies include opportunities, albeit almost all different ones. Hence, there is still room for investigating the interaction or integration of staffing with other school cultural variables that can support HRM-practices.

2.2.7 To what extent are (indirect) outcomes of teacher recruitment/hiring identified at the school, student, or society-level?

a) Quantitative

None of the studies of our sample of quantitative research on teacher recruitment/hiring included other (indirect) outcomes. As mentioned earlier, most studies in our sample include recruitment/hiring as an outcome variable and hence, focus on antecedents of this personnel practice.

b) Qualitative

Two qualitative studies mention outcomes at the school level. On the one hand, DeArmond et al. (2010) take into account the fill rates of vacancies and find that active and consistent hiring leads to higher fill rates, although it might take longer. On the other hand, Youngs et al. (2011) investigate the instructional program coherence and conclude that a more stable teacher assignment leads to a more coherent program.

Conclusion

The majority of quantitative and qualitative studies on staffing investigate staffing as an outcome variable and hence, focus on antecedents of staffing. With the exception of outcomes at the school level reported in two qualitative studies, the outcomes of staffing (both at the teacher level and at school, student, or society level) are underresearched.

2.2.8 Which other variables, that are not included in the value chain, are included in the literature?

a) Quantitative

Teacher characteristics are included in four selected quantitative studies (see Table 2.9). In most cases, the included teacher characteristics are demographic variables with experience and race as the most common variables.

A second type of other variables that are included in the literature of quantitative studies on teacher recruitment/hiring, are school leadership characteristics. This is the case in two studies that include principal demographics such as gender, race, and experience (Engel, 2013; Liu et al., 2016). One other study (Little & Miller, 2007) specifically investigates the influence of the rural values of decision makers (principals among others) in the context of teacher recruitment/hiring.

b) Qualitative

Two qualitative studies refer to the importance of school based capacity (DeArmond et al., 2010) or principal human capital (Donaldson, 2013). Both studies refer to the same important variable, namely that school leaders possess the necessary competences to enact staffing in their schools.

The study of Donaldson (2013) also links staffing to other HRM-practices (teacher evaluation and professional development) and argues that there is a need to strategically align these HRM-practices.

Conclusion

School leadership is put forward as an important additional factor for staffing in both quantitative and qualitative research. Additionally, quantitative studies point at the role of teacher variables, while the link with other HRM-practices is made in a qualitative study.

2.2.9 Which variables are important in light of teacher recruitment/hiring?

An overview

In the above paragraphs, we described which variables were included in quantitative and qualitative studies that we selected for our literature review. Of course, not all variables were found to be crucial in these studies. In order to provide an overview of the important variables, we used the value chain and added the important variables to the value chain in Figure 2.1. We indicated through the use of colors which variables were significant in only one quantitative study (blue) and which variables were significant in several quantitative studies (green). Additional variables that were mentioned in qualitative studies are placed in red.

While quantitative studies about staffing only focus on recruiting and hiring, qualitative studies also focus on assignment of teachers in the schools.

The staffing policy and practice is included equally as often as an actual policy or practice and as an intended policy and practice in the quantitative studies in our review. The preferred teacher characteristics as a measure of intended policy and practice is included several times in quantitative studies that take a focus on the school side on recruitment and hiring. The qualitative studies also pay attention to the perceived management of staffing, next to the actual or intended management. To capture this perceived management, both teacher and principal perceptions about staffing in their school are measured. Other measures of staffing policy and practice (e.g., assignment priorities, recruitment efforts) occur less frequently in the quantitative or qualitative studies in our review.

Several qualitative studies included external context variables, namely state policy and collective bargaining agreements (CBA) at the institutional level and the applicant pool at the market level.

As we described above, only one quantitative study included external context variables, however most of these variables were not significant. Only one variable, namely mean teacher experience in the school, was significant, however, this variable is in our opinion more an internal context variable. Other structural internal context variables that were significant several times include school type, school level and school achievement. SES, school location, and the existence of a signing bonus were significant in one quantitative study. The qualitative review added school size, charter status, and school resources as important internal school context variables for staffing practice and policy.

Next to the structural internal context variables, quantitative studies in our review often take into account teacher characteristics. Therefore, we add these to the value chain as influential for the HRM-system and HRM-outcomes. These teacher characteristics are often teacher demographics such as teacher experience and race, which are significant in several studies. In addition, as we explained earlier, school leadership is not included in the initial value chain, but based on our quantitative and qualitative literature review, we also add this variable to the value chain as it is significant in several studies. Moreover, also other HR-practices are referred to in the qualitative review and are added to the value chain. Several variables that can be identified as opportunities are significant, e.g., new reform measures and opportunities for career development.

When looking at the significant outcome variables that are reported in the studies in our literature review, we notice that outcomes of recruitment or hiring are rarely studied. Only quantitative studies that take a candidate side focus also include teacher outcome variables. These variables are all situated at the behavior level with teacher retention as the most frequent significant variable. Additionally, one qualitative study included a motivational teacher outcome, namely teacher satisfaction with working conditions. In the qualitative studies, two organizational outcomes (school level) also appeared, namely the fill rate of vacancies and the coherence of the instructional program.

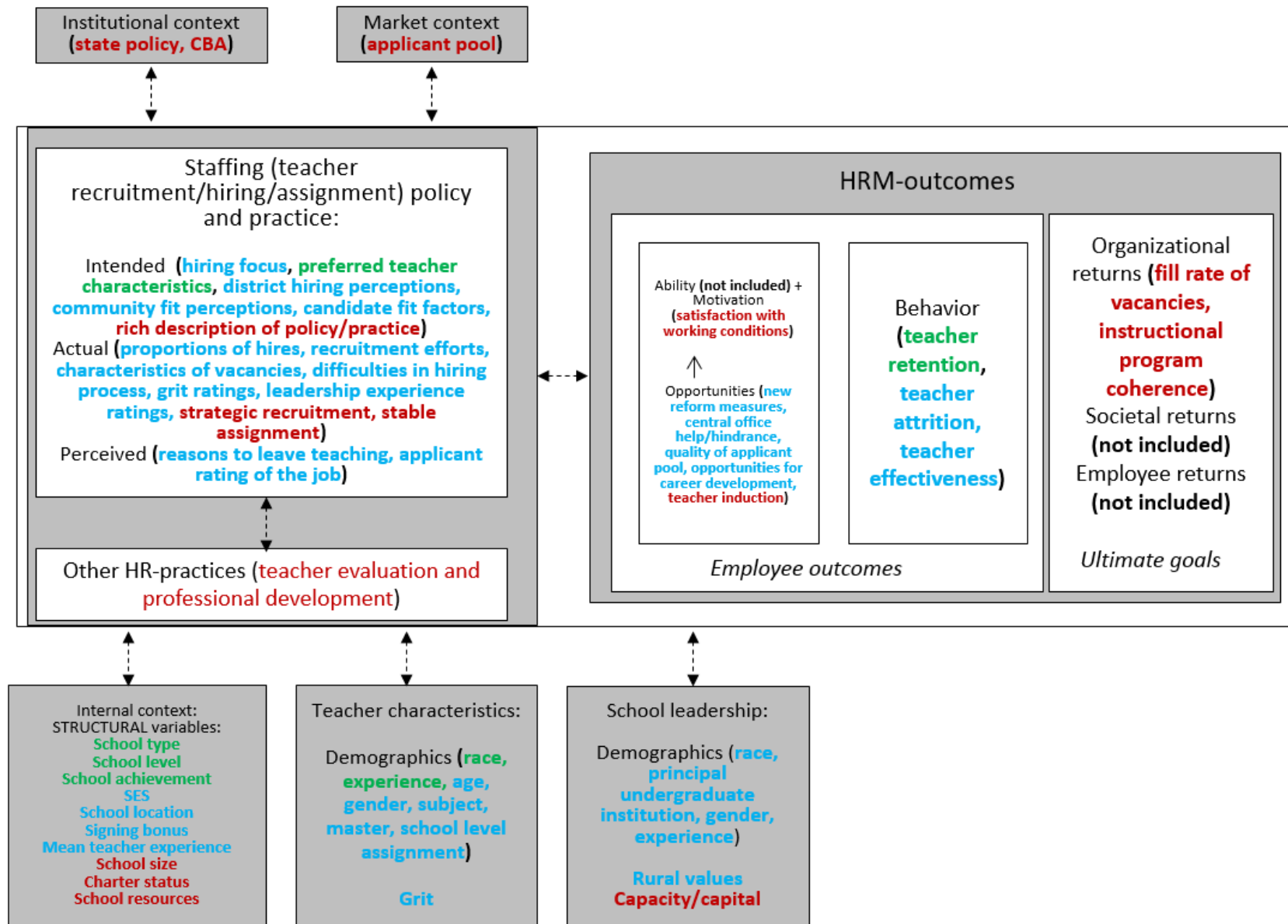


Figure 2.1. Value chain for staffing, based on quantitative and qualitative research

2.2.10 Tables

Table 2.3. Descriptions of recruitment/hiring in the quantitative studies of our literature review

Article	Descriptions of recruitment/hiring
Cannata & Engel (2012)	Focus on the school side: “... , we know nothing about whether the increased flexibility and pressure that charter school principals experience results in particular preferences for teacher characteristics.” (p. 456)
Donaldson (2012)	Focus on the candidate side: “... four career stages: trial, establishment, maintenance, and decline. In the trial stages, individuals work to define their interests and skills and assess the fit between themselves and their work.” (p.7)
Engel (2013)	Focus on the school side: “Selecting wisely from the available supply of teachers is one of the most crucial dimensions of a principal’s job. Poor selection decisions can have detrimental results...” (p.53)
Engel (2012)	Focus on the school side: “... late teacher hiring will force districts to choose from a less qualified applicant pool. ... we would expect schools and districts to preference certified teachers...” (p.4)
Little & Miller (2007)	Focus on school side: “Perhaps most critical to organizational hiring is the research showing the perception of fit to be more significant for personnel selection than the existence of actual fit... . This links administrators’ preferences, perceptions, and recruitment practices to local values, a key dimension in determining fit...” (p.6)
Liu, Liu, Stronge & Xu (2016)	Focus on school side: “Selecting wisely from the available supply of teachers is one of the most crucial dimensions of a principal’s job, because teacher selection is one of the most likely paths through which we might expect school leaders to influence student achievement...” (p.108)
Opfer (2011)	Focus on candidate side: “... individuals who choose to teach and remain in teaching lose the opportunity to experience the rewards of other occupations and positions. Thus, teachers will only choose teaching or remain in teaching if the “opportunity costs” of these lost rewards are relatively low.” (p.585)
Robertson-Kraft & Duckworth (2014)	Focus on school side: “we set out to examine whether teacher retention and effectiveness among novice teachers in their first and second year of teaching can be predicted by differences in grit, defined as perseverance and passion for long-term goals, measured at the time of hire.” (p.2)
Winter & Melloy (2005)	Focus on candidate side: “... vacancy characteristics are important predictors of applicant decisions occurring before the initial employment interview. ... organizational characteristics affect applicant reactions to jobs. ... applicant characteristics affect decisions to apply for the job or accept a job interview.” (p.352)

Table 2.4. Descriptions of recruitment/hiring/assignment in the qualitative studies of our literature review

Article	Descriptions of recruitment/hiring/assignment
Dabach (2015)	<p>Assignment</p> <p>Focus on the school side:</p> <p>“Understanding teacher placement—or the process by which teachers are assigned to particular groups of students—represents a generative point of inquiry: It aids in grounding institutional queries by shining a light on habitual and recurring practice that constitutes part of the organizational work of schools.” (p. 243)</p>
DeArmong, Gross & Goldhaber (2010)	<p>Recruitment/hiring</p> <p>Focus on the school side:</p> <p>“School-based hiring can take a number of forms, but the core of the idea is to give school personnel, rather than the central office bureaucracy, the authority to make hiring decisions.” (p.323)</p>
Donaldson (2013)	<p>Recruitment/hiring</p> <p>Focus on the school side:</p> <p>“Principals may influence overall teacher effectiveness in their schools through hiring more skilled teachers and assigning them to classrooms that align with their preparation.” (p.842)</p> <p>Assignment</p> <p>Focus on the school side:</p> <p>“Principals may influence overall teacher effectiveness in their schools through hiring more skilled teachers and assigning them to classrooms that align with their preparation.” (p.842)</p>
Engel & Curran (2016)	<p>Recruitment/hiring</p> <p>Focus on the school side:</p> <p>“... we define strategic hiring practices in schools as those practices that align with the teacher recruitment aspect of a district’s education plan (i.e., strategic plan or mission).” (p.174)</p>
Kolbe & Strunk (2012)	<p>Recruitment/hiring</p> <p>Focus on the school side:</p> <p>“... many district and school leaders experience difficulties staffing their classrooms with qualified teachers. Staffing challenges arise because of an inadequate supply of qualified teachers, difficulties recruiting teachers for specific positions, trouble retaining teachers, and challenges with distributing teacher talent between and within school districts ...” (p.780)</p>
Youngs, Holdgreve-Resendez & Qiang (2011)	<p>Assignment</p> <p>Focus on the school and candidate side:</p> <p>“Principals’ decisions about teacher assignments can support or weaken coherence. When teachers’ assignments are stable over time, they are more likely to have sustained opportunities to learn how to teach well at specific grades or in particular content areas.” (p. 460)</p>
Youngs, Pogodzinski, Galey (2015)	<p>Assignment</p> <p>Focus on the school and candidate side:</p> <p>“We define “effective teacher assignment practices” to be those that (a) match teachers to open positions based on the teachers’ qualifications and relevant prior teaching experiences and (b) are likely to promote teacher job satisfaction and commitment.” (p. 222)</p>

Table 2.5. Recruitment/hiring as object of quantitative studies: intended, actual or perceived

Article	Actual, intended or perceived management process
Cannata & Engel (2012)	Intended: principals' reported hiring focus and preferences
Donaldson (2012)	Perceived: teacher ratings of factors that caused them to leave teaching (e.g., school staffing action)
Engel (2013)	Intended: characteristics principals look for in teachers
Engel (2012)	Actual: proportion of hires made at four time points
Little & Miller (2007)	Intended: credential preferences, district hiring perceptions, community fit perceptions, candidate fit factors Actual: recruitment efforts
Liu, Liu, Stronge & Xu (2016)	Intended: principals' preferred teacher characteristics
Opfer (2011)	Actual: characteristics of vacancies, difficulties in hiring process
Robertson-Kraft & Duckworth (2014)	Actual: ratings of grit based on resumé; ratings of leadership experience based on interview
Winter & Melloy (2005)	Perceived: applicant rating of the job

Table 2.6. Recruitment/hiring as object of qualitative studies: intended, actual or perceived

Article	Actual, intended or perceived management process
Dabach (2015)	Perceived: teachers' perception on their assignment Intended: principals' reported assignment norms and procedures
DeArmong, Gross & Goldhaber (2010)	Perceived: principal and teacher perceptions on district hiring policy and practice Intended: researcher observation of district training to school teams on hiring Actual: district document analysis
Donaldson (2013)	Perceived: constraints perceived by principals in carrying out staffing Intended: principals' reported assignment priorities and procedures Actual: document analysis
Engel & Curran (2016)	Actual: researcher coded teacher recruitment in two categories (strategic or non-strategic)
Kolbe & Strunk (2012)	Intended: interviews with district policy makers Actual: researcher typology based on district document analysis
Youngs, Holdgreve-Resendez & Qiang (2011)	Actual: teachers' report of their assignment and past assignments
Youngs, Pogodzinski & Galey (2015)	Perceived: interviews with teacher association presidents Intended: interviews with district human resource directors Actual: analysis of collective bargaining agreements

Table 2.7. School internal context variables in the selected quantitative studies

Article + country	Structural school internal context variables: Structure, system, size, workforce characteristics
Cannata & Engel (2012)	School type (public/charter) ; school size ; SES; student population race; school level; achievement in lowest quartile; school change variables (principal experience; recent adding of a grade)
Engel (2013)	School level; average achievement ; student population race
Engel (2012)	District characteristics: district size; core per pupil expend, SES , school location , district teacher count, teacher race School characteristics: student population gender, student population race, education type, SES, school level, teacher race
Liu, Liu, Stronge & Xu (2016)	School type , school location, school level
Opfer (2011)	School location, SES, school enrollment, average teacher salary, average teaching experience, percentage of masters, performance index
Robertson-Kraft & Duckworth (2014)	School level
Winter & Melloy (2005)	School classification (based on student performance on standardized tests); signing bonus (monetary incentive)

Note: Bold variables are found to be significant in the study.

Table 2.8. Outcomes at the teacher level in the selected quantitative studies: ability, motivation or behavior

Article + country	Ability, motivation or behavior related teacher outcomes
Donaldson (2012)	Behavior: teacher retention
Opfer (2011)	Behavior: teacher attrition
Robertson-Kraft & Duckworth (2014)	Behavior: teacher retention and teacher effectiveness

Table 2.9. Teacher characteristics in the selected quantitative studies

Article	Teacher characteristics
Donaldson (2012)	Age, gender, race, subject , related to a teacher, proximity of home, experience with school location
Engel (2012)	Experience, master , certified, gender, race
Robertson-Kraft & Duckworth (2014)	Grit , leadership rating, college GPA, SAT score, school level assignment , race, gender, experience
Winter & Melloy (2005)	Experience

Note: Bold variables are found to be significant in the study.

Chapter 3: Review of research on professional development

3.1 Methodology

3.1.1 Literature search and inclusion criteria

The goal of the current review is to study professional development (PD) as an HRM-practice. Based on the work of Parise and Spillane (2010), we were interested in exploring both formal out-of-school learning opportunities for in-service teachers and on-the-job learning opportunities. The former refers to activities such as training sessions, professional development programs, or coursework, while the latter refers to interactions with colleagues around learning and teaching as well as individual activities undertaken throughout the school day (Parise & Spillane, 2010). In order for an article to be included in the analysis, the article needed to address such kinds of PD opportunities or PD activities.

We used several keywords to identify studies on teachers' PD such as 'professional development', 'professional learning', 'teacher learning', and 'teacher training' in combination with 'teacher'. We excluded all research on higher education because our focus is on K-12.

a) Quantitative

We conducted a systematic search across several online databases: Social Science Citation Index (SSCI) and Emerging Sources Citation Index (ESCI) through Web of Science (WOS) and Education Resources Information Center and Bibliography of Asian Studies through EBSCO information services (EBSCO). We searched for peer-reviewed articles published in the time period of January 2000 through September 2016.

Next, because we aimed to identify quantitative research on teachers' PD, we used several keywords such as 'cluster', 'regression', 'quantitative', 'multilevel', 'path', 'SEM', 'structural equation', 'anova', 'analysis of variance' and 'correlation' to only maintain quantitative empirical studies. As for the studies obtained from the Web of Science, we also limited our search to articles in the Educational research category, written in English or Dutch; the number of selected studies at that point was 1177. After manual elimination of double records of studies, 940 studies remained.

In a next step, we screened the remaining articles by reading the title and abstract. We expected articles to report on empirical quantitative studies collecting data in K-12 schools. As such, articles that were purely descriptive, argumentative, or theoretical pieces were excluded. In addition, the

articles needed to focus on in-service PD as defined above, used as a central variable in the study rather than include it as a peripheral variable, for instance as a control variable. During this screening, we removed 570 studies that were not on topic. There were 373 articles left after this selection.

The following step included the retrieval of the studies' full text. Following selective reading of these articles, additional studies not meeting the inclusion criteria were eliminated. Besides the criteria mentioned above (e.g., empirical quantitative study, K-12, or focus on in-service PD), we made sure that studies with small sample sizes or single case study designs were excluded at this point ($n_{\text{teachers}} \geq 5$). Moreover, PD as an HRM-practice had to be the focus of the study; hence, studies purely focusing on individual teachers' PD without or with only a peripheral link to school (context) variables were excluded. In the end, 127 studies were selected for full reading. Following full reading of the selected articles, additional studies not meeting the inclusion criteria were eliminated (e.g., because PD was not linked to any other variables or was not defined), resulting in 104 remaining articles.

In Table 3.1, we provide an overview of the number of studies that appeared after each search in the databases and after screening as explained above. All articles that were included in the quantitative literature analysis on PD can be found in Appendix 3.1.

Table 3.1. Results of searches in databases for professional development (quantitative)

Search	Number of papers		
	WOS	EBSCO	Total
“professional development” OR “teacher training” OR “teacher learning” OR “professional learning” AND teacher	4844	9525	14369
AND ‘cluster’ OR ‘regression’ OR ‘quantitative’ OR ‘multilevel’ OR ‘path’ OR ‘SEM’ OR ‘structural equation’ OR ‘anova’ OR ‘analysis of variance’ OR ‘correlation’	552	625	1177
After screening double records	552	388	940
After screening title and abstract	213	160	373
After screening full text	83	44	127
Total number of articles that were included in the literature analysis (after removing articles during a second thorough screening)	71	33	104

With regards to the 104 articles included in the quantitative literature analysis, the bulk of studies was published fairly recently. As is illustrated in Figure 3.1, only 10% of all studies ($n=12$) were published before 2009. In addition, about 50% of all studies ($n=58$) were published between 2013 and 2016.

While the studies are published in a wide range of journals, several journals frequently integrate quantitative studies about teacher PD in the primary or secondary school context as a specific HRM-

practice or policy. Table 3.2 contains the journals that recur at least three times in the list of articles included in the review. The journal ‘Teaching and teacher education’ clearly stands out, with 18 selected articles for this review.

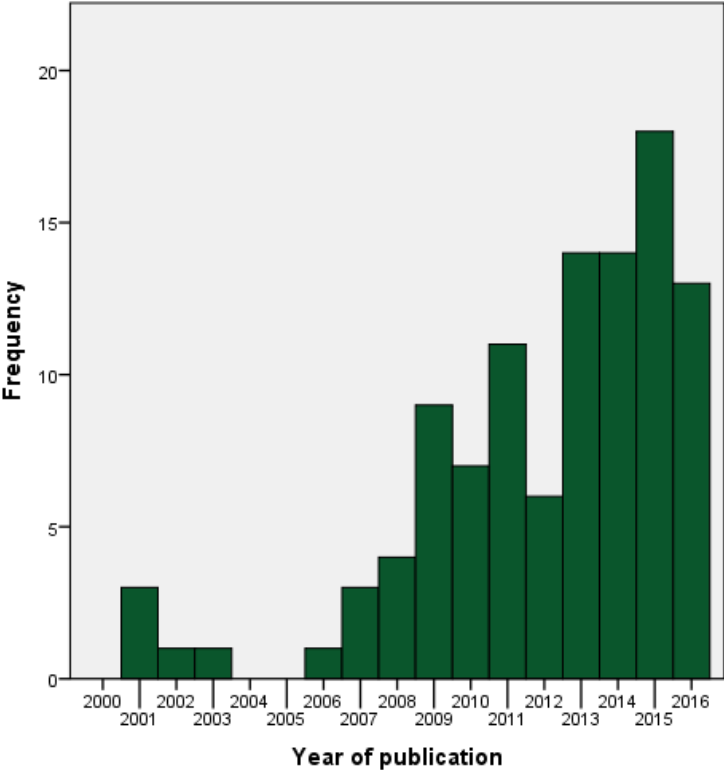


Figure 3.1 – Articles selected for inclusion in the quantitative review ranked by year of publication

Table 3.2. Journals with at least three articles included in the quantitative review.

Journal	Number of articles included
Teaching and Teacher Education	18
Elementary School Journal	6
Teachers College Record	4
American Educational Research Journal Asia Pacific Education Review Computers and Education Educational Management Administration & Leadership Journal of Teacher Education School Effectiveness and School Improvement Teacher Development	3

Almost half of the quantitative studies (N=45) were executed in the USA, 28 studies stemmed from European countries (i.e., The Netherlands, Flanders, UK, Finland, Germany, Norway), and the remaining 31 studies originated from around the globe. Table 3.3 provides an overview of how many studies originate from each country.

Table 3.3. Country of origin of articles included in the quantitative review.

Country	Number of articles included
USA	45
The Netherlands	11
Flanders (Belgium)	8
China	
UK	6
Israel	4
Australia	3
New Zealand	2
Singapore	
Turkey	
Bangladesh	1
Belize	
Cameroon	
Canada	
Finland	
Germany	
India	
Korea	
Malaysia	
Norway	
South Africa	
All TALIS countries	
Multiple South and Central American countries	

b) Qualitative

A systematic literature search was conducted in the Social Science Citation Index (SSCI) and Emerging Sources Citation Index (ESCI) through Web of Science². We searched for peer-reviewed articles published in the time period of January 2000 through December 2016. In Table 3.4, we provide an overview of the number of articles that appeared after each search in the databases and after initial screening as explained below.

The aim of this review was to identify qualitative empirical research on teacher PD. Hence, keywords referring to qualitative research (i.e., “qualitative”, “case study”, “interview”, “focus group”, “narrative”, “observation”, “Delphi study”) and derivations of these words were added. We excluded research on higher education because our focus is on K-12. We limited our search to articles in the Educational research category in Web of Science, written in English or Dutch. After applying these selection criteria, a large number of articles remained (see Table 3.4).

² We decided to refrain from including the EBSCO database in the search for qualitative articles about PD in order to keep the number of studies manageable and to insure the quality of selected qualitative articles (Hightower & Caldwell, 2010).

In order to obtain a manageable number of studies to include in this review, we refined the search by selecting articles that are of high scientific significance and quality, as indicated by the times they are cited in other studies of the Web of Science Core Collection.

We sorted the articles from the highest ‘times cited’ to the lowest and screened the title and abstract of these studies. We expected the articles to report on empirical qualitative studies collecting data in K-12 schools. As such, articles that were purely descriptive or conceptual in nature were excluded. In addition, the focus of the study needed to be on in-service PD as an HRM-practice. Hence, studies purely focusing on individual teachers’ PD without or with only a peripheral link to school variables, were not considered for further analysis.

During the screening of the 100 most-cited articles based on these criteria, 42 articles were retained. However, 35 of these retained articles (83%) were published before 2010 and the most recent article dated from 2012. Nevertheless, the literature on PD has been growing exponentially in recent years and it is important to also take into account the insights presented in these recent studies. As such, we applied a correction for this bias by additionally screening 75 of the most-cited articles published between 2010 and 2016. However, a similar pattern occurred where older articles published in 2010, 2011, and 2012 dominated over more recent articles. As a consequence, a final correction was applied by screening an additional 30 articles published in 2015 and 2016. As a result of this search procedure, 205 titles and abstracts were screened in total, of which 75 were selected for further reading.

A next step included the retrieval of the studies’ full text. Following full reading of these articles, additional studies not meeting the inclusion criteria were eliminated (mainly because PD was purely aimed at individual teachers without any link to schools or school policy, the lack of empirical data, or because PD was not linked other variables). Hence, 47 qualitative articles were included in the analysis that specifically deal with teacher PD in the primary or secondary school context as a specific HRM-practice or policy (see Appendix 3.2 for references).

Table 3.4. Results of search in Web of Science for professional development (qualitative)

Search	Number of papers
“professional development” OR “teacher training” OR “teacher learning” OR “professional learning” AND teacher	5755
AND “qualitative” OR “case stud*” OR “interview*” OR “focus group*” OR “narrative*” OR “observation*” OR “delphi stud*”	2530
Focus on most-cited articles	205
After screening title and abstract	75
After reading full text – Total number of articles that were included in the literature analysis	47

Table 3.5. Country of focus in articles included in the qualitative review.

Country	Number of articles included
USA	29
UK	6
China	4
Australia Canada	2
Belgium (Flanders) Singapore The Netherlands USA + Lithuania	1

These 47 qualitative articles were published in a range of journals, although ‘Teaching and Teacher Education’ clearly stands out with 14 articles stemming from this journal. In addition, ‘American Educational Research Journal’ provided 5 articles and ‘Computers & Education’ and ‘Journal of Research in Science Teaching’ each supplied 4 articles. Other journals recur only once or twice. The selected articles were published between 2010 and 2016. Nevertheless, most studies were published in the early 2000’s, in 2010 and in 2015 (see Figure 3.2), which is possibly partially as a result of the sampling procedure that was used. Table 3.5 shows the predominance of the USA in the selected literature about teacher PD. Other studies stem from Europe (i.e., UK, The Netherlands, Belgium, Lithuania), Asian countries (i.e., China and Singapore), Australia, and Canada.

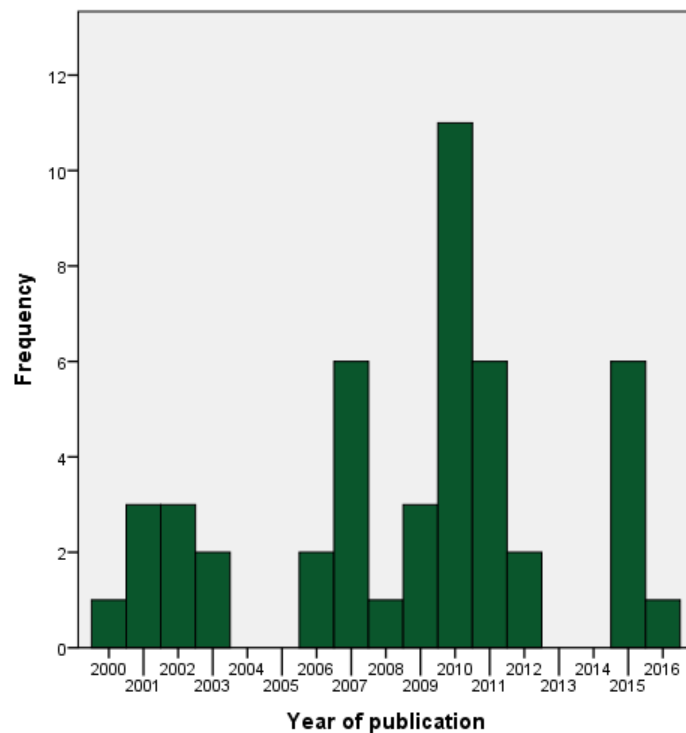


Figure 3.2 – Articles selected for inclusion in the qualitative review ranked by year of publication

3.1.2 Literature analysis

In a first step, developing a preliminary synthesis, all articles were selectively read, examined, and coded according to the following characteristics: authors, title, year of publication, journal, country, position of PD in the study, and relevant variables.

In a second step, each of the articles in the final selection was thoroughly reread in order to identify significant sections answering the postulated research questions. These sections were coded based upon content analysis and summarized in tables. This included coding for the definition of PD (RQ1) and part of the management process (actual/intended/perceived) (RQ2). In order to appoint these codes, we used the specific learning opportunities (on-site or off-site) that were discussed in the study. Moreover, we looked at external influencing variables (RQ3), structural school context variables (RQ4) and opportunities/cultural school context variables (RQ6). In addition, we coded the effects of the PD opportunity on AMO or behavior of teachers (RQ5), as well as broad outcomes for schools, students, or society (RQ7). Hence, if a study included specific PD activities as well as outcomes, we coded the former as RQ1 and RQ2, and the latter as RQ5 or RQ7, making a clear distinction between both. We employed this coding regardless of whether the authors of the studies themselves made a distinction between activities and outcomes or rather used 'professional development' as an umbrella term to cover both aspects. Finally, other important variables included in the study were identified (RQ8). An overview of all important variables was provided and the value chain was completed (RQ9). If necessary, other relevant information with regards to the study was added as a comment during the coding process. Tables summarizing these results are available upon request from the authors, but are not included in this report due to their extensive nature.

3.2 Results

In the following paragraphs, we describe our results for each research question. In this process, we first turn our attention to the results of the quantitative studies, then to the qualitative studies, and we conclude with a comparison of the quantitative and qualitative findings. Due to the large number of available studies with regards to teacher PD, we will not provide an overview of all variables incorporated in the selected studies with regards to RQ3, RQ4, RQ5, RQ6, RQ7, and RQ8. In the quantitative review, we focus on variables that are significant in the research models presented in the studies. Here, our goal is to obtain an overview of the significant variables, on the one hand, but, on the other hand, also to get an idea of the relative importance of each variable by quantifying how many studies identify each variable as significant. In the qualitative review, we look at variables that are identified as important or meaningful in the studies. We provide some examples of how variables can interrelate, rather than quantifying the occurrence of each variable. As for research question 9, we provide an overview of the main results of our literature review by integrating all important variables that were identified in the studies from our review.

3.2.1 How is teachers' professional development defined in the literature?

To answer our first research question, the investigation of the nature of PD in the literature is twofold. On the one hand, we focus on the distinction between studies focusing on a particular PD intervention and other studies. On the other hand, the content of PD is examined by looking at the design or delivery mode of the PD. The delivery mode of the PD in the studies (e.g., training, coaching, professional learning community) was initially coded based on the work of Schachter (2015). Because this resulted in a wide variety of delivery modes, multiple modes were grouped into categories based on similarities. As such, we classified the described PD activities into three groups: updating activities, reflective activities, and collaborative activities (de Vries, van de Grift, & Jansen, 2013). During the coding process, it became clear that not all authors clarified the type of PD in their study and that some referred to general PD features (e.g., hours of PD attended, culture of attending PD). As such, an additional category 'unspecified' was added.

a) Quantitative

In the analysis of the quantitative literature, two categories of design of studies emerge. A first category describes the outcomes and results of a particular (experimental) PD intervention that was set up (n=25). A second, much larger, category contains studies about PD in general or components of PD, without referral to a specific intervention (n=79).

With regards to the delivery format, half of the selected articles (n=52) describe one delivery format, while the other half (n=52) implement a combination of different formats. More specifically, studies focusing on one delivery format most frequently use collaborative delivery modes such as PLC, coaching, mentoring (n=26), while 'unspecified' also occurs frequently (n=20). Less common components are studies solely focusing on updating activities (n=5; e.g., workshops, online resources, reading) or on reflective activities (n=1; e.g., reflection, experimenting). On the other hand, common combinations of PD formats are: updating and collaborative (n=28); and updating, reflective, and collaborative (n=12). Far less common are the following combinations: reflective and collaborative (n=3); reflective and updating (n=3); unspecified and collaborative (n=3); unspecified, collaborative, and updating (n=2) and unspecified and updating (n=1).

Overall, the majority of the studies contains some form of collaborative delivery (n=72), while half of the studies encompasses updating activities (n=50). About a quarter of studies includes an unspecified PD variable (n=25), while reflective activities occur the least (n=19). Both intervention studies and general studies use this wide array of delivery methods.

b) Qualitative

In the analysis of the literature, two categories of design of studies emerge. A first category describes the outcomes and results of a particular professional development intervention that was set up (n=24), either by the researchers or by external stakeholders. A second category contains

studies about professional development in general or components of professional development, without referral to a specific intervention (n=23).

About half of the professional development in the selected articles rely on one delivery format (n=26), while the other half (n=21) implement a combination of delivery modes. Almost all studies focusing on one delivery format describe collaborative PD activities, such as mentoring, coaching, professional learning community, community of practice, and collaboration in learning teams (n=21). Three studies deal with updating activities (e.g., workshops, training, coursework, and reading (online) materials), while two studies belong in the 'unspecified' category. 'Reflective' PD activities (i.e., experimenting) occur only in combination with other delivery formats.

Updating and collaborative PD activities are frequently described together in studies (n=17), while the combinations of updating, reflective, and collaborative (n=3) and collaborative and reflective PD (n=1) are far less common.

Overall, the vast majority of the studies contains some form of collaborative PD (n=42), while half of the studies encompass updating activities (n=23). Four studies focus on reflective PD and two studies include an unspecified PD variable.

Conclusion

Looking at the design of studies regarding PD, a first category describes a particular PD intervention or program, while a second groups contains studies about PD in general or components of PD. In the quantitative literature the latter category is predominant, while in the qualitative literature, the proportion of these categories is about fifty-fifty. With regards to the delivery format of PD, about half of the studies (quantitative and qualitative) rely on a combination of delivery modes. While in both reviews the majority of studies contain some form of collaborative PD, this is most outspoken in the qualitative review where almost all studies contain collaborative PD. Updating activities also occur frequently, as opposed to reflective PD activities or undefined PD variables that are generally less common. Undefined PD, however, arises notably more frequently in quantitative studies compared to qualitative studies.

3.2.2 Which part of the management process (intended, actual, perceived) is researched?

a) Quantitative

The second research question examines which part of the management process is researched and described in the studies. Of the 105 studies, 52 exclusively report actual PD practices. Most of these studies use the description of a particular program that teachers attended (n=25). Others obtain this type of actual data by asking teachers to indicate their actual attendance or engagement

in specific PD activities in objective terms, such as through asking about the number of hours or on a frequency scale (n=20). Also, two studies make use of observational data and one study uses log files. In addition, four studies acquire data from the school leader about PD opportunities or practices within the school.

The second most used part of the management process, are perceived practices (n=45). In these studies, teachers were asked to fill out a teacher survey with Likert scale items about perceived PD practices. Some of these studies focus on teachers' perceptions regarding their engagement in PD activities (n=10). In these cases, teachers were asked to score items (e.g., 'I discuss problems that I experience at work with my colleagues' or 'Because of the feedback I received during a feedback conversation with my supervisor, I read professional literature') according to their perceptions, using a scale ranging from strongly disagree to strongly agree. Teachers' perceptions with regards to the presence of certain PD practices in their schools or about the perceived encouragement of practices, are also frequently used in research models (n=18). The remaining studies (n=17) inquire about teachers' personal values or perceptions (e.g., about the expected success of PD, PD needs, intrinsic interest in PD, personal attitude towards PD, etc.).

Six studies use a combination of actual measures and perceived practices, either because they obtained both 'factual' and perceived data from teachers (e.g., about the frequency of teachers' engagement in PD and the value they attach to this PD) or because teachers and principals were questioned about PD. Only one study explicitly mentions and describes the intended policy about PD (in this specific case: mentoring), next to the implementation and perceptions about the policy.

b) Qualitative

The second research question describes which part of the management process (intended, actual, perceived) is researched. Of the 47 studies, 18 exclusively report actual PD practices, 6 are exclusively perceived PD practices, and about half of the studies (n=23) use a combination of actual and perceived practices. None of the studies describe the intended policy about PD.

Studies are classified as describing 'actual' practices when a particular PD program that teachers attended is described (e.g., content, methods and rationale for PD, organized by researchers or by external providers). In addition, many studies rely on observational data in which PD activities were observed by the researchers, direct or indirect through video recordings of PD, or on other artefacts that were used as a source of information (e.g., document analysis, field notes, and minutes of PD). A single study also describes the number of hours teachers attended PD activities (Lim & Chai, 2008).

On the other hand, all perceived PD practices are mapped by means of interviews with teachers. In these interviews, teachers' experiences, appreciation, perceptions, conceptions, or reflections about PD activities are investigated through open or semi-structured questions. For example,

Sandholtz (2002) conducted a series of interviews to capture teachers' perceptions of PD experiences, the importance of these activities, and the processes of teacher development.

Conclusion

PD policy and practice is mostly included in studies as an actual or as a perceived practice. Studies that discuss a combination of actual and perceived PD practices occur noticeably more frequently in qualitative research compared to quantitative research. In qualitative studies, authors regularly describe specific PD programs or observations of PD, and combine this information with teachers' perceptions obtained through interviews, while quantitative studies tend to focus on either actual or perceived practices. In studies that capture just one PD practice, actual practices appear most frequently in both quantitative and qualitative studies. Studies with a focus exclusively on perceived practices are found more often in quantitative research compared to qualitative research. The intended PD policy or practice is taken into account in just one quantitative study and thus is negligible compared to the other categories.

3.2.3 What external context variables (market and institutional context) are identified as facilitating or inhibiting?

a) Quantitative

Our third research question reveals no results in the selected quantitative studies. This means that none of the studies included variables focused on market or institutional context. Parallel to the findings for teacher evaluation, many authors do frame the topic of their study within the market/institutional context or specific challenges in these contexts and, thus, use external context variables as a starting point for their research, rather than as variables in their study. In this regard, this is a gap in the quantitative literature on PD. As previously hypothesized for teacher evaluation, this gap might be due to the difficulty in measuring these variables quantitatively, their indirect effect and the context specificity of these variables. We might find more external context variables included in the qualitative research on PD.

b) Qualitative

This third research question sets out to uncover external context variables that are relevant in the light of teachers' PD. Many authors describe the setting of their study and use external context variables to frame their research questions in the introduction or methods section of their article. In nine studies, however, these macro institutional context variables also recur and are investigated in the results section.

It is highlighted in seven studies that teachers' opportunities for PD should be assessed in regard to the unique educational policy, economic, and historical conditions in which they operate.

Additionally, the educational institutional context can also partially explain the differences between what teachers believe and what they actually do. In this respect, studies point at conditions such as the need to teach mandated curriculum, the pressure of achieving high performance, lack of applicability of mandatory PD, and the impact of No Child Left Behind-policy. On the other hand, two studies set in China refer to the very competitive and examination-driven educational system, but also to the existence of formal teacher groups with ample resources and an emphasis on collectivism over individualism that facilitate the development of professional learning communities in China (Wong, 2010; Zhang & Pang, 2016). Finally, also conditions at the district level are identified in three studies, uncovering conditions such as the time allotted to PD by the district, support from the district, and district experience with PD.

Conclusion

While no external context variables (market or institutional) are identified in the quantitative literature concerning PD, several qualitative studies do point at the importance of external institutional context variables. Most of the identified institutional context variables are specific to the educational sector (e.g., NCLB-policy, need to teach mandated curriculum, and support of formal teacher groups). Only one study refers to a broader societal norm of collectivism versus individualism. In addition, external instructional conditions at the district level are also identified.

3.2.4 What school internal context variables are important in light of professional development?

As was explained in the review of teacher evaluation, the aim of this fourth research question is to map the structural internal school conditions that are important in the context of teacher PD. As explained in the theoretical framework (Chapter 1), we distinguish structural school characteristics and cultural school characteristics. The cultural school characteristics can be seen as opportunities in the school context that support teachers. Hence, these cultural school characteristics are coded as opportunities and will be described in the result section of research question 6. Hence, in this section, we included all structural school characteristics that authors use in their analyses in the selected literature.

a) Quantitative

Drawing on the selected articles, structural school characteristics can profoundly influence PD as an HR practice or its outcomes. Twenty-three studies include significant structural school variables. The most commonly identified feature in this regard is the school level (n=11), either operationalized through distinguishing between primary or secondary education (n=10) or grades (n=1). Second, several studies identify significant SES variables (e.g., % free lunch, poverty level, % low SES; n=8), school type (e.g., academically selective, vocational/general, charter/regular; n=5),

student ethnicity (n=4), school size (n=3), and location (n=2). Also significant in just one study are the following variables: teacher attendance, location, age of the school leader, teacher turnover rate, funding, % special education, pupil-teacher ratio, school investment in facilities, and school investment in activities.

b) Qualitative

Many authors provide a description of structural characteristics of participating schools (e.g., size, student population, and location) in the methods section of their article. However, the role of structural school factors in PD is only investigated and explicitly referred to in the results section in nine studies. Most of these studies document the role of student population (e.g., student background, teachers' expectations towards students, and SES). For instance, Craig (2001) describes that it is problematic if elements such as race, culture, and representation of student population are not taken into account in PD that is provided to teachers, while Johnson (2011) focusses on the relevance of Hispanic students' socio-economic and literacy-related obstacles in shaping PD for their teachers. Additionally, deliberately arranged organizational structures and resources that allow time and a framework for PD and structure it into teachers' work lives, seems to facilitate teachers' participation in PD activities. Also, school location (i.e., urban context) is a structural context variable that impacts PD according to teachers.

Conclusion

Structural school internal variables that are related to PD are mainly found in quantitative studies about PD, where they are often incorporated as control variables. In these quantitative studies, a wide range of variables such as school level, SES, type, student ethnicity, size, and location are mentioned. The few qualitative studies that explicitly investigate structural school variables mainly document the importance of student population, organizational structures and frameworks, and school location.

3.2.5 What are the effects of professional development for teachers (ability, motivation, behavior)?

In our theoretical framework, we explain that the AMO model argues that organizational interests are best served when HRM practices, such as PD, are designed to contribute to the ability (A), motivation (M), and opportunities (O) of teachers. In the value chain, abilities and motivation enhance the behavior of teachers as the final outcome at the teacher level. Opportunities are placed in the value chain as supporting variables for A and M and hence, we will focus on the opportunities in a next research question (3.2.6).

a) Quantitative

Parallel to previous studies regarding PD (Desimone, 2009; Merchie et al., 2016), for this research question (3.3.5), we distinguish between knowledge and skills ('ability'), attitudes, feelings, and beliefs ('motivation'), and teachers' behavior. In total, 57 of the studies included in our analysis (55%) describe such significant outcomes for teachers. Twenty-three of these studies identify a combination of significant outcomes.

In 22% (n=23) of the selected articles, teachers' **ability** is an outcome variable that is significantly related to teachers' PD. First, four studies find significant relationships with teachers' subject matter content knowledge, more specifically, in technology, mathematics, science, or in general. Second, the majority of studies (n=18) looks at teachers' pedagogical content knowledge (PCK), hence, at teachers' instructional repertoire or their teaching skills. Many of these studies use a measure of teacher efficacy (i.e., teachers' perceived ability to obtain desired outcomes), either in general or related to specific areas such as student engagement or classroom management (n=12). Others use concepts such as intercultural competence, preparedness to focus on mathematical concepts in the classroom, changes in teaching competence, familiarity with literacy strategies, or new teaching skills to indicate the instructional repertoire of teachers. Finally, one study does not fit in the classification above as it includes a broad measure of self-reported teacher learning in general.

When it comes to the outcome '**motivation**' (n=25 studies), we discern professional wellbeing, on the one hand, and attitudes about learning or teaching, on the other hand. First, a variety of factors related to professional wellbeing of teachers are significantly affected by PD (n=9). This encompasses variables such as professional wellbeing in general, job satisfaction, teacher morale, teacher extra effort, academic optimism, commitment to students, job, job-related anxiety, job-related depression, job attrition, and stress. Notably, job satisfaction is the only one of these variables that is identified in two separate studies, all other outcomes occur only once.

Second, a large bulk of studies discuss teachers' attitudes or beliefs (n=16). Here, we can distinguish between general beliefs and beliefs related to a specific topic. As to the general beliefs, three studies identify beliefs about education as significant outcomes (e.g., student-oriented versus subject matter-oriented beliefs), while two studies focus on the general perceived impact of teaching on students. Other studies (n=11) report on a relationship between PD and attitudes or beliefs related to a specific topic. In general, these are the topics that were targeted through PD (e.g., attitude towards technology, acceptability of RTI program, attitudes towards research, importance of incorporating students' home language in science teaching).

As for **behavior** as a teacher outcome, we found that 33 of the studies included in our analysis identify such significant behavioral outcomes. The vast majority of these outcomes can be classified as (changes in) classroom practices or instructional strategies (n=32), while two studies identify changes in interactions between teachers (i.e., feedback seeking and co-teaching). Notably, one

study is limited to teachers' intention to change aspects of their classroom practices (i.e., intention to use ICT). Moreover, the authors of six studies captured general 'changes in teaching practices', while the other studies covered a variety of content (e.g., mathematics teaching practices, intercultural behavioral changes, use of small-group work, laptop integration, use of 'assessment for learning', integration of media literacy, use of 'responsive classroom' practices and use of intentional reading comprehension instructions).

In the previous paragraphs, we described teachers' ability, motivation, and behavior as outcome variables of PD. However, there are a considerable number of studies (n=21) that incorporate such variables as control variables or as antecedents of PD as well. For instance, teacher efficacy and teacher beliefs can each be found as significant control variables in 7 studies, motivation is a significant antecedent in three studies, and two studies look at specific classroom behavior or practices, not as outcome variables but as independent variables. Hence, we argue that it is important to keep in mind that these variables related to teachers' ability, motivation, and behavior can serve as both outcome variables and as antecedents of PD. This stresses the reciprocal relationship between these variables and HRM-practices.

b) Qualitative

For this research question (3.2.5), we build on previous studies regarding professional development (Desimone, 2009; Merchie et al., 2016), that distinguished between knowledge and skills ('ability'), attitudes, feelings, and beliefs ('motivation'), and teachers' behavior. Almost all selected studies include such significant outcomes for teachers (n=42).

It is important to point out beforehand that numerous studies address the interrelatedness of these dimensions. For instance, Israel, Pearson, Tapia, Wherfel, and Reese (2015) focus on changes in teaching practices but along the way also define changes in confidence and knowledge, while Roehrig, Kruse, and Kern (2007) describe the rationale behind three patterns in PD outcomes: changes in beliefs and practices, changes in beliefs but not practices, and changes in practices but not beliefs. In the following paragraphs, we nevertheless focus on each of these dimensions separately for the sake of clarity.

Changes in teachers' **ability** are regularly identified in the selected studies. Researchers have frequently found that teachers get new knowledge or new ideas from PD. These ideas and knowledge can be rather general, related to subject matter content knowledge, or related to pedagogical content knowledge. For instance, Buczynski and Hansen (2010) found that PD increases teachers' science content knowledge, and Hanuscin, Lee, and Akerson (2001) link PD to changes in teachers' pedagogical content knowledge about teaching science. Teachers' also become increasingly skilled, competent, and confident through PD, evident either through teachers reporting increased teacher efficacy (e.g., Buston, Wight, Hart, Scott, 2002), or through observations (Sherin & van Es, 2009). Moreover, some authors mention teacher learning or growth as an outcome, without further specifying what this entails. While the vast majority of studies

report positive relationships between ability and PD, Craig (2001) identified a lack of knowledge and a hindrance of creativity as a result of PD as training did not provide enough information and was inadequate in terms of personal practical knowledge.

Of the three outcomes discussed in this review (i.e., ability, motivation, and behavior), **motivation** is the least identified outcome. With regards to teachers' professional wellbeing, a handful of studies discern outcomes such as motivation for learning, commitment, feeling good about their job, more involvement and ownership, motivation with regards to the job, and intention to remain in an urban school. A larger number of studies discuss teachers' attitudes or beliefs that change in response to PD activities on a certain topic. For instance, Lim and Chai (2008) describe that teachers' perceptions with regards to the affordances of computer tools change following PD. Besides these subject specific beliefs, pedagogical or didactical beliefs can also be affected by PD, as exemplified by Ermeling (2010) who found that teachers changed their beliefs about the need to let students struggle sometimes when working on problems.

As for **behavior** as a teacher outcome, we found that more than half of the selected studies identify some form of changes in classroom behavior. These changes can be on a general instructional level, varying from slight improvement of aspects of teaching to deeper instructional change, implying that not all changes are profound (e.g., Horn, Kane, & Wilson, 2015). Far more frequently, however, teachers implement in their classrooms what they have picked up throughout the PD and as such change or improve their practices. For instance, Kopcha (2012) found that teachers use more technology to support instruction once they completed a specific PD program, and Neuman and Wright (2010) found that coaching improved structural characteristics of literacy practices.

In addition, some PD activities can also lead to help or advice for future action in teachers' classroom practices, as identified by Horn and Little (2010), and thus lead to an intention for changing classroom practices. Next to classroom practices, interactions and relationships between teachers can also change as a result of PD. For instance, new ways of engaging and interacting with colleagues can emerge from participating in a community of practice (Lambson, 2010), but relationships can also change in a negative way when PD was problematic and unsuccessful (Craig, 2001).

In the previous paragraphs, we described numerous teacher outcomes in relation to PD. However, the selected studies also clearly indicate that it depends on certain circumstances whether teachers' ability, motivation, or behavior actually change and to what extent they change. Certain characteristics of PD are more facilitating for teacher learning outcomes than others. Some examples provided in the studies are explicit modeling of practices as opposed to explaining practices during PD (Akerson & Hanuscin, 2007), delivery mode: face-to-face, online, or coaching (Ketelhut & Schifter, 2001), level of collaboration in PLC (Meirink, Imants, Meijer, & Verloop, 2010) and traditional versus collaborative PD (Armour & Yelling, 2007). In addition, teachers' previous experiences influence whether or not teachers will adopt certain behaviors (Buston, Wight, Scott, 2002). Moreover, effects of PD can also vary across time, as shown by Franke, Carpenter, Levi, and

Fennema (2001) who found differences between short term and long term effects and Cosner (2011) pointing out different changes at the beginning of a PD project and at the end. Akerson, Cullen, and Hanson (2009) conclude that PD in itself is often not sufficient to change practices or ability, but that it can, however, provide a well-supported environment.

On a final note, several studies incorporate variables related to teachers' ability, motivation, and behavior as antecedents of professional development. For instance, Bruce, Esmonde, Ross, Dookie, and Beatty (2010) warn that inflated teacher efficacy based on invalid self-appraisal can impede teachers' benefit from PD opportunities. Hence, we argue that it is important to keep in mind that these variables related to teachers' ability, motivation, and behavior can serve as both outcome variables and as antecedents of professional development. This stresses the reciprocal relationship between these variables and HRM-practices.

Conclusion

The literature shows that PD can be related to three types of teacher outcomes: ability, motivation, and behavior. With regards to teachers' ability, quantitative and qualitative studies show that teachers get new ideas and knowledge from PD (e.g., subject matter knowledge, pedagogical content knowledge), as well as become more skilled and competent as a teacher. Changes in teachers' behavior are slightly more frequently identified in qualitative studies than in quantitative studies. These behavioral changes in both reviews encompass changes in classroom practices, and -to a lesser extent- also changes in interactions between teachers and intentions for practices. Motivational outcomes include teachers' beliefs, attitudes, and professional wellbeing. More attention is paid to these motivational outcomes by authors of quantitative studies compared to qualitative studies. The interrelatedness of ability, motivation, and behavior as outcomes is frequently acknowledged, especially in qualitative studies. In addition, several qualitative studies also point out that it depends on certain circumstances if and to which extent these changes take place. On a final note, several of these outcome variables can also be antecedents of PD, stressing the reciprocal relationship between PD and teachers' AMO/behavior.

3.2.6 Which variables are included that can be identified as opportunities?

Opportunities in this review are defined as the necessary support and possibilities in the work environment to do the job (cf. AMO-model). As previously explained, cultural school characteristics can be considered as opportunities in the school context. A wide variety of variables emerges in this regard.

a) Quantitative

Opportunities are described in 33 of the studies in this review (32%). First, four studies refer to school culture or school climate in general as a significant variable. Moreover, a commonly found

cluster of variables relates to collaboration between teachers (n=14), such as collaboration, collegial trust, collective efficacy, goal and task interdependence, collegiality, collectivism, communication, alignment, and structural networks. One particular study also highlights the importance of teacher-principal relationships, next to high quality coworker relationships. Closely related to this, 15 studies note the importance of support, either in the form of social support (collegial, principal or networks), or as more general support from the school leader or school policy, for instance for media literacy, technology or attending PD. Six studies identify teachers' influence over decision making or participative decision making as significant opportunities in schools, while shared vision and unity of purpose are found in five studies. Furthermore, some studies focus on characteristics of the job that are apparent at the school, such as job autonomy, role clarity, workload, emotional demands, or nature of the work (n=6). Finally, three studies point out the importance of a classroom climate, one study describes organizational norms for specific content (i.e., skill-based instruction), and another study also involves the parent-communities ties of the school.

b) Qualitative

Opportunities are described in 19 of the studies in this review. A commonly found cluster of variables relates to interactions between teachers or group dynamics (e.g., level of collaboration, professional relations, interdependency, group cohesion, alignment of goals, trust, collegiality, collaboration, collective responsibility, and recognition of teacher collaboration). The importance of an appropriate level of autonomy as well as a balance between autonomy and collegiality are also recognized. For instance, Clement and Vandenberghe (2000) showed that collegiality and autonomy are both necessary conditions for PD, but that defining the tension between both in a circular way creates the strongest learning opportunities and learning space. In addition, school culture and school climate are also identified as opportunities. Moreover, several studies note the importance of support, either in the form of collegial support or administrative support for PD and autonomy. An example is provided in the article of Franke et al. (2001) where they show that support from colleagues and making the implementation of PD a school endeavor rather than a single teachers' endeavor, is critical. In addition, support can exceed the school boundaries, as support from external facilitators or networks can also be highly beneficial for teachers' PD. Also mentioned in articles is the vision of the school, current traditions and existing ways of working, teachers' role perceptions, workload, and teachers' PD needs and choices.

Conclusion

Several opportunities are identified in the literature with regards to teachers' PD. A variety of factors recur in both quantitative and qualitative studies: collaboration and interactions with teachers, support (from administrator or colleagues), vision of the school, school climate, job features (e.g., autonomy and workload). A number of qualitative studies explicitly point out that a

balance between autonomy and collegiality is essential in school. In addition, qualitative studies show that support that exceeds school boundaries can be beneficial for PD.

3.2.7 To what extent are (indirect) outcomes of professional development identified at the school, student, or society-level?

a) Quantitative

About one third of our selected articles (n=30) also address significant variables at the student, school, or parent level as an outcome measure of PD. The vast majority of these studies focus on student learning outcomes (n=27). As to these student outcomes, most studies include measures of students' domain-specific, subject-related knowledge or skills (n=19). These studies in general describe increasing science achievement, language or literacy achievement, or mathematics achievement. It is noteworthy that these studies originate almost exclusively from the USA (n=17). Significant relationships with knowledge or skills in other domains are far less numerous (i.e., digital competence (n=1) and art and art integration performance (n=1)). Other researchers focus on general changes in students, a general measure for (perceived) student learning, or school-readiness (n=5). Moreover, some studies focus on affective variables (n=2, i.e., student satisfaction, student engagement) and one study reports on student absences and out-of-school suspensions.

Although far less frequently addressed than student outcomes, four studies mention variables at the school level as an outcome measure. These significant features are effectiveness of school-based-managing schools, school improvement, learning climate, school climate, limiting conditions in schools, and teachers' relationships with students. One study also finds increased parent satisfaction with the school (together with the previously mentioned student satisfaction) as an outcome.

b) Qualitative

Besides teacher outcomes, HRM-outcomes can also encompass (indirect) returns at the school, student, or societal level. Outcomes at the **school** level of PD as a personnel practice are identified in 10 studies. These studies cover a wide range of positive effects that PD can have for school, such as increased teacher leadership, school improvement, changes in vision of the school, building professional capacity, intentional collective learning, an improved work ethos, and a productive culture of collaboration. For instance, Quartz (2003) found that PD can result in mentoring, provide curriculum resources and assistance to veteran teachers in specific content areas, increase teacher leadership, and discussions.

Additionally, nine studies identify a variety of outcomes at the **student** level. On the one hand, some authors just mention these student outcomes broadly without going deeper into their precise content (e.g., 'gains for students', 'improved student outcomes' or 'improved student learning and

results'). On the other hand, student motivation and engagement can improve as a result of teacher PD, students have more time-on-task in their classrooms, students' views on specific topics improve, or students learn to be more efficacious. Contrarily to these positive consequences, Armour and Yelling (2007) note that traditional PD is often difficult to transfer to classroom situations and thus rarely impacts student. In addition, they warn of a possible side effect of traditional CPD, namely that it can be disruptive to students' learning because teachers often have to leave their classes to attend. One study also finds that parents can be more efficacious and aware of their power as a result of teachers' PD, which can be considered as an outcome at the **society** level.

Conclusion

In both reviews, additional outcomes of teacher PD at the student, school, and societal level are addressed. The focus is almost exclusively on student level domain-specific learning outcomes in the quantitative studies, with only a handful of studies also including school level outcomes. In the qualitative literature, however, student outcomes transcend domain-specific learning outcomes, are defined in a broader way and are questioned by some authors. Additionally, several school level outcomes such as vision, professional capacity, and collective learning are retrieved frequently as well in qualitative studies. In both the quantitative and qualitative review additional outcomes at the parent level are negligible.

3.2.8 Which other important variables, that are not included in the value chain, are included in the literature?

a) Quantitative

A total of 59 studies (57%) contain significant variables that are not included in the value chain. The majority of these variables can be divided in three broad groups: teacher variables, leadership variables, and student variables. Additionally, some studies consider other HRM-features or features of PD. Below, we discuss each of these categories.

First, almost one third of the selected studies (n=38) include demographic variables at the teacher level. Teaching experience appears to be the most important variable (n=18), followed by gender (n=11), educational background (n=10), responsibilities (e.g., teacher leader; n= 6), grade level (n=5), and age (n=5). A variety of demographic variables, such as race, employment status, technology use experience, in-field certification, language, and salary, are significant in just a few studies. In addition to these demographic variables, four studies also identify important features of a teacher's overall personality (e.g., conscientiousness, openness, extraversion).

Second, leadership appears to be a significant variable in a large number of studies (n=17). While some authors just incorporate one variable 'principal leadership' that encompasses several

leadership features (n=3), others specify specific types of leadership. For instance, six studies refer to transformational leadership, while instructional leadership and charismatic leadership are each mentioned as significant in two studies. Moving away from an asymmetric relationship between school leaders and teaching staff, authors also refer to supportive and shared leadership, collaborative leadership, learning-centered leadership, and trust in principal. While the previously mentioned types of school leadership do not specify the content area of leadership, one study that focused on PD related to technology also found 'strength of technology leadership' as a significant variable.

A third type of variable that is often significant in our selected studies, is student related (n=10). These studies generally refer to demographic student variables or prior achievement. However, given the focus of this review on PD as an HRM-practice, these variables are not relevant for the value chain at the individual student level. Nevertheless, such variables are already included at an aggregated level as structural school variables (see section 3.2.2).

Moreover, five studies demonstrate the link between PD and another HR-practices (i.e., teacher evaluation (n=4), pay and promotion opportunities (n=1)) while one study focuses on the relationship with a general high-commitment and distinctive HRM policy (n=1). Finally, one study demonstrates that the implemented policy features of mentoring are significantly related to actual practices.

b) Qualitative

A total of 10 studies contain variables that are not included in the value chain. These variables can be divided in three groups: teacher variables, leadership variables, and student variables. The student variables are only identified in one study and are not relevant for this review, considering its focus on PD as an HRM-practice. Thus, only teacher and leadership variables are discussed below.

With regards to teacher variables, experience and position are identified as influential demographic variables. For example, less experienced teachers engage in more full cycles of inquiry than their more experienced colleagues while the same is true for teachers leaders compared to regular teachers (Butler & Schnellert, 2012). In addition, teachers' personality can influence how open teachers want to be in sharing experiences with colleagues in collaborative PD initiatives (Lambson, 2010).

Second, leadership appears as an influential variable. Administrative support was already mentioned as an opportunity for PD (see 3.2.6). However, leaders can go further than merely providing support. Several studies refer to principals as facilitators and leaders of PD. Principal leadership can also be a means to shape and change collaborative cultures in schools. For instance, Cosner (2011) stressed the importance of principal communication for learning communities and principals' role as reform sense givers. Besides principal leadership, strong and focused

departmental leadership was also identified as essential to build a professional learning community in a department (Tam, 2015).

Conclusion

Two similar categories of variables that are not yet included in the value chain appear in the quantitative and qualitative studies about PD: teacher and leadership variables. Mainly identified as significant control variables in quantitative studies are a wide range of teacher demographic variables and teachers' overall personality. Qualitative studies only focus on teachers' experience, position and personality as teacher variables. Second, leadership appears to be an influential variable in PD studies, at the level of both principal leadership and forms of shared leadership. In addition, several quantitative studies demonstrate a link between PD and other HR-practices in schools, while such a relationship is not addressed in the qualitative studies.

3.2.9 Conclusion: Which variables are important in the context of professional development?

In the above paragraphs, we described which variables were important in the studies that we selected for our literature review. In order to provide an overview of these variables, we use the value chain and add these variables to the value chain in Figure 3.3. With regards to the quantitative findings, we indicate through the use of colors which variables are significant in five or more quantitative studies (green) or in two, three, or four quantitative studies (blue). Because we want to focus on the general picture, variables that are significant in just one quantitative study are not included in this overview or in the value chain. Additional information based on qualitative studies that extends beyond what we found in the quantitative analyses, is indicated in red (Figure 3.3).

We classified the described PD activities into four groups: updating activities, reflective activities, collaborative activities and unspecified activities. Looking at the value chain, PD policy and practice is mostly included as an actual policy or practice or as a perceived practice. When it is incorporated as an actual practice, descriptions of specific PD programs are often used for this purpose, as well as teachers' actual attendance of specific PD activities (formal or informal). To a lesser extent, researchers rely on observational data or data obtained from school leaders about school practices to report on actual practices. Qualitative studies also make use of document analysis. As for the perceived PD policy and practice, teachers' perceptions regarding the presence or encouragement of certain PD practices in their school are commonly used. In addition, teachers' personal values or perceptions about PD are addressed, just as teachers' perceptions regarding their engagement in PD through surveys (quantitative) or interview (qualitative). The intended policy or practice is taken into account in just one quantitative study and thus is negligible compared to the other categories.

Moreover, several quantitative studies show a significant link between PD and other HR-practices, more specifically with teacher evaluation. This demonstrates the need for a strategic HRM approach because HRM practices can meaningfully influence each other.

No market context variables are included in the selected studies. However, qualitative studies have identified several institutional context variables specific to the educational sector (e.g., NCLB-policy, need and expectations to teach mandated curriculum, and support of formal teacher groups). In addition, broader societal norms of collectivism are identified, as well as institutional conditions at the district level.

For the structural internal context, we found school level (primary/secondary), SES, and school type (e.g., charter/regular, vocational/general) as the most commonly identified features. Student ethnicity, school size and location are mentioned to a lesser extent in quantitative studies. Qualitative results also point to the importance of organizational structures to facilitate PD.

Next to the structural school context variables, a large number of studies include teacher variables. Therefore, we add these to the value chain. These teacher characteristics are mostly demographic variables, of which experience, gender, educational background, responsibilities, grade level, and age can be found in five or more studies. In addition, some general personality traits of teachers are also found as significant teacher variables. Also, as was explained earlier, we add school leadership to the value chain as it is significant in multiple studies. Transformational leadership and features of shared leadership are mentioned most frequently, while other leadership roles (e.g., instructional, charismatic, and general leadership) are identified in some studies.

When it comes to opportunities, a wide variety of variables emerges, of which collaboration, support, participative decision making, shared vision, and job features (e.g., job autonomy, workload) appear to be the most influential. Other significant opportunities lie in the school climate and classroom climate.

When looking at the significant outcome variables that are reported in the studies in our literature review, we notice that many studies find a significant relationship between PD and teachers' ability. In general, this encompasses teachers' abilities related to pedagogical content knowledge, while a few studies focus on teachers' subject matter knowledge. Teachers also get new ideas and knowledge through PD, as was demonstrated in qualitative studies. As for motivation as an outcome variable, both professional wellbeing and teachers' beliefs and attitudes are frequently retrieved. With regards to behavior, most studies indicate changes in teachers' classroom practices, either in general or related to a specific topic. A few studies focus on changes in interactions between teachers and intentions for changes in behavior. Based on our literature review, we noticed that these AMO/behavior variables are strongly interrelated. In addition, many of these variables also recur as control variables or antecedents of PD. For instance, teacher beliefs can also influence teachers' uptake of PD activities according to multiple studies. As such, we argue that it is important to keep in mind that the relationship between these AMO variables and HRM-practices

is of a reciprocal nature. Moreover, several nuances with regards to the potential impact of PD were identified in qualitative studies, which are important to keep in mind when studying the outcomes of PD.

Finally, several outcome variables are identified at the school and society level. The vast majority of the quantitative studies focused on student outcomes, either as increased student results or as general and broader student learning. Some studies also find a link between PD and affective student variables, such as student satisfaction. In addition, studies mention variables at the school level that refer to school improvement and school climate as outcome variables. Qualitative studies also identify a variety of changes at the school level such as changes in vision, professional capacity, and collective learning. No additional employee outcomes are retrieved from the literature.

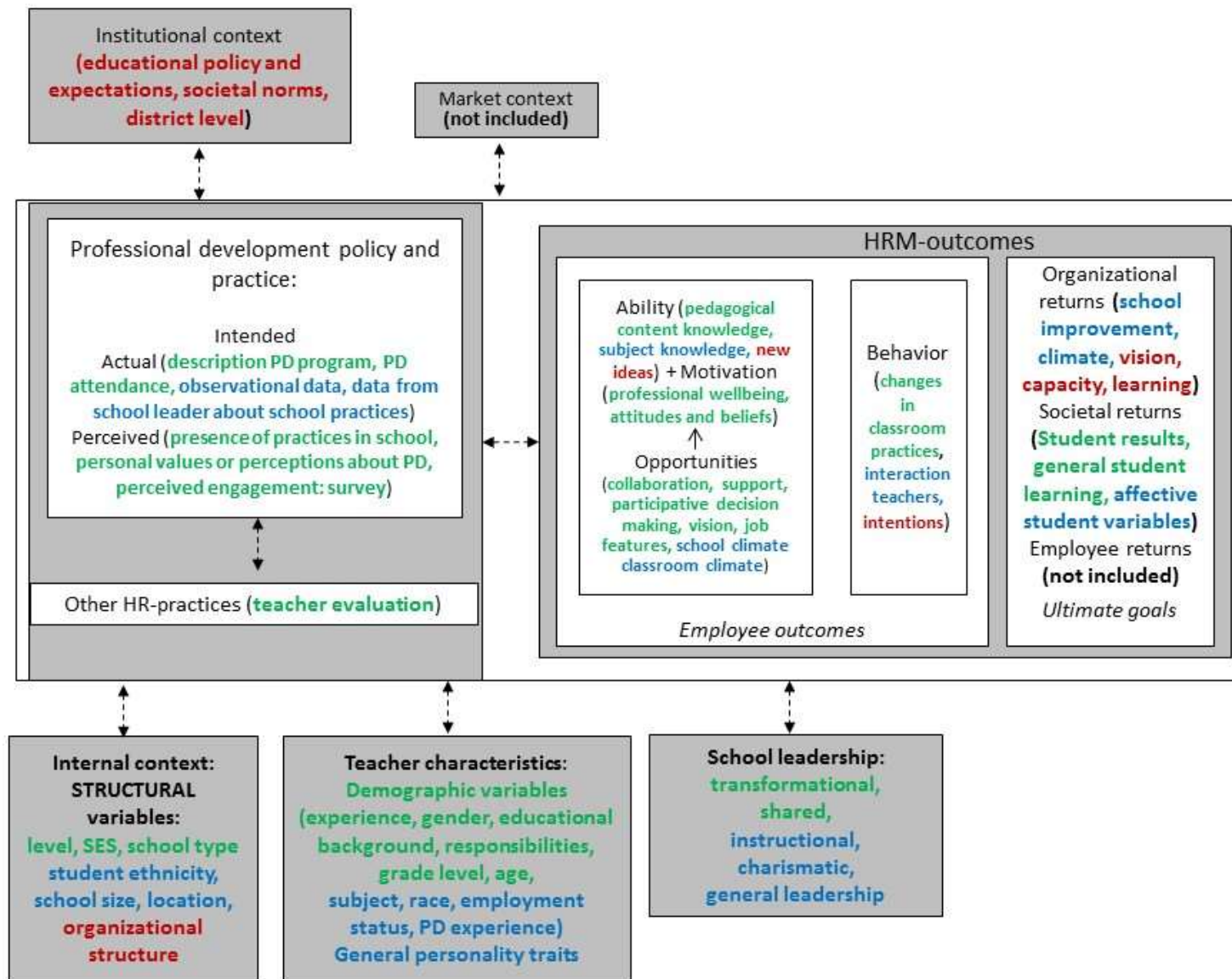


Figure 3.1. Value chain for professional development, based on quantitative and qualitative research

Chapter 4: Review of research on teacher evaluation

4.1 Methodology

4.1.1 Literature search and inclusion criteria

This review is focused on empirical studies (2000-2016) about teacher evaluation in schools. We used several keywords to identify studies on teacher evaluation such as ‘teacher evaluation’, ‘teacher assessment’, and ‘teacher appraisal’. Also, we excluded all research on higher education because our focus is on K-12.

a) Quantitative

We conducted a systematic search across several online databases: Social Science Citation Index (SSCI) and Emerging Sources Citation Index (ESCI) through Web of Science (WOS) and Education Resources Information Center and Bibliography of Asian Studies through EBSCO information services (EBSCO). We searched for English or Dutch peer-reviewed articles published in the time period of January 2000 through September 2016 in the Educational research category. Because we aim to identify quantitative research on teacher evaluation, we used several keywords to only maintain quantitative empirical studies such as ‘correlation’, ‘cluster’, ‘regression’, ‘quantitative’, ‘multilevel’, ‘path’, ‘SEM’, ‘structural equation’, ‘anova’, and ‘analysis of variance’. In a next step, we screened the articles by reading the abstract or the full article if necessary. During this screening, we removed articles that were not on topic (e.g., articles about the appraisal of students’ work by the teacher; articles about pre-service or student teachers).

In Table 4.1, we provide an overview of the number of studies that appeared after each search in the databases and after initial screening as explained above.

After initial screening, 31 articles remained that were included in the study for literature analysis. However, during the literature analysis and hence, a thorough reading in order to answer our research questions, certain articles were removed from the study for several reasons: one article was removed because it appeared to deal with higher education, one article was removed because it was not a peer reviewed article but a report, four article were removed because authors only reported descriptive statistics without discussing relationships between variables, and ten articles were removed because they did not deal with teacher evaluation as a specific HRM-practice in schools but reported on validation of general teacher evaluation instruments or the calculation of ‘value added measures’ (i.e., student test scores) to be used in general teacher evaluation.

Table 4.1. Results of searches in databases for teacher evaluation (quantitative)

Search	Number of papers	
	WOS	EBSCO
“teacher evaluation” OR “teacher assessment” OR “teacher appraisal” NOT “higher education”	290	3955
AND ‘correlation’ OR ‘cluster’ OR ‘regression’ OR ‘quantitative’ OR ‘multilevel’ OR ‘path’ OR ‘SEM’ OR ‘structural equation’ OR ‘Anova’ OR ‘Analysis of variance’	34	57
Screening	20	22
Total number of articles for review (after removing the articles present both in WOS and EBSCO)	31	
Total number of articles that were included in the literature analysis (after removing articles during a second thorough screening)	15	

Hence, for the literature analysis, 15 articles were integrated that deal with teacher evaluation in the primary or secondary school context as a specific HRM-practice or policy. This number illustrates that there is not a lot of quantitative empirical research about teacher evaluation as an HRM-practice in schools. Almost all selected studies are published from 2010 onwards. Only two studies were published earlier (i.e., in 2004 and in 2005). Eight studies were executed in the USA, six studies in Europe (of which 4 in (Flanders) Belgium, 1 in Cyprus, and 1 in Germany) and one study stemmed from Chile. The articles were all published in different journals, except for two articles that both stem from Teaching and Teacher Education. All articles that were included in the quantitative literature analysis on teacher evaluation can be found in Appendix 4.1.

b) Qualitative

We conducted a systematic search of the qualitative literature about teacher evaluation using the Social Science Citation Index (SSCI) and Emerging Sources Citation Index (ESCI) through Web of Science (WOS)³. We searched for English or Dutch peer-reviewed articles in the Educational research category, published between January 2000 and December 2016. Because we aim to identify qualitative research on teacher evaluation, we used several keywords to only maintain qualitative empirical studies: ‘qualitative’, ‘case study’, ‘interview’, ‘focus group’, ‘narrative’, ‘observation’, and ‘Delphi study’. In a following step, we screened the articles by reading the title, abstract, and briefly scanning the full article if necessary. During this screening, we removed articles that were not on topic or did not meet our selection criteria (e.g., articles about pre-service or student teachers, quantitative articles, and articles with no link to school policy).

³We decided to refrain from including the EBSCO database in the search for qualitative articles to insure the quality of selected qualitative articles (Hightower & Caldwell, 2010).

In Table 4.2, we provide an overview of the number of studies that appeared after each search in the databases and after initial screening as explained above.

After initial screening, 33 articles remained that were included in the study for literature analysis. However, during a thorough reading in order to answer our research questions, 12 articles were removed from the study for a number of reasons. More specifically, three articles were not empirical studies, one study was about higher education, two studies did not deal with teacher evaluation as an HRM-practice in schools, three studies were not on topic, and three studies reported only descriptive results.

Table 4.2. Results of searches in databases for teacher evaluation (qualitative)

Search	Number of papers
“teacher evaluation” OR “teacher appraisal” OR “teacher assessment”	313
AND “qualitative” OR “case stud*” OR “interview*” OR “focus group*” OR “narrative*” OR “observation*” OR “delphi stud*”	100
After screening: total number of articles for review	33
After reading full text – Total number of articles that were included in the literature analysis	21

Hence, 21 articles that deal with teacher evaluation as a specific HRM-practice of policy in primary of secondary schools were integrated in the literature analysis. The vast majority of these studies were published from 2011 onwards, with the exception of four studies, published respectively in 2003 (n=1), 2006 (n=2), and 2009 (n=1). Twelve of the studies were executed in the USA (one of which compared teacher evaluation in the USA and Korea), other studies originated from Europe (Flanders (Belgium) (n=2), Sweden (n=1), UK (n=1), and Portugal (n=1)), Asia (South-Korea (n=1), Malaysia (n=1), and China (n=1), and one study stemmed from Botswana. The articles were published in a range of journals, although ‘Educational Administration Quarterly’ clearly stands out with six articles stemming from this journal. In addition, ‘Asia Pacific Education Review’ and ‘Educational Assessment Evaluation and Accountability’ provided three articles, and ‘Educational Management Administration & Leadership’ and ‘Educational Researcher’ each supplied two articles. Other journals recur only once.

All articles that were included in the qualitative literature analysis on teacher evaluation can be found in Appendix 4.2.

4.1.2 Literature analysis

In a first step, developing a preliminary synthesis, all quantitative and qualitative articles were selectively read, examined, and coded according to the following characteristics: authors, title, year

of publication, journal, participants, research method, sample size, position of teacher evaluation in the study, and relevant variables.

In a second step, each of the articles in the final selection was thoroughly reread in order to identify significant sections answering the postulated research questions. These sections were coded based upon content analysis and summarized in tables. This included coding for the definition of teacher evaluation (RQ1), part of the management process (actual/intended/perceived) (RQ2), external influencing variables (RQ3), internal influencing variables (RQ4), effects on AMO or behavior of teachers (RQ5), opportunities (RQ6), broad outcomes for schools, students, or society (RQ7), and other important variables included in the study (RQ8). Finally, an overview of all important variables was provided and the value chain was completed (RQ9). If necessary, other important information with regards to the study was added during coding as a comment.

4.2 Results

In the following paragraphs, we describe our results per research question. In this process, we first discuss the results of the review of the quantitative studies, followed by the results of qualitative studies. To conclude, we provide a comparison of the quantitative and qualitative findings.

When presenting the quantitative results, we describe the variables that researchers incorporate in their research models and we identify which of these variables are significant. In the qualitative review, we look at variables that were identified as meaningful or important. We provide examples of how variables can interrelate and how this relationship can depend on various factors. Hence, the qualitative analyses are more of an interpretative nature.

To conclude this results section, the results of research question 9 (Figure 4.1) provide an overview of the main results of our literature review by showing the important variables that were identified in the studies from our review.

For readability of the results, we place all tables at the end of the result section in a separate paragraph (4.2.10 Tables).

4.2.1 How is teacher evaluation defined in the literature?

a) Quantitative

To answer our first research question, we provide an overview in Table 4.3 of the definitions in the quantitative articles which we used in this review. We notice that almost all authors recognize the double purpose of teacher evaluation in their description of this concept. Although authors describe that they recognize that teacher evaluation is intended to hold teachers accountable (summative) and to help them in their professional development (formative), we notice that in the

quantitative studies that are performed, authors mostly take one goal as central for their study. In this regard, three studies focus on the dual purpose of teacher evaluation, while five studies concentrate on mainly the formative aspects, and seven studies on mainly the summative aspects.

Noticeable, the focus in American studies is often on the summative purpose of teacher evaluation. These studies often relate teacher evaluation to student results (based on central student testing). The non-American studies focus more often on the formative purpose of teacher evaluation and relate teacher evaluation to teacher professional development in their study.

b) Qualitative

An overview of the first research question is provided in Table 4.4. Our analysis of the qualitative studies shows that the vast majority of studies elaborate on both the formative purpose of teacher evaluation –oriented towards professional growth and learning– and the summative purpose – linked to accountability and managerial decisions– when describing the institutional context of the study or the theoretical framework. Half of the authors (n=10) maintain this double focus throughout their study, often through investigating teachers’ or school leaders’ perceptions regarding the purpose of teacher evaluation. For instance, Vekeman, Devos, and Tuytens (2015) focus on discrepancies that occur depending on the principal’s standards for implementation (formative and/or summative) and teacher expectations of implementation (formative and/or summative), while Rigby (2015) elaborates on how school leaders enact and make sense of both aspects of teacher evaluation.

In addition to the studies maintaining a dual focus, six studies concentrate mainly on the formative goals of professional growth and instructional improvement (e.g., Zhang and Ng, 2011) and five studies deal with teacher evaluation with summative purposes such as pay or dismissal (e.g., Goldring, Grissom, Rubin, Neumerski, Cannata, Drake, and Schuermann, 2015).

Conclusion

Looking at the definitions of teacher evaluation that are provided in the quantitative and qualitative reviews, the dual purpose of teacher evaluation (formative and summative) is clearly recognized in the vast majority of studies. However, authors often take one goal as central for their study. This is most outspoken in the quantitative studies where only a few studies maintain the dual goal, as opposed to half of the qualitative studies. The remainder of the studies are fairly equally divided between studies focused on formative goals and on summative goals. Articles with a formative focus generally link teacher evaluation to professional development, while articles with a summative focus tend to concentrate on student achievement (quantitative) or other HR-practices (qualitative). The quantitative review found that the focus of studies tends to depend on the country where the study was executed, but such a relationship was not evident in the qualitative studies.

4.2.2 Which part of the management process (intended, actual, perceived) is researched?

a) Quantitative

We summarized in Table 4.5 which data was collected to capture the teacher evaluation process in the different studies. Most studies use data from the actual teacher evaluation practice through the use of administrative data. This is especially the case in the American studies where teacher evaluation systems exist that generate this type of data across schools, districts, or states. Some studies do not use this type of administrative data, but ‘simulate’ this by asking principals or externals to score teachers’ work. Also, two studies use a sort of actual data but focus more on the frequency or existence of teacher evaluation, which is a more simplified form of measuring the teacher evaluation practice. Four studies (all non-American) used perceived teacher evaluation practices in their model. In all cases this meant teachers were asked about their perceptions about their teacher evaluation. One study also used a measure that is about the intended teacher evaluation procedure of the school leader.

Hence, we notice that all three parts of the management process occur in the literature although the emphasis is clearly on the actual process, especially in the case of administrative data about teacher evaluation scores.

b) Qualitative

The second research question describes which part of the teacher evaluation process (intended, actual, or perceived) is researched in qualitative studies and is summarized in Table 4.6. Six qualitative studies exclusively report perceived teacher evaluation practices, while the remainder of the studies (n=15) use a combination of practices. More specifically, five studies describe actual and perceived policy and practices, two studies focus on intended and actual policy and practices, and eight studies combine intended, actual, and perceived policy and practices. As such, almost all studies contain some form of perceived practices (n=19), while 15 studies use actual practices. Interestingly, almost half of the studies (n=10) involve intended policy or practices.

Studies are classified as describing perceived practices and policy when they comprise school leaders’ perspectives regarding national policy or teachers’ perceptions about the teacher evaluation policy and practices in their school (e.g., Ha & Sung, 2011). In addition, actual teacher evaluation practices are mapped by observations during teacher evaluation practices, artefacts of teacher evaluation, or by obtaining factual information about teacher evaluation practices (e.g., Halverson & Clifford, 2006). Finally, information regarding goals and intentions of practices and policy are documented by policy documents or are obtained from policy makers, either from central office personnel (in relation to national or district policy), or from school leaders (in relation to school policy) (e.g., Donaldson & Papay, 2015).

An explanation for the frequent occurrence of studies that combine multiple perspectives (intended, actual, and perceived) lies in the methodology adopted by authors and is twofold. First, qualitative research methods enable researchers to obtain multiple perspectives from the same participant. For instance, Kraft and Gilmour (2016) conducted interviews with school leaders to investigate their perspectives on national evaluation policy, their intentions regarding teacher evaluation policy in their school, and their accounts of implemented teacher evaluation, thus combining the three perspectives. Second, many studies rely on multiple groups of participants (e.g., school leaders, teachers, central office personnel, ...) or multiple ways of data collection (e.g., interviews, observations, focus groups, open-ended questions in surveys, and artefacts of teacher evaluation and policy documents) in the same study.

Conclusion

Teacher evaluation policy and practices are researched remarkably different in quantitative and qualitative studies. Quantitative studies mostly include teacher evaluation as the actual policy or practices, using administrative data about teachers' scores. Perceived and intended practices are also included but far less frequently. Quantitative studies that combine parts of the management process are exceptional. In contrast, the vast majority of qualitative studies combine multiple aspects of teacher evaluation (intended, actual, and/or perceived), as a consequence of the qualitative research methodology that facilitates this. Almost all qualitative studies contain some form of perceived practices, while actual and intended policy and practices occur in respectively three quarters and half of the studies.

4.2.3 What external context variables (market and institutional context) are identified as facilitating or inhibiting?

a) Quantitative

Our third research question reveals no results in the selected quantitative studies. This means that none of the studies include variables that focus on the market or institutional context. Many authors explain the market and/or institutional context and specific challenges of this context in which teacher evaluation takes place in the introduction of their article. However, they do not include specific external context variables in their quantitative analyses of their study. In this regard, this can be considered as a gap in the quantitative literature on teacher evaluation. We assume that this gap is related to the difficulty of measuring these kinds of variables quantitatively or to the rather indirect effect of these context variables for teacher evaluation and its outcomes. Moreover, market and institutional context often is very specific for the country in which research takes place and hence, is not always easy to frame for an international audience in the international

literature. We expect that these variables might be more included in the qualitative research on teacher evaluation.

b) Qualitative

This third research question sets out to uncover external context variables that are relevant in the light of teacher evaluation. Many authors use external context variables to describe the setting of their study with regards to teacher evaluation policy and practices. In most cases, these variables are only mentioned either in the introduction or methods section, or used purely descriptively in the results section (e.g., Flores, 2012).

However, six studies explicitly investigate these external context variables and link them to other variables (see Table 4.7). The most elaborate study on this topic investigates how a new teacher evaluation policy in Connecticut was created from an initial concept to early implementation (Donaldson & Papay, 2015). The authors describe the interplay between general market mechanisms and institutional variables (general and specific) in this process. More particularly, they focus on the role of key stakeholders (e.g., city's mayor, superintendent of the district, teachers' union president, and teachers), teacher unions (e.g., expiration of former collective-bargaining agreement, collaboration between teacher union and other stakeholders, and getting support and trust from teachers), and the national context (e.g., economic downturn and struggling economy, job insecurity, national attention towards the issue of failing teacher evaluation, national policy emphasis on teacher evaluation, electoral politics, and public opinion). Additionally, other studies point towards the influence of national policy, the meso-level policy and support (e.g., district, state, or school networks), and principal preparation programs. Finally, one study takes into account several South Korean cultural factors such as the steep hierarchy, union support, and general representations and perceptions regarding teachers (Ha & Sung, 2011).

Conclusion

While no external context variables (market or institutional) are identified in the quantitative literature concerning teacher evaluation, several qualitative studies do point at the importance of external context variables. The majority of the identified variables are institutional variables either specific to the education context (e.g., legislation, policy, and unions) or specific to the culture of a country. The labor market condition is also identified as an important market variable.

4.2.4 What school internal context variables are important in light of teacher evaluation?

As explained in the theoretical framework (Chapter 1), we distinguish between structural school characteristics and cultural school characteristics. The cultural school characteristics can be seen as opportunities in the school context that support teachers. Hence, these cultural school

characteristics are coded as opportunities and are described in the result section of research question 6 (see 4.2.6). In this section, we include all structural school characteristics that authors use in the selected literature.

a) Quantitative

Related to the school internal context variables, we observe that these are more frequently integrated in the selected quantitative studies than the external context variables (see Table 4.8). Studies that are not included in the table did not include such structural school characteristic variables in their analyses. Hence, we observe that 6 out of 15 studies do include school internal context variables in their analyses. We notice that school size and SES-related variables occur most frequently in the studies.

b) Qualitative

Several authors provide a description of structural characteristics of participating schools (e.g., location and student population) in the methods section of their study. However, only seven studies explicitly investigate the role of structural school characteristics for teacher evaluation, uncovering a few important variables (see Table 4.9). Most attention is directed toward the variable 'time', more specifically providing time to implement teacher evaluation and structuring it into leaders' work lives. For instance, Donaldson (2013) pointed out that lack of time to implement teacher evaluation due to other tasks, the number of teachers that need to be evaluated, competing priorities, etc. is a serious barrier for many school leaders towards carrying out teacher evaluation. Additionally, studies identify the following variables: other policies, schedules, average teaching experience of the team, school size, overall SES, student achievement level, charter status, and school level. For instance, Halverson and Clifford (2006) document that other school policies and plans (e.g., student support system and existing curriculum), daily schedules, and prior evaluation systems relate to how school leaders will implement a new teacher evaluation policy, while Donaldson (2013) shows that school leaders in small schools and in primary schools perceive fewer barriers towards carrying out teacher evaluation than leaders in large schools and in secondary schools.

Conclusion

A number of structural school internal variables are incorporated as control variables in quantitative studies about teacher evaluation. In these quantitative studies, school size and SES-related variables occur most frequently, of which the SES-related variables are also significant in multiple studies. The few qualitative studies that explicitly investigate structural school variables mainly document the role of time, but also uncover variables such as other school policies, daily schedules, school size, and school level.

4.2.5 What are the effects of teacher evaluation for teachers (ability, motivation, behavior)?

In our theoretical framework, we explain that the AMO model argues that organizational interests are best served when HRM-practices, such as teacher evaluation, are designed to contribute to the ability (A), motivation (M), and opportunities (O) of teachers. Ability means necessary skills and knowledge, motivation deals with wanting to do the job and being incentivized, and opportunities refer to the necessary support and possibilities in the work environment to do the job. In the value chain, abilities and motivation enhance the behavior of teachers as the final outcome at the teacher level. Opportunities are placed in the value chain as supporting variables for A and M and hence, we will focus on the opportunities in a next research question (see 4.2.6). This research question focuses on ability, motivation, and behavior.

a) Quantitative

When we look at the effects of teacher evaluation for the ability, motivation, and behavior of teachers that are reported in our selected quantitative studies (Table 4.10), we observe outcomes on the ability (one study), motivation (two studies), and behavior (four studies) level of teachers.

Certain studies do not include teacher outcomes in their analyses. This is especially the case in studies that focus on student results as outcome variable or in studies where the outcome variable is the teacher evaluation variable itself.

b) Qualitative

The vast majority of the selected qualitative studies (n=15) discuss the relationship between teacher evaluation and teacher outcomes (Table 4.11). While several studies describe positive outcomes for teachers, others mainly identify a lack of impact or (unintended) negative consequences.

With regards to ability, studies point out that teacher evaluation mainly leads to new ideas or teacher reflections based on feedback they received during teacher evaluation. For instance, teachers in the study of O'Pry and Schumacher (2012) feel that opportunities for self-reflection were provided during their evaluations and that this enabled them to set goals for instructional improvement in the future. Similarly, Monyatsi, Steyn, and Kamper (2006) describe that teacher evaluation can result in knowledge of professional progress, own strengths and weaknesses, and new skills and knowledge. In addition, teacher evaluation can also allow teachers to learn about each other's teaching beliefs, strategies, methods, and specific skills (Zhang & Ng, 2011).

As for teachers' motivation, teacher evaluation can be a source of professional pride for some teachers (Ha & Sung, 2011) and can increase motivation when it is seen as an appreciation of the

management for teachers' work (Monyatsi, Steyn, & Kamper, 2006) and when the evaluation is positive (Page, 2015).

Some studies also point out that teacher evaluation can lead to changes in teachers' instructional practices and behavior. For instance, several American teachers in the study of Kim and Youngs (2015) describe that they use teacher evaluation to improve their instruction. Next to classroom practices, interactions and relationships among staff or between teachers and superiors can also improve due to teacher evaluation. For example, some teachers were supporting their peers to improve their formative ratings, thus impacting their mutual interactions, although such support did not occur frequently (Kraft & Gilmour, 2015).

Besides these positive effects, almost all of these studies also point out the limits of teacher evaluation in making significant contributions to teachers' growth or practices. As such, missed opportunities for substantive conversations about practice and improvement are identified, feedback is often perceived as unhelpful, irrelevant, or not linked to teachers' needs, and constructive input for teaching is lacking. This lack of positive outcomes occurs around the globe. For instance, Malakolunthu and Vasudevan (2012) found that Malaysian teachers had negative perceptions towards teacher evaluation and felt that it was mainly focused on controlling and checking. As a consequence, none of the respondents could name a significant change or improvement that was introduced in their instructional practice or overall teacher performance as a result of teacher evaluation in schools. Similarly, Kim and Youngs (2015) found that several teachers in the USA barely changed their teaching practices or used the results of teacher evaluation in any notable way, while a study from Sweden (Lundström, 2012) uncovered that teacher evaluation and the resulting criteria for pay-setting did not encapsulate or promote goals that are essential in teachers' professional practice.

Several authors also point out unintended negative outcomes, mainly related to teachers' motivation. Teacher evaluation is found to be demoralizing when not carried out properly or when teachers think its main purpose is control and retrenchment (e.g., Monyatsi, Steyn, & Kamper, 2006). Other studies point out factors such as increased feelings of stress, feelings of pressure, more work hours, lack of motivation, discouragement, and lack of feelings of appreciation. Several teachers feel so unmotivated and tired because of teacher evaluation that they consider leaving the job and retiring early (Flores, 2012). In addition, teacher evaluation can contribute to tensions and conflicts among teachers and between teachers and the principal, due to factors such as the competitive and summative nature of teacher evaluation, negative evaluations, and feelings of unfairness with regards to teacher evaluation (e.g., Ha & Sung, 2011).

These mixed outcomes show that teacher evaluation has the potential to positively contribute to teachers' ability, motivation, and behavior, but that this should not be taken for granted. Of course, it should be kept in mind that these results are partially due to the qualitative nature of these studies, allowing participants to nuance and formulate both positive and negative outcomes at the same time. In addition, participants appear to differ substantially in their perceptions with regards

to the value of teacher evaluation for teacher outcomes, depending on the teacher evaluation context they operate in. Nevertheless, opinions also differed within similar contexts (e.g., teachers within one school having opposite perceptions or studies executed within similar teacher evaluation contexts leading to different outcomes).

Conclusion

The literature shows that teacher evaluation can be related to three types of teacher outcomes: ability, motivation, and behavior. Quantitative studies tend to mainly focus on teacher behavior, with less emphasis on motivational and ability changes. Qualitative studies identify positive outcomes for all three categories (ability, motivation, and behavior), but also showcase the potential lack of impact of teacher evaluation, as well as several (unintended) negative consequences, mainly related to teachers' motivation.

4.2.6 Which variables are included that can be identified as opportunities?

a) Quantitative

Only two studies describe variables that can be seen as opportunities (i.e., the necessary support and possibilities in the work environment to effectively do your job) and as explained above can be seen at the same time as cultural school internal context variables. Blömeke & Klein (2013) include teacher autonomy in their study and argue that this variable influences teachers' ability to deal with the challenges of instruction and classroom management. Tuytens & Devos (2014) include teacher collaboration and argue that this variable might help in problem solving, feedback provision, and supporting the individual teaching practice. In both studies, these variables are significant.

b) Qualitative

As shown in Table 4.12, opportunities (i.e., the necessary support and possibilities in the work environment to effectively do your job) are described in six of the studies in this qualitative review. On the one hand, authors mention the role of school culture with regards to teacher evaluation (previous experiences with feedback, culture with high value of teacher growth, and ubiquity of appraisal) and other existing norms and practices. School leaders in the study of Donaldson (2013), for instance, noted that existing norms that discourage honest, critical feedback, and dismissal of popular team members can impede school leaders' ability to evaluate and dismiss how they see fit. On the other hand, a focus on collaboration, good relationships, and sharing can support teacher evaluation (e.g., Zhang & Ng, 2011).

Conclusion

Only a few opportunities are identified in the quantitative and qualitative literature about teacher leadership. Collaboration as an opportunity is identified in both quantitative and qualitative research. Additionally, autonomy is an important variable found in quantitative research, while qualitative studies also mention school culture (in general and with regards to teacher evaluation).

4.2.7 To what extent are (indirect) outcomes of teacher evaluation identified at the school, student, or society-level?

a) Quantitative

One such indirect outcome is mentioned in several studies in our selection, namely student results. Especially in the American studies this variable is integrated in the analysis as an outcome variable. This is the case in the following studies: Barile et al. (2012); Borman & Kimball (2005); Forman & Markson (2015); Garrett & Steinberg (2015); Harris, Ingle & Rutledge (2014); Kimball et al. (2004); Santelices & Taut (2011); and Strunk, Weinstein & Makkonen (2014). Most studies observe correlations between teacher scores and student results, however, it is necessary to be prudent about the causality of these results.

b) Qualitative

Only two studies briefly note broad outcomes of teacher evaluation. One of these studies warns teacher evaluation might have negative effects on students, because the large amount of time teachers spend on paperwork related to teacher evaluation might be better spent on working with their students (Flores, 2012). Another study shows how data from teacher evaluation is used to inform administrators to take necessary actions to improve the teaching quality of the school as a whole (Zhang and Ng, 2011).

Conclusion

Indirect outcomes of teacher evaluation are mainly found in quantitative studies and are generally about student outcomes. Most of these quantitative studies find correlations between teacher evaluation scores and student results. On the other hand, qualitative studies warn that spending too much time on teacher evaluation can negatively affect students. However, teacher evaluation can also positively improve teaching throughout schools as a whole.

4.2.8 Which other variables, that are not included in the value chain, are included in the literature?

a) Quantitative

Teacher characteristics are commonly included in the selected studies. This is the case in 7 studies: Borman & Kimball (2005); Delvaux et al. (2013); Garrett & Steinberg (2015); Harris, Ingle & Rutledge (2014); Kimball et al. (2004); Orphanos (2014), and Tuytens & Devos (2014). In most cases, the included teacher characteristics are demographic variables, with experience as the most common significant variable in several studies. Also, teacher academic performance is significant in one study (Orphanos, 2014). Race and degree are also found to be significant by Garrett & Steinberg (2015). Other included teacher characteristics are gender and credentials. However, these are not significant in the selected studies.

A second type of other variables that are often included in the quantitative literature on teacher evaluation, are school leadership variables. Six studies in our selected literature mention school leadership as an important characteristic in the context of teacher evaluation. Table 4.13 demonstrates the different school leadership variables that are included and which ones are found to be significant. School leadership is not explicitly mentioned in the value chain. However, we observe that this variable is significant in six studies in our literature review. Hence we argue, considering its relevance, that it is important to explicitly add this variable to the value chain.

b) Qualitative

All but one of the qualitative studies contain variables that are not included in the value chain (n=20). These variables can be divided in three groups: leadership variables, other HR-practices, and teacher variables.

First, leadership appears to be an important variable for teacher evaluation. Interestingly, the vast majority of these studies focus on school leaders' roles as appraisers or evaluators. Studies refer to the importance of evaluators' knowledge and skills involving teacher evaluation (e.g., about the process, giving feedback, communicating about teacher evaluation, and dealing with different expectations), their past experiences as an evaluator and as a teacher, their will and motivation to conduct teacher evaluation, the value they place on evaluation, and their primary goals and aims in implementing teacher evaluation. As such, this illustrates the link between intended teacher evaluation policy, on the one hand, and actual and perceived policy, on the other hand. For instance, Vekeman, Devos, and Tuytens (2013) describe the relevance of school leaders' beliefs about the goal of teacher evaluation (formative or summative), the perceived usefulness, leaders' previous experiences, and leaders' reactions to difficult situations.

Additionally, some features of general school leadership are identified: skill, ingenuity, initiative, professional development, high expectations, appreciation and motivation of teachers, showing

commitment to daily teaching practice, and stimulating a safe environment (e.g., Tuytens & Devos, 2014).

Second, the link between teacher evaluation and other HR-policies and practices appears to be an important focus in qualitative studies. Multiple studies describe how teacher evaluation can link to the following HR-practices: teacher contract renewals, hiring, offering professional development activities, teacher compensation systems (pay or awards), promotion, dismissal, and assigning teachers to particular grades, subjects and classes. For instance, Tucker, Stronge, Gareis, and Beers (2003) describe how portfolios can be used for the intended purpose of accountability (e.g., ratings of teachers) in the evaluating process. Nevertheless, the link between teacher evaluation and these other HR-practices is not always clear for teachers, as documented for instance in the study of Lundström (2012) , in which teachers did not know how their performance was assessed and how this relates to their salary.

Third, with regards to teacher variables, teachers' training and beliefs are influential variables. For example, O'Pry and Schumacher (2012) mention the importance of teachers' perceptions of the level of preparation they had received. Next to training and beliefs, position (teacher or administrator), status (tenured or probationary), beliefs, and subject are mentioned.

Conclusion

Three categories of variables that are not included yet in the value chain appear in the studies about professional development. Both quantitative and qualitative studies illustrate the central role that school leaders play for teacher evaluation. Quantitative studies tend to focus on general leadership features, while qualitative studies also look at characteristics of how school leaders fulfill their role as an evaluator. Second, teacher variables are frequently incorporated in quantitative studies but are rarely significant, while they are only briefly mentioned in qualitative studies. Third, qualitative studies also demonstrate the link between teacher evaluation and other HR-practices and policies.

4.2.9 Which variables are important in light of teacher evaluation? An overview.

In the above paragraphs, we described which variables were included in the studies that we selected for our literature review. Of course, not all variables were found to be crucial in these studies. In order to provide an overview of the important variables, we use the value chain in Figure 4.1. As for the quantitative findings, we indicate through the use of colors which variables were significant in only one study (blue) and which variables were significant in several studies (green). Additional information based on qualitative studies that extends beyond what we found in the quantitative analyses, is indicated in red (see Figure 4.1).

The teacher evaluation policy and practice is mostly included as the actual policy or practice in the quantitative studies in our review. The score teachers receive during teacher evaluation is often used for this purpose. This is especially the case in the American context in which they have formal teacher evaluation systems that provide teachers with such a score. However, also the perceived and intended practice are included, albeit less frequently. The vast majority of qualitative studies, however, combine multiple aspects of teacher evaluation (intended, actual, and/or perceived), as a consequence of the qualitative research methodology that easily allows this (e.g., interviews, observations, document analysis, and focus groups). Almost all qualitative studies contain some form of perceived practices, while actual and intended policy also occur frequently.

Moreover, several qualitative studies show an important link between teacher evaluation and other HR-practices in the areas of staffing, professional development, and rewards. This demonstrates the need for a strategic HRM approach that deals with a range of HR-strategies together.

While no external context variables are identified in the quantitative literature concerning teacher evaluation, several qualitative studies do point at the importance of external context variables. The majority of the identified variables are institutional variables specific to the education context (e.g., legislation, policy, and unions). Additionally, some cultural factors are acknowledged. The labor market condition is identified as an important market variable.

For the structural internal context, we found one variable that is important in multiple quantitative studies, namely SES. Other significant internal context variables are urbanicity, school size, teacher pay, and parental involvement, although these are each only significant in one quantitative study in our review. The few qualitative studies that investigate structural school variables add the role of time, other school policies, and school level (primary/secondary).

Next to the structural internal context variables, studies in our review often take into account teacher characteristics. Therefore, we add these to the value chain as influential for the HRM system and HRM outcomes. These teacher characteristics in quantitative studies are often teacher demographics such as teacher experience, which is significant in several studies. Qualitative studies also identify teacher training, teacher understanding with regards to teacher evaluation, position (teacher/administrator) and status (tenured/probationary)

In addition, as we explained earlier, school leadership is not included in the initial value chain, but based on our literature review, we add this variable to the value chain too as it is significant in several quantitative studies. For a qualitative point of view, leadership concerning teacher evaluation and general school leadership variables are acknowledged for their importance with regards to teacher evaluation.

When it comes to opportunities, only a few variables are identified as such, of which collaboration appears to be the most important variable. Other important opportunities are teacher autonomy and school culture.

Outcomes of teacher evaluation at the teacher level focus in quantitative studies mainly on the behavior of teachers, namely several studies investigated the undertaking of professional learning activities in response to feedback teachers received during teacher evaluation. In this regard, a link between teacher evaluation and professional development (another HR-practice) can be made, although the studies measure the individual actions of teachers and not the school policy related to professional development. However, we feel this demonstrates the need to pay attention to a more strategic HRM approach in which several HRM-practices/policies are interrelated. Qualitative studies focus more broadly on the potential of teacher evaluation for ability, motivation and behavior of teachers, but also stresses potential negative outcomes of teacher evaluation, mainly related to their motivation.

Regarding outcomes at school, societal or student-level, we notice that quantitative studies stemming from the USA focus on the effects/potential of teacher evaluation for student results, although in the qualitative studies some warnings are mentioned that spending too much time on teacher evaluation might negatively influence students. One qualitative study reports the potential of teacher evaluation to improve the quality of the teaching staff as a whole in the school.

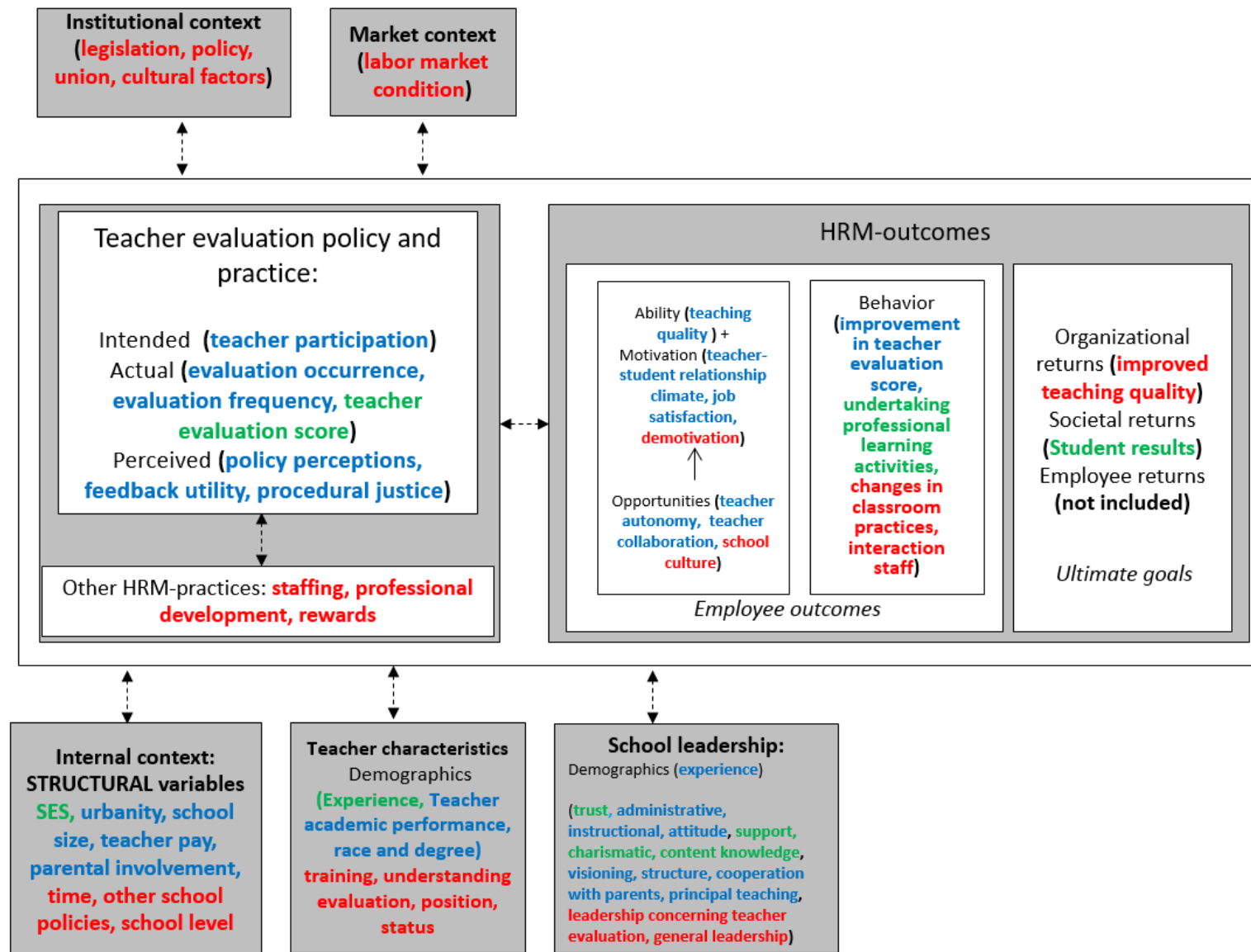


Figure 4.1. Value chain for teacher evaluation, based on quantitative and qualitative research

4.2.10 Tables

Table 4.3. Descriptions of teacher evaluation in the quantitative studies of our literature review

Article + country	Definition of teacher evaluation	Formative and/or summative focus in study
Barile et al. (2012) – USA	“Methods to improve teacher effectiveness include evaluations (e.g., by principals, students, or other teachers...” ... “In public schools around the United states, the vast majority of teacher evaluations are conducted by school principals who typically use checklists or observations to determine teacher effectiveness.”	Formative and summative
Blömeke & Klein (2013) – Germany	“Teachers not only consider appraisal as a fair assessment of their work but also that it has a positive influence on their satisfaction, the quality of their work and their development as teachers.”	Mainly formative
Borman & Kimball (2005) – USA	“These systems are designed to assess teaching practice using a comprehensive set of standards and rubrics with the intention of enhancing instruction and strengthening educational accountability.”	Mainly summative
Dee & Wyckoff (2015) – USA	“IMPACT established several explicit measures of teacher performance and linked the overall measures performance of individual teachers both to the possibility of large financial incentives as well as to the threat of dismissal.”	Mainly summative
Delvaux et al. (2013) – Flanders (Belgium)	“Teacher evaluation systems can play an important role in improving teacher competency.”	Mainly formative
Forman & Markson (2015) – USA	“... establishing a comprehensive evaluation system for teachers, requiring classroom teachers to receive an annual professional performance review rating (APPR) from a composite effectiveness score with a score of “highly effective”, “effective”, “developing”, or “ineffective”.”	Mainly summative
Garrett & Steinberg (2015) – USA	“Even as federal policy efforts have promoted more rigorous approaches to evaluating teacher performance, little consensus exist about the most salient measures of teacher effectiveness for the purposes of teacher accountability (such as high-stakes tenure decisions) and compensation (such as merit-based pay programs).”	Mainly summative
Harris, Ingle & Rutledge (2014) – USA	“If teacher evaluation is used to make hiring, promotion, tenure and dismissal decisions – and if different evaluation tools give greater weight to some qualities over others – then the choice of evaluation tool would likely influence the qualities and activities of teachers.”	Mainly summative

Kimball et al. (2004) – USA	<i>“The combined sources of evidence are intended to provide the basis for evaluators’ formative and summative evaluation decisions, and related performance feedback.”</i>	Formative and summative
Orphanos (2014) – Cyprus	<i>“... the most important purposes of the teacher evaluation system: licensing/credentialing, tenure, self-assessment and professional development. These purposes fall under the two general umbrellas of accountability and self-improvement, but it is evident that accountability is the driving force of the system because no special attention is given on the evaluation’s formative purposes.”</i>	Mainly summative
Santelices & Taut (2011) - Chile	<i>“The evaluation system’s formative, non-punitive character has consistently been stressed in official discourse... . At the same time, however, the NTES is a mandatory, high-stakes evaluation system where those teachers who are found to be high performing are eligible for an increase in salary, while low-performing teachers are subject to professional development, and – if evaluated ‘unsatisfactory’ in three consecutive years – loss of employment.”</i>	Formative and summative
Strunk, Weinstein & Makkonen (2014) – USA	<i>“There has been little research that specifically tackles the problem from the perspective of teachers and administrators implementing new evaluation systems, examining the different measures to see if the measures as they are given to teachers and principals in schools provide them with consistent signals about teacher effectiveness.”</i>	Mainly summative
Tuytens & Devos (2010) – Flanders (Belgium)	<i>“In this evaluation process, regular feedback has to be provided to the teacher and if necessary, the teacher has to receive help to improve his performance.”</i>	Mainly formative
Tuytens & Devos (2011) – Flanders (Belgium)	<i>“School leaders are prompted in many countries to implement teacher evaluation as a mean to improve the quality of instruction and increase student learning... The professional development of teachers is one of the main goals of teacher evaluation.”</i>	Mainly formative
Tuytens & Devos (2014) – Flanders (Belgium)	<i>“This study focuses specifically on the influences of formative teacher evaluation which focuses on the improvement of teachers’ practice.”</i>	Mainly formative

Table 4.4. Descriptions of teacher evaluation in the qualitative studies of our literature review

Article + country	Definition of teacher evaluation	Formative and/or summative focus in study
Goldring, Grissom, Rubin, Neumerski, Cannata, Drake, Schuermann (2015) – USA	<i>“new source of information that principals and schools can utilize in decision making” + “... role in principals’ human capital decision making (e.g., teacher hiring, contract renewal, assignment to classrooms, professional development)”</i>	Mainly summative

Kimball & Milanowski (2009) – USA	<i>“a common framework for evaluation discussions among school leaders and teachers, promote instructional improvement through formative feedback, and encourage teacher reflection. Evaluation ratings are also used for summative evaluation decisions, such as interventions for substandard performance, contract renewal, and tenure.”</i>	Formative and summative
Halverson & Clifford (2006) – USA	<i>“This need is particularly acute for principals who must balance summative and formative feedback within the same evaluation cycles”</i>	Formative and summative
Jiang, Spote, & Luppescu (2015) – USA	<i>“structuring the evaluations to be useful from both talent management and teacher professional development perspectives”</i>	Formative and summative
Donaldson (2013) – USA	<i>“Teacher evaluation and dismissal”</i>	Mainly summative
Tucker, Stronge, Gareis, & Beers (2003) – USA	<i>“to determine the efficacy of portfolios in the evaluation of teacher performance both for accountability and professional development purposes”</i>	Formative and summative
Flores (2012) – Portugal	<i>“It has introduced a more demanding system for teacher performance appraisal with effects on the development of teachers’ career in order to identify, promote, and reward the merit and the value the teaching activity” + “ The intention is to have more simplified procedures for teacher appraisal with self-evaluation as a key element within the view of a professional development perspective”</i>	Formative and summative
Zhang & Ng (2011) – China	<i>“This study provides a case analysis of whether both purposes can be achieved simultaneously in one appraisal system in the Chinese context.”</i>	Mainly formative
O’Pry & Schumacher (2012) – USA	<i>“Awareness of these perceptions and contributing factors can be useful to appraisers as they utilize such standards-based evaluation systems for the purpose of instructional improvement and, ultimately, the improvement of student achievement“</i>	Mainly formative
Donaldson & Papay (2015) – USA	<i>“To date, the evaluation reform has shown progress toward three of its designers’ primary goals: it has recognized some teachers for their consistent excellence in the classroom, identified underperforming teachers and counseled them out of the district, and provided teachers with feedback to improve their instructional practice.”</i>	Formative and summative
Rigby (2015) – USA	<i>“All principals must evaluate their teachers. Tension ensues when principals are also expected to improve teacher practice.” “... six teaching standards, along with substandards, on which the principal had to rank each teacher on a scale of 1-4.”</i>	Formative and summative
Malakolunthu & Vasudevan (2012) – Malaysia	<i>“Further, the study attempted to verify if both the formative and summative evaluations were</i>	Formative and summative

	corroborated on the basis of credible data obtained from multiple sources.”	
Monyatsi, Steyn, & Kamper (2006) – Botswana	“For the purpose of this article teacher appraisal should be viewed as one of those interventions ... , which aim at developing the teacher’s knowledge, skills and confidence for the sake of improved performance”	Mainly formative
Kraft & Gilmour (2016) – USA	“Our case study focuses on principals’ perspectives and experiences with classroom observation and feedback, because this process is a primary mechanism through which evaluation is intended to promote teacher development.”	Mainly formative
Lochmiller (2016) – USA	“School administrators face increasing pressure to improve classroom instruction through more rigorous evaluation practices, including providing meaningful feedback to classroom teachers about their instructional practice.”	Mainly formative
Page (2015) – UK	“There are a number of significant changes. Second, appraisal is tied far more explicitly to recommendations for pay progression; ... finally, in a bid to remove poorly performing teachers more quickly, the ‘monitoring and review’ period following a first warning was reduced in length from 20 weeks to between 4 and 10 weeks.”	Mainly summative
Tuytens & Devos (2014) – Flanders (Belgium)	“The further evaluation process focuses on coaching and professional growth of the teacher during at least two evaluation conferences (one formative and one summative) ... At the end of this process an evaluation report is handed to the teacher. In this report, the teacher receives a final conclusion (two possibilities: satisfactory or unsatisfactory) ... If this second evaluation leads to a second conclusion, ‘unsatisfactory’, the teacher will be dismissed.”	Formative and summative
Ha & Sung (2011) – South Korea	“One of the most frequently discussed issues in Korean education is the performance-based bonus pay program.”	Mainly summative
Kim & Youngs (2015) – Korea and USA	“Promoting instructional improvement or resistance? A comparative study of teachers’ perceptions of teacher evaluation policy in Korea and the USA.”	Mainly formative
Vekeman, Devos, & Tuytens (2013) – Flanders (Belgium)	“The policy in Flanders fits the broader international trend of combining both formative purposes and summative purposes of teacher evaluation.”	Formative and summative
Lundström (2011) – Sweden	“Individuals who could demonstrate their contribution to school development would be rewarded under the new system of performance-related pay.”	Mainly summative

Table 4.5. Teacher evaluation as object of quantitative studies: intended, actual or perceived

Article + country	Intended, actual, or perceived teacher evaluation process measure
Barile et al. (2012) – USA	Actual Administrator questionnaire/yes or no response: “Does your school currently use any of these forms of teacher evaluation? a) teachers evaluate teachers and b) students evaluate teachers
Blömeke & Klein (2013) – Germany	Actual Teacher survey: “How often have you received appraisal and/or feedback from the following people about your work as a teacher? a) the school principal, b) an external inspector and c) colleagues
Borman & Kimball (2005) – USA	Actual A composite measure of teacher performance based on the evaluation results (administrative data)
Dee & Wyckoff (2015) – USA	Actual A teacher’s IMPACT rating and score (as well as scores on IMPACT components) (administrative data)
Delvaux et al. (2013) – Flanders (Belgium)	Perceived Teacher survey with Likert scale items: Purposes evaluations (Formative purposes, Summative purposes) and features of evaluation system (clarity of criteria en purposes, fairness of evaluation system, etc.)
Forman & Markson (2015) – USA	Actual Annual Personnel Performance Review ratings (administrative data)
Garrett & Steinberg (2015) – USA	Actual External rater ‘Framework for Teaching’ scores (video recordings of lessons)
Harris, Ingle & Rutledge (2014) - USA	Actual Numeric effectiveness ratings by principals of 10 teachers
Kimball et al. (2004) - USA	Actual Teacher evaluation scores (administrative data)
Orphanos (2014) - Cyprus	Actual Principal ratings of teacher’s work (nine dimensions)
Santelices & Taut (2011) - Chile	Actual National teacher evaluation - system portfolio scores (administrative data)
Strunk, Weinstein & Makkonen (2014) - USA	Actual Teaching and learning framework observation ratings (administrative data)
Tuytens & Devos (2010) – Flanders (Belgium)	Perceived Teacher survey with Likert scale items: teacher evaluation policy perceptions (need, practicality and clarifying function)
Tuytens & Devos (2011) – Flanders (Belgium)	Perceived Teacher survey with Likert scale items: feedback utility
Tuytens & Devos (2014) – Flanders (Belgium)	Perceived Teacher survey with Likert scale items: Procedural justice and feedback utility Intended Quantified principal interview: teacher participation

Table 4.6. Teacher evaluation as object of qualitative studies: intended, actual or perceived

Article + country	Intended, actual or perceived teacher evaluation process measure
Goldring, Grissom, Rubin, Neumerski, Cannata, Drake, Schuermann (2015) – USA	<p>Intended: Interviews with school leaders implementation of policy in schools + Interviews with central office personnel about the system expectations for data utilization</p> <p>Actual: Interviews with central office personnel in each district about types of teacher quality and effectiveness data available to principals (+interviews with principals about what data they use)</p>
Kimball & Milanowski (2009) – USA	<p>Intended: Interviews with school leaders about their intended policy</p> <p>Actual: Document analysis of evaluation documentation</p> <p>Perceived: Interviews with school leader and teachers about their attitudes and perceptions regarding teacher evaluation</p>
Halverson & Clifford (2006) – USA	<p>Actual: Observations of school leaders’ implementation of teacher evaluation</p> <p>Perceived: Teacher interviews about teacher evaluation in their school</p>
Jiang, Sporte, & Luppescu (2015) – USA	<p>Perceived: Interviews with teachers and school leaders about their experiences with several measures of student-growth and their general impression of the overall system</p>
Donaldson (2013) – USA	<p>Intended: Interviews with school leaders about their intended evaluation policy</p> <p>Actual: Interviews with school leaders about their implemented policy (e.g., how many observations for probationary teachers)</p> <p>Perceived: Interviews with school leaders about perceived barriers towards implementing teacher evaluation</p>
Tucker, Stronge, Gareis, & Beers (2003) – USA	<p>Actual: Content analysis of portfolios + Archival record view</p> <p>Perceived: Focus group with teachers and school leaders about their perceptions about teacher evaluation</p>
Flores (2012) – Portugal	<p>Perceived: Interviews and focus groups with teachers about the implementation of teacher evaluation</p>
Zhang & Ng (2011) – China	<p>Actual: Document analysis (manuals, instruments, records, etc.) + Observations of teacher evaluation</p> <p>Perceived: Interviews with teachers and school leaders about their perception of appraisal in relation to professional development</p>
O’Pry & Schumacher (2012) – USA	<p>Perceived: Interviews with teachers about their perceptions about the instrument and implementation of teacher evaluation</p>
Donaldson & Papay (2015) – USA	<p>Intended: Interview with district-level officials and representatives about the goals in the designing process (from initial concept of policy through early implementation)</p> <p>Actual: Interview with representatives, and school leaders about the process from initial concept of policy through early implementation</p>

	Perceived: Interview with school leaders and teachers about their perceptions regarding the district-level policy
Rigby (2015) – USA	<p>Intended: Interviews with school leaders about their goals and how they should implement teacher evaluation</p> <p>Actual: Observations + Interviews with school leader about their current implementation</p> <p>Perceived: Interviews with school leaders about their interpretation of the national policy and their sense making</p>
Malakolunthu & Vasudevan (2012) – Malaysia	<p>Intended: Interviews with school leaders about their goals and purpose in implementing teacher evaluation</p> <p>Actual: Observations of teacher evaluation + document analysis</p> <p>Perceived: Interviews with teachers and school leaders about their perceptions</p>
Monyatsi, Steyn, & Kamper (2006) – Botswana	Perceived: Interview with teachers and school leaders about their perceptions regarding the teacher evaluation policy
Kraft & Gilmour (2016) – USA	<p>Intended: Interviews with school leaders about their intentions for implementation</p> <p>Actual: Interviews with school leaders about their current implementation</p> <p>Perceived: Interviews with school leaders about their interpretation of the national policy</p>
Lochmiller (2016) – USA	<p>Actual: Interview with school leaders about their current implementation (factual)</p> <p>Perceived: Interviews with teachers and school leaders about their perceptions and understanding</p>
Page (2015) – UK	<p>Intended: Interviews with school leaders about their goals for implementation</p> <p>Actual: Interviews with school leaders about their current implementation + Observations</p>
Tuytens & Devos (2014) – Flanders (Belgium)	<p>Intended: Interviews with school leaders about their goals and future intentions for implementation</p> <p>Actual: Interviews with school leaders about their current implementation</p> <p>Perceived: : Interviews with school leaders about their interpretation of the national policy</p>
Ha & Sung (2011) – South Korea	Perceived: Interviews with teaches about the implementation and consequences of teacher evaluation
Kim & Youngs (2015) – Korea and USA	<p>Actual: Document analysis + Interviews with school leaders about their implemented policy (e.g., type of feedback they provide)</p> <p>Perceived: Interviews with teachers and school leaders about their perceptions</p>

Vekeman, Devos, & Tuytens (2013) – Flanders (Belgium)	<p>Intended: Interviews with school leaders about their intentions for implementation</p> <p>Actual: Interviews with school leaders about their current implementation</p> <p>Perceived: Interviews with school leaders about their interpretation of the national policy + Interviews with teachers about their perceptions regarding the national policy and the school leader’s implementation</p>
Lundström (2011) – Sweden	Perceived: Interviews with teachers about their views of teacher evaluation

Table 4.7. External context variables in the selected qualitative studies

Article + country	External context variables
Donaldson (2013) – USA	State context (rules, regulations, autonomy)
Donaldson & Papay (2015) – USA	Stakeholders (city’s mayor, superintendent of the district, assistant superintendent, teachers’ union president), teacher union (e.g. expiration of collective-bargaining agreement, several key stakeholders, trust and involvement of teachers, collaboration), national context (economic struggle, national attention towards teacher evaluation, national policy emphasis on teacher evaluation, electoral politics and public opinion)
Rigby (2015) – USA	District and other stakeholders (e.g. district leaders, new leaders, principal preparation program)
Tuytens & Devos (2014) – Flanders (Belgium)	Meso level: support from school networks
Ha & Sung (2011) – South Korea	Cultural factors (steep hierarchy, union support, general perceptions and representations of teachers)
Kim & Youngs (2015) – Korea and USA	Country (national teacher evaluation policy)

Table 4.8. School internal context variables in the selected quantitative studies

Article + country	Structural school internal context variables: Structure, system, size, workforce characteristics
Barile et al. (2012) – USA	Urbanicity, school size, teacher pay, test requirement to graduate
Borman & Kimball (2005) – USA	SES
Delvaux et al. (2013) – Flanders (Belgium)	School size
Forman & Markson (2015) – USA	School district demographics: free and reduced lunch, attendance rate, per pupil spending
Garrett & Steinberg (2015) – USA	Student demographics (race, gender, age, special education status, free-lunch status, gifted status, ELL)

Orphanos (2014) - Cyprus	School size, percentage of low-income students, percentage of non-Greek-Cypriot students , number of parental complaints and number of parental decision-making participation
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Note: Bold variables are found to be significant in the study

Table 4.9. School internal context variables in the selected quantitative studies

Article + country	Structural school internal context variables
Kimball & Milanowski (2009) – USA	Overall SES, student achievement levels
Halverson & Clifford (2006) – USA	Other policy documents and plans the school has, daily schedule, prior evaluation system, student support system, existing curriculum
Donaldson (2013) – USA	Charter status, school size, school level, time
Tucker, Stronge, Gareis, & Beers (2003) – USA	Time
Rigby (2015) – USA	Teacher population (experience)
Kraft & Gilmour (2016) – USA	Time, ratio teachers/evaluator
Tuytens & Devos (2014) – Flanders (Belgium)	Time

Table 4.10. Outcomes at the teacher level in the selected quantitative studies: ability, motivation or behavior

Article + country	Ability, motivation or behavior related teacher outcomes
Barile et al. (2012) – USA	Motivation: Teacher-student relationship climate
Blömeke & Klein (2013) – Germany	Ability: Teaching quality Motivation: Job satisfaction
Dee & Wyckoff (2015) – USA	Behavior: Improvement in teacher’s IMPACT rating and score
Delvaux et al. (2013) – Flanders (Belgium)	Behavior: Effects on teachers’ undertaking of professional learning activities (self report)
Tuytens & Devos (2011) – Flanders (Belgium)	Behavior: Teachers’ undertaking of professional learning activities (self report)
Tuytens & Devos (2014) – Flanders (Belgium)	Behavior: Teachers’ undertaking of professional learning activities (self report)

Table 4.11. Outcomes at the teacher level in the selected quantitative studies: ability, motivation or behavior

Article + country	Ability, motivation or behavior related teacher outcomes
Halverson & Clifford (2006) – USA	Ability: new ideas, suggestions for improvement (Missed opportunities)
Jiang, Sporte, & Luppescu (2015) – USA	Behavior: improvement teaching Motivation: stress
Tucker, Stronge, Gareis, & Beers (2003) – USA	Ability: professional growth and development No impact (waste of time)
Flores (2012) – Portugal	Ability: lack of effect on teacher competence Motivation: demotivation, feelings of tiredness, low morale Behavior: intention to leave job and retiring, no improvement of teaching, prevents focus on teaching
Zhang & Ng (2011) – China	Ability: professional growth, knowledge about each other’s teaching beliefs, strategies, methods, and specific skills
O’Pry & Schumacher (2012) – USA	Ability: self-reflection, new ideas Behavior: improvements in classroom practice and instruction, no changes in instruction
Donaldson & Papay (2015) – USA	Behavior: improved practice
Malakolunthu & Vasudevan (2012) – Malaysia	No impact
Monyatsi, Steyn, & Kamper (2006) – Botswana	Ability: teaching competence, knowledge of own professional progress, of own strengths and weaknesses, new skills and knowledge Motivation: motivation, demoralization Behavior: working relationship with superiors No impact
Kraft & Gilmour (2016) – USA	Ability: new ideas Motivation: discouraged, feeling not appreciated Behavior: changed relationships among teachers and between teacher and principal
Lochmiller (2016) – USA	Ability: new ideas and insights
Page (2015) – UK	Motivation: motivation
Ha & Sung (2011) – South Korea	Motivation: professional pride, motivation, demotivation, stress and pressure Behavior: more working hours, changed relationships among teachers
Kim & Youngs (2015) – Korea and USA	Behavior: improvements in classroom practice and instruction, no changes in instruction
Lundström (2011) – Sweden	Motivation: no changes Behavior: changed relationships among teachers

Table 4.12. Opportunities in the selected qualitative studies

Article + country	Opportunities
Kimball & Milanowski (2009) – USA	Teacher-evaluator relationship
Donaldson (2013) – USA	School culture (existing norms and practices about feedback and dismissal)
Zhang & Ng (2011) – China	School culture (high valuation of teacher growth, culture and ubiquity of appraisal, strong emphasis on collaboration and sharing)
O’Pry & Schumacher (2012) – USA	Support and good relationships (among colleagues and with principal)
Rigby (2015) – USA	Culture with regards to teacher evaluation (previous experiences with feedback and evaluation)
Ha & Sung (2011) – South Korea	Support colleagues

Table 4.13. School leadership variables in the selected quantitative studies

Article + country	Other variables: school leadership
Blömeke & Klein (2013) – Germany	School leadership: administrative leadership and trust in principal
Delvaux et al. (2013) – Flanders (Belgium)	School leadership: transformational, instructional and attitude
Orphanos (2014) - Cyprus	School leadership: experience , professional credentials, degree of familiarity with teachers, emphasis on student achievement, being demanding to reach goals, extent of principal teaching in classrooms of rated teachers and extent of cooperation of principal with parents
Tuytens & Devos (2010) – Flanders (Belgium)	School leadership: initiating structure, visioning, support, trust
Tuytens & Devos (2011) – Flanders (Belgium)	School leadership: active leadership support, charismatic leadership, leadership content knowledge
Tuytens & Devos (2014) – Flanders (Belgium)	School leadership: active leadership support, charismatic leadership and leadership content knowledge

Note: Bold variables are found to be significant in the study.

Table 4.14. School leadership, teacher and HRM-variables in the selected qualitative studies

Article + country	School leadership, teacher variables, other HR-practices and policies
Goldring, Grissom, Rubin, Neumerski, Cannata, Drake, Schuermann (2015) – USA	Other HR-practices: contract renewal, professional development support or growth plans, teacher compensation systems, assignment

Kimball & Milanowski (2009) – USA	School leadership/evaluator: will and motivation to conduct teacher evaluations, knowledge and skill, experience, and credibility
Halverson & Clifford (2006) – USA	School leadership/evaluator: drawing on previous experience as a teacher, administrator, and evaluator
Donaldson (2013) – USA	School leadership: own human capital (leadership skills, ingenuity, initiative, determination), professional development on identifying high-quality teaching
Tucker, Stronge, Gareis, & Beers (2003) – USA	Other HR-practices: accountability (ratings)
Flores (2012) – Portugal	Other HR-practices: professional development
Zhang & Ng (2011) – China	Other HR-practices: ranking, financial bonus, honors and awards, promotion, professional development
O’Pry & Schumacher (2012) – USA	School leadership/evaluator: beliefs, value placed on teacher evaluation Teacher: training about teacher evaluation
Donaldson & Papay (2015) – USA	Other HR-practices: promotion, dismissal
Rigby (2015) – USA	School leadership/evaluator: prior experience with teacher evaluation, aims, goals
Malakolunthu & Vasudevan (2012) – Malaysia	Other HR-practices: professional & development, awards, promotion, scholarships School leadership/evaluator: knowledge of teacher evaluation
Monyatsi, Steyn, & Kamper (2006) – Botswana	Teacher: preparation, training
Kraft & Gilmour (2016) – USA	School leadership/evaluator: goals, skills, prior experience as a teacher
Lochmiller (2016) – USA	School leadership/evaluator: own experience as a teacher Teacher: subject area
Page (2015) – UK	Other HR-practices: pay, dismissal
Tuytens & Devos (2014) – Flanders (Belgium)	School leadership/evaluator: goal, communication School leadership: high expectations, appreciation and motivation of teacher, commitment to teaching practice, stimulation safe environment
Ha & Sung (2011) – South Korea	Teacher: seniority School leadership/evaluator: experience with teacher evaluation Other HR-practices: pay, job security
Kim & Youngs (2015) – Korea and USA	Teacher: beliefs, position, status School leadership/evaluator: beliefs Other HR-practices: hiring, dismissal, accountability
Vekeman, Devos, & Tuytens (2013) – Flanders (Belgium)	School leadership/evaluator: dealing with situations, previous experience with teacher experience, beliefs about goal and usefulness
Lundström (2011) – Sweden	Other HR-practices: salary, pay

Chapter 5: Review of research on reward systems in schools

5.1 Methodology

5.1.1 Literature search and inclusion criteria

For this review on reward systems in schools, we searched for empirical quantitative and qualitative studies that were published between 2000 and 2016. We used several keywords to identify studies on reward systems in schools such as ‘teacher tenure’, ‘teacher career’, ‘expert teacher’, ‘senior teacher’, ‘teacher leader’, ‘teacher leadership’, ‘teacher promotion’, ‘teacher opportunities’, ‘teacher compensation’, ‘teacher benefits’, ‘extrinsic motivators’, ‘teacher recognition’, ‘teacher incentives’, ‘teacher contract’, ‘performance pay’, and ‘merit pay’. We also used derivatives of these keywords (e.g., ‘tenure of teachers’ and ‘tenuring teachers’). Also, we excluded all research on higher education because our focus is on K-12.

a) Quantitative

We conducted a systematic search using the above described keywords across several online databases: Social Science Citation Index (SSCI) and Emerging Sources Citation Index (ESCI) through Web of Science (WOS) and Education Resources Information Center and Bibliography of Asian Studies through EBSCO information services (EBSCO). We searched for English or Dutch peer-reviewed articles published in the time period of January 2000 through December 2016 in the Educational research category. Next, because we aim to identify quantitative research on reward systems in schools, we used several keywords to only maintain quantitative empirical studies such as ‘correlation’, ‘cluster’, ‘regression’, ‘quantitative’, ‘multilevel’, ‘path’, ‘SEM’, ‘structural equation’, ‘anova’, and ‘analysis of variance’. In a next step, we screened the articles by reading the abstract or the full article if necessary. During this screening, we removed articles that were not on topic.

In Table 5.1, we provide an overview of the number of studies that appeared after each search in the databases and after initial screening as explained above.

After initial screening, 25 articles remained that were included in the study for literature analysis. However, during the literature analysis and hence, a thorough reading in order to answer our research questions, certain articles were removed from the study for several reasons: five articles were removed because they only contained qualitative research, one article was removed because

it did not report on any empirical research, and four articles were removed because they did not contain any variables at the school level.

Table 5.1. Results of searches in databases

Search	Number of papers	
	WOS	EBSCO
'teacher tenure', 'teacher career', 'expert teacher', 'senior teacher', 'teacher leader', 'teacher leadership', 'teacher promotion', 'teacher opportunities', 'teacher compensation', 'teacher benefits', 'extrinsic motivators', 'teacher recognition', 'merit pay', and derivatives	241	870
AND 'correlation' OR 'cluster' OR 'regression' OR 'quantitative' OR 'multilevel' OR 'path' OR 'SEM' OR 'structural equation' OR 'Anova' OR 'Analysis of variance'	39	93
Screening	13	15
Total number of articles for review (after removing the articles present both in WOS and EBSCO)	25	
Total number of articles that were included in the literature analysis (after removing articles during a second thorough screening)	15	

Hence, for the literature analysis, 15 articles were integrated that deal with reward systems in the primary or secondary school context as a specific HRM-practice or policy. This number illustrates that there is not a lot of quantitative empirical research about reward systems as an HRM-practice in schools. The selected studies are almost all published from 2010 onwards. Only three studies were published earlier (i.e., one in 2004 and two in 2008). Most studies were executed in the USA (eight in total). Three studies stem from Turkey, and one study from Australia, one from China, and one from Finland. One article deals with a meta-analysis which of course uses data that stem from several countries. The selected articles were published in a wide variety of journals without one of the journals being more represented than the others. All articles that were included in the quantitative literature analysis on reward systems can be found in Appendix 5.1.

b) Qualitative

A systematic literature search was conducted in the Social Science Citation Index (SSCI) and Emerging Sources Citation Index (ESCI) through Web of Science⁴. We searched for peer-reviewed articles published in the time period of January 2000 through December 2016. In Table 5.2, we provide an overview of the number of articles that appeared after each search in the databases and after initial screening as explained below.

⁴ We decided to refrain from including the EBSCO database in the search for qualitative articles to insure the quality of selected qualitative articles (Hightower & Caldwell, 2010).

The aim of this review was to identify qualitative empirical research on reward systems in schools. Hence, keywords referring to qualitative research (i.e., “qualitative”, “case study”, “interview”, “focus group”, “narrative”, “observation”, and “Delphi study”) and derivations of these words were added. We excluded research on higher education because our focus is on K-12. We limited our search to articles in the Educational research category in Web of Science, written in English or Dutch. After applying these selection criteria, 130 articles remained.

During a first screening, the abstracts of these 130 articles were thoroughly read which lead to the selection of 43 articles that were of interest for our review of qualitative empirical articles on reward systems in schools. The articles that were removed in this step were not of interest for several reasons: 31 articles were completely off topic (e.g., because they dealt with student motivation), 10 articles dealt with pre-service teachers, 38 articles contained no link with school policy regarding rewards, 2 articles were not set in K-12 education, and 6 articles were removed for various other reasons (e.g., article about tenure for principals and study without collection of empirical data).

A next step included the retrieval of the studies’ full text. Following full reading of these articles, additional studies not meeting the inclusion criteria were eliminated mainly because there was no link to schools or school policy (e.g., rewards as a national policy) or to rewards itself (e.g., teacher leadership discussed not as a reward practice). Hence, 17 qualitative articles were included in the analysis that deal with reward systems in the primary or secondary school context as a specific HRM-practice or policy.

Table 5.2. Results of searches for qualitative empirical studies in databases

Search	Number of papers
‘teacher tenure’, ‘teacher career’, ‘expert teacher’, ‘senior teacher’, ‘teacher leader’, ‘teacher leadership’, ‘teacher promotion’, ‘teacher opportunities’, ‘teacher compensation’, ‘teacher benefits’, ‘extrinsic motivators’, ‘teacher recognition’ and ‘merit pay’ and derivatives	366
AND “qualitative” OR “case stud*” OR “interview*” OR “focus group*” OR “narrative*” OR “observation*” OR “delphi stud*”	130
Screening abstracts	43
Total number of articles that were included in the literature analysis (after removing articles during a second thorough screening of full texts)	17

Again, as in the quantitative review, this number illustrates that there is not a lot of empirical research (neither quantitative nor qualitative) about reward systems as an HRM-practice in schools. The majority of selected studies are published from 2010 onwards (n=12). The studies are conducted in different countries (4 in the United Kingdom, 3 in the USA, 3 in New Zealand, 2 in Lebanon, 2 in Sweden, 1 in Hong Kong, 1 in South Africa, and 1 in Canada). The articles were published in diverse journals with ‘Teachers and Teaching: Theory and Practice’, ‘Educational Management and

Leadership’, and ‘Teaching and Teacher Education’ appearing most frequently. All articles that were included in the qualitative literature analysis on reward systems can be found in Appendix 5.2.

5.1.2 Literature analysis

In a first step, developing a preliminary synthesis, all articles (quantitative and qualitative) were selectively read, examined, and coded according to the following characteristics: authors, title, year of publication, journal, participants, research method, sample size, position of reward system in the study, and relevant variables.

In a second step, each of the articles in the final selection was thoroughly reread in order to identify significant sections answering the postulated research questions. These sections were coded based upon content analysis and summarized in tables. This included coding for the description of the reward system (RQ1), part of the management process (actual/intended/perceived) (RQ2), external influencing variables (RQ3), internal influencing variables (RQ4), effects on AMO or behavior of teachers (RQ5), opportunities (RQ6), broad outcomes for schools, students, or society (RQ7), and other important variables included in the study (RQ8). Finally, we identified which of the aforementioned variables were important in the study (RQ9). If necessary, other important information with regards to the study could be added during coding as a comment.

5.2 Results

In the following paragraphs, we describe our results per research question. In this process, we first turn our attention to the results of the quantitative studies, then to the qualitative studies, and we conclude with a comparison of the quantitative and qualitative findings. The results of research question 9 (Figure 5.1) provide an overview of the main results of our literature review by showing the important variables that were identified in the studies from both our quantitative and qualitative review. For readability of the results, we place all tables at the end of the result section in a separate paragraph (5.2.10 Tables).

5.2.1. How is reward system described in the literature?

To answer our first research question, we provided an overview of the descriptions of the reward system in the articles which we used in this review. In line with Runhaar (2017), we make a distinction between intrinsic and extrinsic motivators. Intrinsic motivators deal with the passion for being a teacher, while extrinsic motivators can be money or holidays. Hence, Runhaar (2017) makes the distinction between financial and non-financial extrinsic motivators and also explains that these can differ according to the intrinsic motivators of the teacher. In our literature review, we focus on extrinsic motivators because these can be put in place by schools through their HRM-policy.

a) Quantitative

We notice in the literature that both financial and non-financial motivators are researched (see Table 5.3). The majority of the selected quantitative studies focus exclusively on non-financial motivators (n=8), while only four articles focus exclusively on financial motivators. Three studies describe a mix of financial and non-financial motivators. Three of the articles that purely focus on financial motivators stem from the USA, supplemented by one study from China. Non-financial motivators include teacher leadership (n=6), some kind of recognition (n=5) or other types (e.g., professional development or tenure). In this regard, as we explained earlier in the other reviews, we notice that different HRM-practices as described by Runhaar (2017) might overlap or serve common causes. This is also the case for the reward policy and practice, which can be closely linked to assignment (e.g., teacher leadership responsibilities) or professional development (e.g., getting PD opportunities as a reward). However, we paid careful attention when selecting articles dealing with these overlapping HRM-policies and practices to make sure that the reward aspect was also clearly present in the selected article, as can be deduced from the descriptions of the reward system in Table 5.3.

b) Qualitative

The majority of qualitative studies in our review deal with non-financial rewards. Only one study (Lundström, 2012) deals with performance pay as a financial reward system. Non-financial motivators in the articles are mainly teacher leadership (n=13), while two articles discuss teacher task differentiation, and one article is about more general teacher recognition.

The majority of articles hence deal with teacher leadership. In general, there is a lot of (qualitative) research on teacher leadership. However, in order for articles to be included in our review, we looked for references to teacher leadership as a more formal way in the school of rewarding outstanding teachers. This is also apparent when reading the descriptions of teacher leadership that authors of the selected articles provide (Table 5.4).

Conclusion

Non-financial motivators are more frequently researched than financial ones, both in quantitative and qualitative research. The majority of articles about non-financial motivators deal with teacher leadership as a career opportunity and hence as a reward practice in schools. The articles that describe financial motivators mainly focus on salary or pay in several appearances (performance pay, merit pay, and regular salary).

5.2.2 Which part of the management process (intended, actual, perceived) is researched?

a) Quantitative

We summarized in Table 5.5 which data was collected to capture reward systems in the different quantitative studies. None of the studies capture the intended reward system. Hence, only the actual and perceived reward system are included in the selected studies. Eight studies purely focus on the perceived reward system. In all cases, this encompasses teacher perceptions about the reward system. Four studies focus only on the actual reward system, while three studies use a mix of both the actual reward system and the perceived reward system.

Studies that focus on the teacher perspective (n=8) always measure teachers' perception about non-financial rewards, such as recognition or teacher leadership. Four studies only measure the actual reward system. Variables that are used here are for example sources of earning, types of payment, tenure decision, and failing to obtain a bonus. Hence, in three studies the actual reward system is financial. Mixed studies, with both actual and perceived reward systems, show a more diverse picture and measure both financial and non-financial motivators in the reward system.

b) Qualitative

In Table 5.6 we provide an overview of the data that was used to capture reward systems in the qualitative studies integrated in this review.

The majority of studies regarding teacher leadership capture the perceived process of rewards in the school. In most cases, the perceptions of teachers, teacher leaders, and principals about teacher leadership in their school are measured. In most studies this is very broad and provides a rich description of teacher leadership in schools. Only one study about teacher leadership supplemented these perceptions with questions that try to capture the intended teacher leadership policy within the school from the perspective of the school leader. In this regard, we notice that teacher leadership is often described in the studies as something that is used in the school context as a possibility for career differentiation, but that is not really supported by a formal HR-policy on paper in policy documents or a clear policy vision. However, this does not mean that teacher leadership is not important in the light of career opportunities for teachers and hence, in light of reward systems. This importance is also corroborated by the perceptions of both teachers and leaders. Three studies attempt to measure the actual teacher leadership by providing an overview of nominations, responsibilities, and reported tasks of teacher leaders.

The few studies (n=4) that deal with rewards other than teacher leadership (e.g., recognition and performance pay) all focus on the perceived process. However, in three studies this is supplemented by measures regarding the actual (additional responsibilities or criteria for salary setting) or intended (principals' intents regarding career development) process.

Conclusion

Most studies (both quantitative and qualitative) focus on the perceived reward system. Here, including teachers' perceptions about the reward system is very popular. In the qualitative studies, these are usually complemented with perceptions of school leaders and teacher leaders. In some studies (both quantitative and qualitative) the actual reward system is also measured. There is a clear lack in the literature on the intended reward system. A possible explanation is that reward systems might not be captured in formal policies yet in schools, but are occurring more on an informal or occasional basis. This is illustrated by the fact that a lot of studies on rewards focus on teacher leadership and that this does not only comprise the formal teacher leadership functions, but also the more informal additional responsibilities that teacher leaders have and that are seen as career possibilities for teachers. In this regard, there is often no formal HR-policy on teacher leadership explicated by schools on paper, but they do practice it as such.

5.2.3 What external context variables (market and institutional context) are identified as facilitating or inhibiting?

a) Quantitative

Confirming our findings of the quantitative reviews of the other personnel practices, no external context variables are included in the studies about reward systems. Hence, we conclude once more that this is a gap in the literature on HRM-practices and that authors pay insufficient attention to measuring and including these external context variables in their quantitative study.

b) Qualitative

In the qualitative studies on reward systems, the influence of external context variables pops up in five articles. In all five cases, the external context is institutional in nature and deals with policies that influence the rewards systems in the school. Table 5.7 provides an overview of the specific policies mentioned in the qualitative articles. Remarkably, most policies deal with accountability measures and are often seen as inhibiting for developing teacher leadership in schools.

Conclusion

Only qualitative studies pay attention to external context variables. This could potentially be related to the difficulty of measuring such variables quantitatively. In the qualitative studies, institutional variables are used and are in essence policy measures that are taken by governments.

5.2.4 What school internal context variables are important in light of reward systems in schools?

Related to the school internal context variables, we observe that these are more frequently integrated in the selected quantitative studies than the external context variables. As explained in the theoretical framework (Chapter 1), we distinguish between structural school characteristics and cultural school characteristics. The cultural school characteristics can be seen as opportunities in the school context that support teachers. Hence, these cultural school characteristics are coded as opportunities and are described in the result section of research question 6. Hence, in this section, we included all structural school characteristics that authors use in their quantitative and qualitative analyses in the selected literature.

a) Quantitative

We observe that 10 out of the 15 studies include school internal context variables in their analyses (see Table 5.8). Several school internal context variables are frequently examined in multiple studies (e.g., SES, location, and school level), of which school location, school size, poverty/SES, spending/resources, and teacher salary are often significant. School level and enrollment are each significant in one study.

b) Qualitative

Only two qualitative studies (Cameron & Lovett, 2015; Coldwell, 2016) include internal context variables and in both cases, it is school level that is mentioned as a variable. Coldwell (2016) finds that teacher in secondary schools are given additional responsibilities later on in their career in comparison with colleagues in primary education. Cameron & Lovett (2015) conclude that secondary schools are more bureaucratic than primary schools and the distance between senior leaders and teachers is larger there.

Conclusion

School level is mentioned as an internal school structural variable in both quantitative and qualitative studies. Other structural internal school variables are only researched in quantitative studies and include school location, school size, SES, resources, teacher salary, and enrollment.

5.2.5 What are the effects of reward systems for teachers (ability, motivation, behavior)?

In our theoretical framework, we explain that the AMO model argues that organizational interests are best served when HRM-practices, such as rewards, are designed to contribute to the ability (A), motivation (M) and opportunities (O) of teachers. Ability means necessary skills and knowledge,

motivation deals with wanting to do the job and being incentivized, and opportunities refer to the necessary support and possibilities in the work environment to do the job. In the value chain, abilities and motivation enhance the behavior of teachers as the final outcome at the teacher level. Opportunities are placed in the value chain as supporting variables for A and M and hence, we will focus on the opportunities in a next research question.

a) Quantitative

When we look at the effects of reward systems for the ability, motivation, and behavior of teachers that are reported in our selected studies, we notice that most studies report such outcomes for teachers, as ten studies report teacher level outcomes (see Table 5.9). In these studies, teacher outcomes purely on the behavior level are reported four times and outcomes purely on the motivation level also four times. Two studies report outcomes on two levels (i.e., a mix of behavior and motivation and a mix of ability and motivation). We notice that variables related to teacher turnover are frequently used in the studies, both on a behavioral level (the actual turnover/retention) and on a motivational level (the intent to leave or stay). This is the case in seven studies. Job satisfaction is another variable that frequently occurs (n=4).

b) Qualitative

In Table 5.10 we provide an overview of the teacher outcomes (ability, motivation, and behavior) that are put forward in the qualitative studies on rewards. Seven studies include teacher outcomes, of which six include motivational outcomes (twice in combination with behavioral outcomes) and one includes outcomes at the ability level. Teacher commitment and sense of efficacy commonly as motivational outcome.

Conclusion

Teacher outcomes are slightly more often reported in the quantitative studies than in the qualitative studies. However, outcomes at the ability, motivation, and behavior level are identified in the reviews. Motivational outcomes appear most frequently, often seen as 'satisfaction' ' in quantitative studies and as 'commitment' and 'sense of efficacy' in qualitative studies. Teacher retention is present as a behavioral outcome in both quantitative and qualitative studies. Ability is put forward only twice (once quantitatively and once qualitatively).

5.2.6 Which variables are included that can be identified as opportunities?

a) Quantitative

Ten quantitative studies describe variables that can be seen as opportunities (i.e., the necessary support and possibilities in the work environment to effectively do your job) and, as explained above, can be seen at the same time as cultural school internal context variables.

In Table 5.11, we only included opportunities that are separate from the reward practice. In this regard, we see school climate/culture appearing three times. Also variables related to collaboration appear several times (e.g., colleagues, faculty influence, and team efficacy). Teacher autonomy is mentioned twice.

However, as we already discussed at the beginning of this review, some motivators can be seen both as rewards and as opportunities. Certain rewards do create further opportunities for teachers to perform at their best. In this regard, we even feel that such rewards that lift teachers up to do even better in the future, are the best possible rewards for teachers. Certainly in the studies about teacher leadership, the opportunity to become a teacher leader can be seen as a reward for past performance and proven expertise and ability, but also creates further opportunities for the future of the teacher. This again is an example on how HRM-practices in schools should not be loosely coupled from one another, but should form an inseparable whole.

b) Qualitative

A variety of school cultural variables that can be seen as opportunities are described in ten qualitative studies. What stands out from the overview of these opportunities provided in Table 5.12, is the recurrence of the importance of colleagues in the context of reward systems in schools. Variables as collaboration, collegiality, and sharing appear as important in nine articles. A second variable that is mentioned more than once is participation (n=3). As multiple authors mention several cultural school variables in their studies, we conclude that the school culture is important in the context of rewards.

Conclusion

The majority of studies in our reviews mention school internal cultural variables that can be labeled as opportunities for the reward systems. Both quantitative and qualitative studies primarily mention variables related to collaboration as opportunities for rewards in the school cultural context.

5.2.7 To what extent are (indirect) outcomes of reward systems identified at the school, student, or society-level?

a) Quantitative

Other variables that are identified as possible outcomes of reward systems are always at the student level. In three studies – not surprisingly all stemming from the USA –, student achievement is incorporated (Lauen, 2013; Johnson, Kraft & Papay, 2012; Loeb, Miller & Wyckoff, 2015) while two studies include student engagement (Silins & Mulford, 2004; You & Conley, 2015).

b) Qualitative

Two studies include other outcome variables at the school level. More specifically, Liljenberg (2016) discusses the pedagogical development of the team as a result of teacher leadership and Muijs and Harris (2006) discuss the contribution that teacher leadership can have for school improvement.

Conclusion

While both quantitative and qualitative studies on rewards mention other outcomes besides teacher outcomes, these outcomes are situated at a different level. Quantitative studies include student level outcomes, while qualitative studies include school level outcomes.

5.2.8 Which other variables, that are not included in the value chain, are included in the literature?

a) Quantitative

Among other variables that are included in the studies on reward systems, teacher characteristics are most common. This is the case in eight studies (see Table 5.13). In most cases, the included teacher characteristics are demographic variables such as gender and experience.

School leadership also appears in three studies (Liu, 2012; Silins & Mulford, 2004).

b) Qualitative

In 13 qualitative studies, other variables are mentioned. We provide an overview of these variables in Table 5.14. Twelve studies mention school leadership as an important influencing variable for reward systems in schools. Several leadership characteristics are mentioned, however, support seems to be the most important one (mentioned in four studies).

A second category of other variables that occurs is teacher demographics (n=4). Experience seems to be the most important variable, next to gender. Some studies also include other teacher

characteristics (i.e., personal attribute factors and capacity to take on extra work), but this is rather rare (n=2).

Conclusion

Two categories of other variables are integrated both in quantitative and qualitative research: teacher demographics and school leadership. The importance of these variables is underlined in all reviews on all HRM-practices and hence, these variables are added to the value chain.

5.2.9 Which variables are important in light of reward systems in schools?

An overview

In the above paragraphs, we described which variables were included in the quantitative and qualitative studies that we selected for our literature review. Of course, not all variables were found to be significant or important in these studies. In order to provide an overview of the crucial variables, we used the value chain and added the important variables to the value chain in Figure 5.1. We indicated through the use of colors which variables were significant in only one quantitative study (blue) and which variables were significant in several quantitative studies (green). Additional variables that only appeared in qualitative studies are placed in red.

The reward system policy and practice described in the literature can be financial or non-financial in nature. Both in quantitative and qualitative studies, we notice that most articles focus on non-financial motivators (e.g., teacher leadership and teacher recognition). Moreover, the emphasis in both quantitative and qualitative research is on the perceived reward process, in which mostly teacher perceptions are measured. Fewer studies also measure the actual reward process (e.g., types of payment or additional responsibilities of teachers). The intended reward process is underresearched (both quantitatively and qualitatively). This demonstrates that reward processes (especially the non-financial ones) are not commonly formalized in schools, but perhaps are more informally used in practice.

Related to external context variables, we only observed these in five qualitative studies. All these studies measured the institutional policy context. School internal context variables are more often included (especially in quantitative research). The most important school context variables based on quantitative research seem to be school location, school size, SES, resources, and teacher salary. Additionally, school level is investigated both quantitatively and qualitatively.

Outcomes at the teacher level (ability, motivation, and behavior) are frequently reported. Here we see that quantitative studies mainly report on variables about teacher turnover (actual turnover or intent to leave), while motivational outcomes are dominant in qualitative studies, with teacher commitment and sense of efficacy occurring the most. Concerning outcomes at the school,

student, or society level, we can conclude that quantitative studies sometimes include outcomes at the student level, while qualitative studies sometimes include outcomes at the school level.

Opportunities are frequently integrated in both quantitative and qualitative research. Mainly school culture/climate and variables related to collaboration are popular here. Regarding other variables that are not initially included in the value chain, we notice the reoccurrence of two categories which we also observed in the reviews about other HRM-practices: namely, teacher demographic variables (mostly quantitative) and school leadership (mostly qualitative).

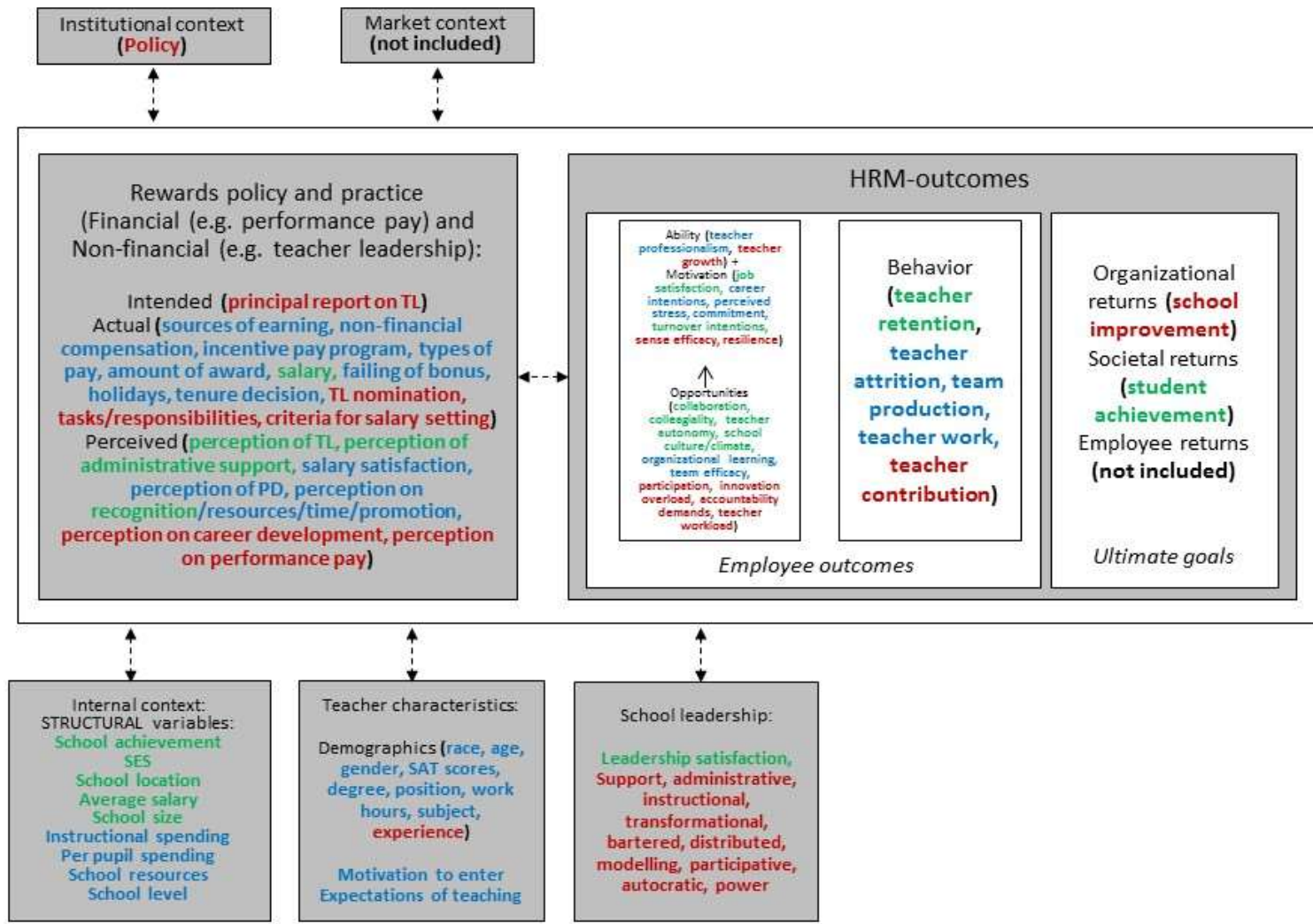


Figure 5.1. Value chain for rewards, based on quantitative and qualitative research

5.2.10. Tables

Table 5.3. Descriptions of reward system in the articles of our quantitative literature review

Article	Description of reward system
Angelle & DeHart (2011)	Non-financial: Teacher leadership “Expertise is critical to the teacher leader. ... One cannot be an effective teacher leader is one is not first an accomplished teacher.” (p. 143)
Belfield & Heywood (2008)	Financial: Performance related pay (PRP) “PRP should encourage greater effort by workers and attract more able workers to the employers providing it.” (p. 244)
Borman & Dowling (2008)	Financial: Compensation policies “... the perceived rewards of teaching and those of competing occupations and activities are likely to change across the career path of teachers and that—although monetary and material resources are important—many aspects of teachers’ working conditions are of equal or greater importance within the education labor market.” (p. 400)
Demir (2015)	Non-financial: Teacher leadership “Teacher leadership is a model for providing teachers with leadership opportunities in their profession. ... an opportunity for teachers to develop themselves and affect change in their school without leaving it. ... providing career development opportunities for teachers.” (p. 622)
Liang & Akiba (2015)	Financial: Teacher incentive pay programs “Among the many promising approaches, providing adequate and targeted financial incentives is of particular interest to policymakers and about half of the OECD countries have implemented some element of financial reward for teacher performance.” (p. 702)
Ingersoll & May (2010)	Financial and non-financial: Salary, professional development and school leadership support “... a growing demand for evidence on the sources of, and reasons behind, teacher turnover and retention, especially for fields such as mathematics and science, to provide direction on how to improve retention. ... there has been little research examining how organizational factors, such as the quality of principal leadership, the degree of faculty input into decision making, teacher classroom autonomy, professional development opportunities, and the adequacy of school resources affect math and science teacher turnover.” (p. 437-438)
Johnson, Kraft & Papay (2012)	Non-financial: Teacher leadership “Recent case studies and media reports portray high-poverty, high-minority schools that are not hard to staff, but actually attract and retain good teachers, suggesting that those schools provide the conditions and supports that teachers need to succeed with their students—whoever those students may be. ... it is the social conditions—the school’s culture, the principal’s leadership, and relationships among colleagues— that predominate in predicting teachers’ job satisfaction and career plans.” (p. 4-5)
Kilinç (2014)	Non-financial: Teacher leadership “Teacher leadership reflects the notion that teachers’ knowledge, skills and expertise can be effectively used to increase school improvement and student learning.” (p. 1731)

Kilinç, Cemloglu & Savas (2015)	Non-financial: Teacher leadership “It is quite important that teachers adopt leadership behaviors and contribute to the school processes requiring leadership with their knowledge, skills, and experiences. Thus, schools can fulfill their functions more effectively and a positive learning focused school culture can be established.” (p. 3)
Lauen (2013)	Financial: Merit pay “The desire to reward teachers for outputs rather than inputs has led to increased interest in paying teachers for their ability to raise student test scores.” (p. 93)
Liu (2012)	Financial and non-financial: teacher compensation, promotion and recognition The predictors of job satisfaction were classified into (1) school climate, which referred to school-level job satisfaction variables (e.g., leadership and students’ behavior and (2) teacher compensation which considered teachers’ salaries and holiday benefits (e.g., summer and winter vacations and national holidays).” (p. 554-555)
Loeb, Miller & Wyckoff (2015)	Non-financial: Tenure decision “Tenure is intended to protect teachers with demonstrated teaching skills against arbitrary or capricious dismissal.” (p. 199)
Mäkelä, Hirvensalo & Whipp (2015)	Financial and Non-financial: salary and recognition “The teaching profession includes three types of rewards; intrinsic, extrinsic and ancillary. Intrinsic rewards are related to the value of serving and helping students, enjoyment of teaching activities and personal and professional growth through teaching. Extrinsic rewards include salary, power and status. ... The third type of rewards are ancillary rewards including holidays, short working days and a stable income... .” (p.683)
Silins & Mulford (2004)	Non-financial: Teacher leadership and recognition “In particular, however, we are focusing on the impact of a range of school variables on teacher leadership such as availability of resources, valuing of staff, satisfaction with leadership and community focus, in the context of school change initiatives.” (p. 446-447)
You & Conley (2015)	Non-financial: Administrative support “Positive administrative support... implies a principal who exhibits appreciation, is encouraging of the teachers’ activities, provides helpful feedback, and lets teachers know what is expected of them.” (p. 570)

Table 5.4. Descriptions of reward system in the articles of our qualitative literature review

Article	Description of reward system
Anderson (2004)	Non-financial: Teacher leadership “For the purposes of this study, teacher leadership means to set directions and influence others to move in those directions. It is a fluid, interactive process with mutual influence between leader and follower. Teacher leadership may be exercised formally as typified by positions such as career ladders, mentors, lead teachers, and occurs in the context of district, school, and association ...” (p. 100-101)
Cameron & Lovett (2015)	Non-financial: Teacher task differentiation “They had been identified ... by their school leaders as likely to make a significant contribution as classroom teachers and future school leaders.” (p. 151)

Cheng & Szeto (2016)	Non-financial: Teacher leadership “...on the one hand, principals’ support and facilitation are critical in delegating leadership to teachers. On the other hand, teachers are the agency of teacher leadership and can initiate their performance of various leadership roles in the school context. As such, the development of teacher leadership inevitably involves contributions from the mutual influences of the principal’s facilitation and the teacher’s self-initiation of the roles.” (p. 140)
Coldwell (2016)	Non-financial: Teacher task differentiation “... suggest five career phases: (1) Launching a career. (2) Stabilisation. (3) New challenges, new concerns. (4) Reaching a professional plateau. (5) The final phase...” (p. 611)
Ghamrawi (2010)	Non-financial: Teacher leadership “... the second view, adopted in this study, broadens teacher leadership to include classroom teachers who engage in school reform, providing commitment to improving their knowledge and exemplary instructional practises and those who actively engage in helping other teachers ...” (p. 305)
Ghamrawi (2011)	Non-financial: Teacher leadership “... teachers should have a share in school leadership and play a critical role in fostering student learning, curricula, assessment, instruction, the professional growth of their colleagues as well as their own professional growth. Teachers would then be carrying out leadership roles known as teacher leadership... “ (p. 334)
Gu (2014)	Non-financial: Teacher recognition “...mutual acceptance and recognition between the leader and the teacher of their competence, integrity, and commitment...” (p. 517)
Johnson, Reinhorn, Charner-Laird, Kraft, Ng & Papay (2014)	Non-financial: Teacher leadership “... opportunities for leadership exist throughout the organization and leadership emerges from the ongoing, multidirectional process by which individuals (whether principals, formal teacher leaders, or classroom teachers) seek to influence others.” (p. 5)
Lewthwaite (2006)	Non-financial: Teacher leadership “All were recognized by their colleagues and their school’s senior administration as competent and confident teachers of science. As part of the overall school science development program, it was agreed amongst school administration, teaching staff and the project facilitator that during the year effort would be made to engage the lead-teachers in a variety of in- and out-of-school situations to facilitate their development as science teacher-leaders.” (p. 8)
Liljenberg (2016)	Non-financial: Teacher leadership “... teachers are assigned to leader positions (established by local school authorities and schools) by the school principals. Some teachers act as leaders on a part-time basis, with corresponding reductions in teaching assignments, and may receive additional pay, whereas others receive neither time nor money in lieu.” (p. 3)
Lundström (2012)	Financial: Performance pay “The current Swedish pay system is now target-based. Possible increases are restricted by the total sum, which is decided in agreements between the local trade unions and each municipality, then the pay for each individual is based on her/his performance, as assessed by continual

	monitoring (in relation to locally decided criteria), culminating in an annual appraisal round.” (p. 378)
Mangin (2007)	Non-financial: Teacher leadership “...new teacher leadership roles are emerging within the context of greater instructional accountability. This setting, combined with previous criticisms, has led to the creation of roles that focus on providing collective, schoolbased, instructionally oriented leadership. These roles are intended to improve teaching practice and ultimately, increase student learning.” (p.322)
Muijs & Harris (2006)	Non-financial: Teacher leadership “The operational definition of teacher leadership used in the research was one premised upon purposeful collaboration and co-operation amongst teachers. It is not leadership as defined by formal role or responsibility (e.g., an assistant head or a subject co-ordinator) but, as mentioned above, as collective agency and professional collaborative action with a pedagogical purpose which can take the form of both formal and informal leadership roles.” (p. 3)
Muijs, Chapman & Armstrong (2013)	Non-financial: Teacher leadership “... most commonly it is interpreted as comprising of the formal leadership roles that teachers undertake that have both management and pedagogical responsibilities, that is, head of department or subject co-ordinator, and the informal leadership roles that include coaching, leading a new team and setting up action research groups...” (p. 768)
Naiker & Mestry (2013)	Non-financial: Teacher leadership “Teacher leadership recognises the leadership capability of all organisational members and supports leadership as a form of agency that can be distributed...” (p. 4)
Silva, Gimbert & Nolan (2000)	Non-financial: Teacher leadership “...third wave teacher leadership moves beyond those second wave leadership opportunities that are apart from teachers’ classroom work to include opportunities for leadership to be part of teachers’ day to day work.” (p. 781)
Taylor, Yates, Meyer & Kinsella (2011)	Non-financial: Teacher leadership “Teacher leadership may be assumed from authority, often as a result of a selection process and manifested formally through roles such as leaders of curriculum areas or heads of departments in secondary schools. Alternatively, teacher leadership may be informal through influence that does not involve designated authority over peers, such as coaching colleagues.” (p. 86)

Table 5.5. Reward system as object of quantitative studies: intended, actual or perceived

Article	Actual, intended or perceived management process
Angelle & DeHart (2011)	Perceived: teacher perception of teacher leadership
Belfield & Heywood (2008)	Actual: sources of earning
Borman & Dowling (2008)	Actual: percentage of beginning teachers participating in school mentoring programs, prevalence of school-based teacher networks, opportunities for collaboration

	Perceived: teacher perception of administrative support, teacher satisfaction with salary
Demir (2015)	Perceived: teacher perception of teacher leadership culture
Liang & Akiba (2015)	Actual: prevalence and criteria of teacher incentive pay programs, types of payment, amount of award
Ingersoll & May (2010)	Actual: salary Perceived: teacher perception of professional development and school leadership support
Johnson, Kraft & Papay (2012)	Perceived: teacher perceptions about recognition of professional expertise, sufficient resources and sufficient time
Kilinç (2014)	Perceived: teacher perception of teacher leadership
Kilinç, Cemloglu & Savas (2015)	Perceived: teacher perception of teacher leadership
Lauen (2013)	Actual: failing of expected growth bonus
Liu (2012)	Actual: salary and holidays Perceived: teacher satisfaction with promotion and recognition
Loeb, Miller & Wyckoff (2015)	Actual: tenure decision
Mäkelä, Hirvensalo & Whipp (2015)	Perceived: teacher satisfaction with recognition
Silins & Mulford (2004)	Perceived: teacher perception of staff being valued and teacher leadership
You & Conley (2015)	Perceived: teacher perception of administrative support

Table 5.6. Reward system as object of qualitative studies: intended, actual or perceived

Article	Actual, intended or perceived management process
Anderson (2004)	Perceived: teacher leaders', teachers' and principals' perceptions about teacher leadership Actual: nominations of teacher leaders
Cameron & Lovett (2015)	Perceived: teachers perceptions about feeling valued as professionals, recognition for efforts and having a voice in school decision making Actual: additional responsibilities
Cheng & Szeto (2016)	Perceived: teacher perceptions about their teacher leadership roles
Coldwell (2016)	Perceived: perceptions of teachers on career development Intended: perceptions of principals on career development
Ghamrawi (2010)	Perceived: teacher leaders', teachers' and principals' perception about teacher leadership Actual: report of tasks carried out
Ghamrawi (2011)	Perceived: teacher leaders', teachers' and principals' perceptions about teacher leadership
Gu (2014)	Perceived: teachers' perception about support and recognition from school leaders
Johnson, Reinhorn, Charner-Laird,	Perceived: teachers' and principals' perception about teachers' role in governance or specialized roles

Kraft, Ng & Papay (2014)	
Lewthwaite (2006)	Perceived: Teacher leaders' perceptions about their aspirations as a teacher leader
Liljenberg (2016)	Perceived: teachers', teacher leaders' and principals' perceptions on teacher leadership
Lundström (2012)	Perceived: teachers' perceptions on performance pay Actual: document analysis of criteria for salary setting
Mangin (2007)	Perceived: teacher leaders', principals' and district supervisors' perceptions on teacher leadership Intended: principals' and supervisors' report on the teacher leadership policy
Muijs & Harris (2006)	Perceived: teachers', principals' and teacher leaders' perception on teacher leadership
Muijs, Chapman & Armstrong (2013)	Perceived: teachers' and principals' perception on teacher leadership
Naiker & Mestry (2013)	Perceived: teachers' perception about teacher leadership
Silva, Gimbert & Nolan (2000)	Perceived: teachers' perception about teacher leadership
Taylor, Yates, Meyer & Kinsella (2011)	Perceived: teachers' and teacher leaders' perception about teacher leadership

Table 5.7. External context variables in the selected qualitative studies

Article	External context variables
Cameron & Lovett (2015)	Institutional: educational policy (newly legislated National Standards)
Lewthwaite (2006)	Institutional: educational policy (government curriculum policy decisions; national curriculum development priorities; professional development agendas at national level; national external evaluation procedures, pay-scale structures)
Muijs & Harris (2006)	Institutional: educational policy (external accountability measures)
Muijs, Chapman & Armstrong (2013)	Institutional: educational policy (high stakes accountability systems)
Taylor, Yates, Meyer & Kinsella (2011)	Institutional: educational policy (national assessment reform)

Table 5.8. School internal context variables in the selected quantitative studies

Article	Structural school internal context variables: Structure, system, size, workforce characteristics
Angelle & DeHart (2011)	School level

Borman & Dowling (2008)	School expenditure for support per teacher, School expenditure for teaching materials, Teacher aide or classroom assistant, Instructional spending, Per-pupil spending , Average class size, Student-teacher ratio, Teacher salary
Liang & Akiba (2015)	District-level variables: Average teacher salary, enrollment , ethnic diversity level, student performance level, location , AYP status, collective bargaining
Ingersoll & May (2010)	Location , school level, size, poverty enrollment, school resources
Johnson, Kraft & Papay (2012)	Student demographics (low-income, minority, achievement, native speaker), school type (number of FTE, teacher age, teacher race, school level, urbanicity, charter school status)
Lauen (2013)	School poverty , race, amount of novice teachers, teacher turnover rate
Liu (2012)	School location
Loeb, Miller & Wyckoff (2015)	Race, SES
Silins & Mulford (2004)	School size, SES
You & Conley (2015)	SES

Note: Bold variables are found to be significant in the study.

Table 5.9. Outcomes at the teacher level in the selected quantitative studies: ability, motivation or behavior

Article	Ability, motivation or behavior related teacher outcomes
Belfield & Heywood (2008)	Behavior: Team production Motivation: Job satisfaction
Borman & Dowling (2008)	Behavior: Teacher attrition
Ingersoll & May (2010)	Behavior: Teacher turnover
Johnson, Kraft & Papay (2012)	Motivation: Teacher satisfaction, Career intentions
Kilinç, Cemloglu & Savas (2015)	Ability: Teacher professionalism Motivation: Perceived stress
Liu (2012)	Motivation: Teacher turnover intention
Loeb, Miller & Wyckoff (2015)	Behavior: Teacher stay, transfer or exit
Mäkelä, Hirvensalo & Whipp (2015)	Motivation: Teacher job satisfaction, Intention to leave
Silins & Mulford (2004)	Behavior: Teachers' work (measured by student perception)
You & Conley (2015)	Motivation: Job satisfaction, Work commitment, Career commitment, Intention to leave

Table 5.10. Outcomes at the teacher level in the selected qualitative studies: ability, motivation or behavior

Article	Ability, motivation or behavior related teacher outcomes
Cameron & Lovett (2015)	Motivation: Teacher job satisfaction, Teacher commitment Behavior: Teacher contribution to the school
Coldwell (2016)	Motivation: Teacher career/personal/mixed orientation
Ghamrawi (2011)	Motivation: Sense of efficacy, Teacher commitment, Teacher sense of belonging
Gu (2014)	Motivation: Teacher resilience, Teacher commitment, Sense of efficacy
Lundström (2012)	Motivation: Teacher motivation
Muijs & Harris (2006)	Motivation: Sense of efficacy Behavior: Teacher retention
Taylor, Yates, Meyer & Kinsella (2011)	Ability: Teacher growth in subject expertise and leadership capacity

Table 5.11. Opportunities in the selected quantitative studies

Article	Opportunities
Demir (2015)	Organizational trust
Ingersoll & May (2010)	School wide faculty influence Classroom teacher autonomy
Johnson, Kraft & Papay (2012)	Colleagues Facilities Governance School culture
Kilinç (2014)	School climate (supportiveness, restrictiveness , defectiveness and intimacy)
Liu (2012)	School climate (professional development, relations, education changes , students behavior)
Silins & Mulford (2004)	Internal school variables (Community focus, Organizational learning)
You & Conley (2015)	Teacher autonomy Teacher team efficacy

Note: Bold variables are found to be significant in the study.

Table 5.12. Opportunities in the selected qualitative studies

Article	Opportunities
Cameron & Lovett (2015)	Collaborative cultures; Knowledge sharing opportunities, Innovation overload, Accountability demands, Participative decision making
Cheng & Szeto (2016)	Collaborative culture; Participative decision making
Coldwell (2016)	School culture (action or stability oriented)
Ghamrawi (2010)	Professional collaboration; Teacher autonomy
Ghamrawi (2011)	Trust, Collaboration, Collective vision
Gu (2014)	Collegiality

Lewthwaite (2006)	Collegial support; School receptiveness to learning and change
Mangin (2007)	District communication of vision
Muijs & Harris (2006)	Supportive culture, supportive structures, commitment to action enquiry and data richness, innovative professional development, improvement efforts, teacher participation, collective creativity, shared practice, informal recognition and reward
Muijs, Chapman & Armstrong (2013)	Collegial culture, Clear and coherent policies
Naiker & Mestry (2013)	School climate, Communication, teacher isolation, teacher workload, power sharing

Table 5.13. Other included variables in the selected quantitative studies

Article	Other included variables
Angelle & DeHart (2011)	Teacher demographics: degree level, position (dummy: teacher leader or not)
Belfield & Heywood (2008)	Teacher demographics: gender, work hours
Ingersoll & May (2010)	Teacher demographics: subject, age, gender, race Student discipline problems
Johnson, Kraft & Papay (2012)	Teacher demographics: experience, classroom teacher (dummy), gender, race, degree Community support Principal's leadership
Liu (2012)	Teacher demographics: gender, age, experience Teacher variables: motivation to enter teaching, expectation of teaching at career beginning School leadership
Loeb, Miller & Wyckoff (2015)	Teacher demographics: gender, race, SAT scores Student demographics: race, SES
Mäkelä, Hirvensalo & Whipp (2015)	Teacher demographics: gender, age, experience, teaching hours (dummy), work hours
Silins & Mulford (2004)	Transformational school leadership, Leadership satisfaction
You & Conley (2015)	Teacher demographics: experience

Note: Bold variables are found to be significant in the study

Table 5.14. Other included variables in the selected qualitative studies

Article	Other included variables
Anderson (2004)	School leadership (administrative, instructional, transformational) Teacher demographics (gender, experience)
Cameron & Lovett (2015)	School leadership practices

Cheng & Szeto (2016)	Principal facilitation Teacher demographic (experience)
Coldwell (2016)	Teacher demographics (gender, experience)
Ghamrawi (2010)	Bartered and distributed leadership
Ghamrawi (2011)	School leadership (supportive, modelling, participative)
Gu (2014)	School leadership (supportive)
Johnson, Reinhorn, Charner-Laird, Kraft, Ng & Papay (2014)	School leadership (inclusive, instrumental)
Lewthwaite (2006)	Teacher characteristics (personal attribute factors)
Mangin (2007)	School leadership (principal support: knowledge and interaction)
Muijs & Harris (2006)	School leadership (guidance and support) Teacher characteristic (capacity to take on extra work)
Muijs, Chapman & Armstrong (2013)	School leadership (modelling) Teacher demographic (experience)
Naiker & Mestry (2013)	School leadership (participative, autocratic, power)

Chapter 6: Conclusion

In this study, we performed four reviews: one for each HRM-practice which we have put forward as subject of study (staffing, professional development, teacher evaluation, and reward systems). However, as we already mentioned, we are aware of the fact that studying the separate HRM-practices might be seen as artificial as we claim that all personnel practices need to be aligned with one another. However, from a theoretical viewpoint, we believe that studying the separate HRM-practices enables us to, in the end, compare the separate findings per personnel practice and incorporate these in the bigger picture of the complete HRM-system in schools. Moreover, from a practical viewpoint, we also have to take into account that there is only very limited research available that takes into account the entire HRM system in schools. This is also illustrated by the finding that few of the studies in our reviews described the connection between multiple HRM-practices. None of the studies focused on all four HRM-practices. Studies that did mention a link between several HRM-practices were mostly qualitative studies.

In this concluding chapter, we want to offer an integrated view to the reader based on the reviews of each separate HRM-practice. In this regard, we compare the four value chains which we presented at the end of each review and look for common variables in these value chains which are proven to be important for several HRM-practices in the empirical literature. We integrated these variables in the ultimate value chain for HRM in schools in Figure 6.1. More specifically, we looked at variables that were mentioned as important for three or more separate HRM-practices (indicated in black in the Figure) or that were mentioned in two separate HRM-practices (indicated in purple in the Figure).

Related to external context variables, we find that policy is found to be influential for all four HRM-practices. For two practices (staffing and teacher evaluation), also union influence is mentioned at the institutional policy context. No market context variables appear across several HRM-practices.

School internal context variables are included in all HRM-practices and we find school level, SES, and school size to be common for all four HRM-practices. School location appears in three reviews (not in the teacher evaluation review). Furthermore, school resources, school type and school achievement prove to be important for two HRM-practices.

In all value chains, we added teacher and school leadership characteristics because these popped up in the HRM-literature as important. In this regard, important teacher demographics are race, experience, gender, age and subject. These variables are mentioned in at least three different reviews of HRM-practices. Moreover, position and status are mentioned in two reviews. For leadership, one demographic variable is indicated as important in two reviews, namely experience. Several leadership styles are found to be crucial: transformational and instructional in three or more

reviews and by extension, administrative, distributive, supportive and general leadership in two reviews.

Outcomes at the teacher level are frequently reported in all reviews. However, no outcome at the ability level is mentioned more than once. At the motivational level, teacher satisfaction pops up in three reviews (all but professional development). The behavior of teachers also appears: teacher retention, teacher attrition, changes in classroom practice and teacher interaction each appear in two reviews. Concerning outcomes at the school, student, or society level, we can conclude that student achievement is a frequently reported outcome (all reviews but staffing). School improvement is reported twice (in the professional development review and the rewards review).

Opportunities are frequently integrated in all reviews of which teacher collaboration and school culture/climate appear in three reviews (all but staffing). Moreover, teacher autonomy and teacher participation are also identified as opportunities for HRM in two reviews.

When we compare Figure 6.1 with the original research model (Appendix 6) which we have put forward at the start of our project, we can conclude that both the value chain and the research model demonstrate a lot of mutual variables identified as important. In the following paragraph, we discuss the additional insights which we take with us from the reviews and the additions we make to the research model. Hence, we mainly look at things we can add to our research model as we intend to keep the initial variables of the research model in place. This means that we will not remove variables from the research model, even though some variables do not appear in the integrated value chain based on the four reviews (e.g. teacher beliefs and self-efficacy). However, there are indications in the separate reviews that these variables are important for one specific HRM-practice. The supplemented research model can be found in Figure 6.2.

At the level of the **external context**, the research model already included institutional and market context as influential. This can now be refined for the institutional context in policy and union influence. **Internal school context** variables can be added to the research model based on their importance in the literature: namely school location, school resources, school type and school achievement. Concerning **teacher demographics**, the reviews teach us that subject and status should be taken in to account as well. Related to **leadership**, the research model can be refined with the insights of the reviews in relation to the leadership styles that should be taken into account. Also, the reviews show us that leadership experience is important in light of HRM in schools. **Opportunities** in the school for HRM from the review match the cultural school characteristics that were integrated in the research model. The **teacher outcomes** that were integrated in the research model can be refined based on the reviews into teacher outcomes at three levels: ability, motivation and behavior. The research model integrated wellbeing and professional learning which can be placed respectively at the motivational and ability level. However, the reviews also identified several variables at the behavioral level which can be added to the research model.

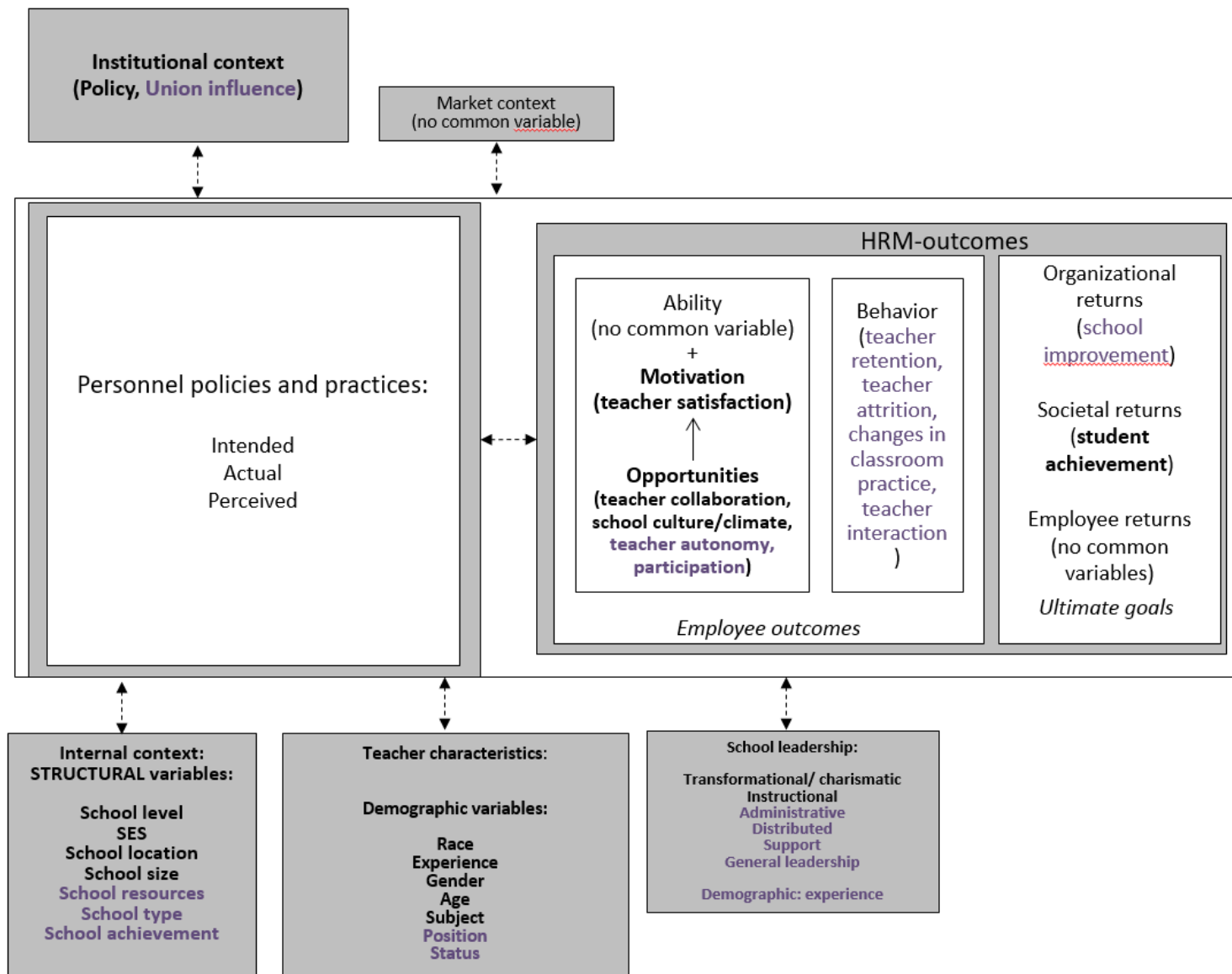


Figure 6.1. Integrated value chain based on 4 reviews

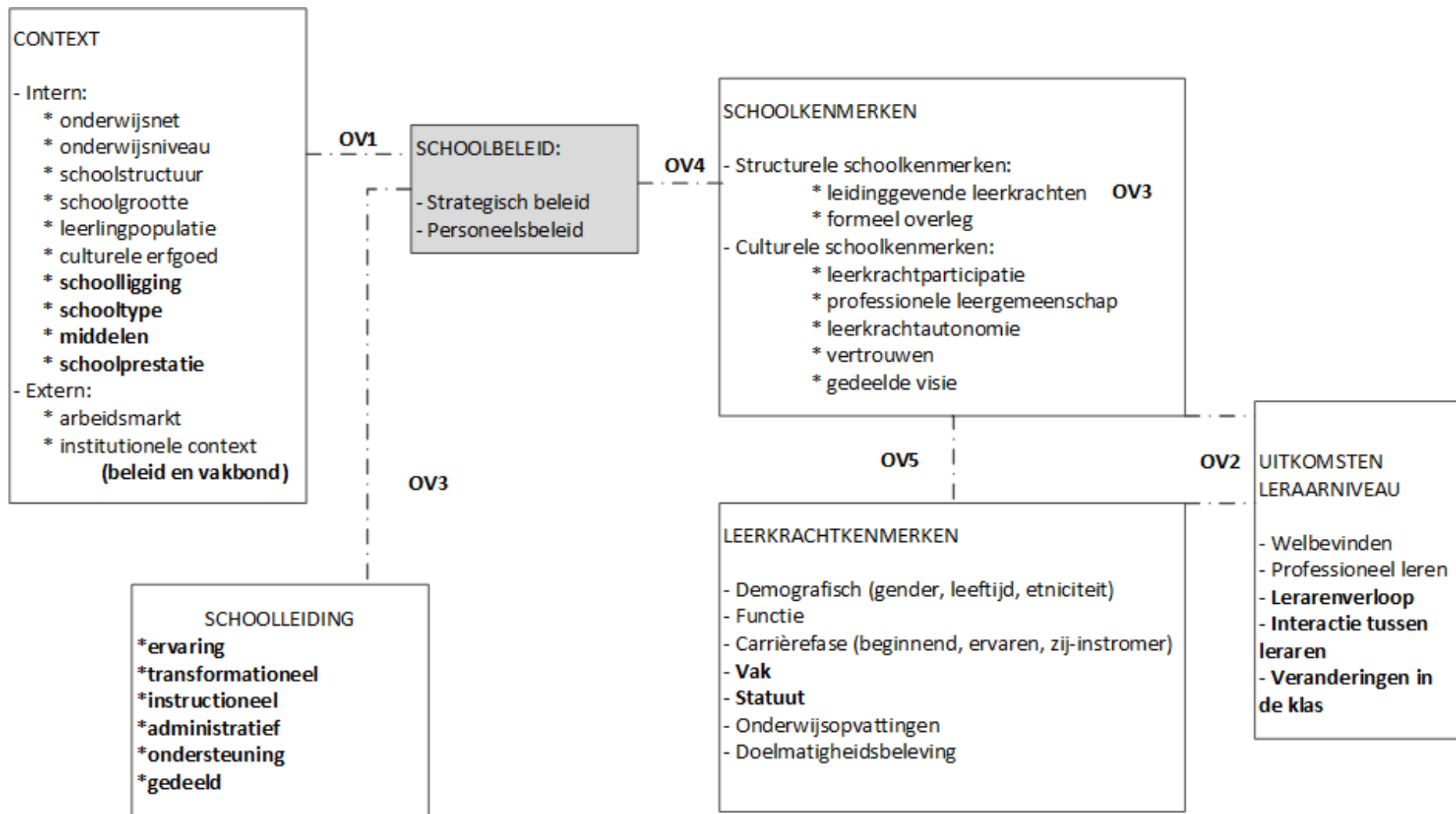


Figure 6.2. Supplemented research model (in Dutch) based on the reviews

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Appendix 2.1. Selected articles for narrative review of quantitative studies on staffing

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Appendix 3.1. Selected articles for narrative review of quantitative studies on professional development

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Appendix 3.2. Selected articles for narrative review of qualitative studies on professional development

1. Akerson, V. L., Cullen, T. A., & Hanson, D. L. (2009). Fostering a Community of Practice through a Professional Development Program to Improve Elementary Teachers' Views of Nature of Science and Teaching Practice. *Journal of Research in Science Teaching*, 46(10), 1090-1113. doi:10.1002/tea.20303
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47. Zhang, J., & Pang, N. S. K. (2016). Exploring the Characteristics of Professional Learning Communities in China: A Mixed-Method Study. *Asia-Pacific Education Researcher*, 25(1), 11-21. doi:10.1007/s40299-015-0228-3

Appendix 4.1. Selected articles for narrative review of quantitative studies on teacher evaluation

1. Barile, J. P., Donohue, D. K., Anthony, E. R., Baker, A. M., Weaver, S. R., & Henrich, C. C. (2012). Teacher–student relationship climate and school outcomes: Implications for educational policy initiatives. *Journal of Youth and Adolescence*, 41(3), 256-267.
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3. Borman, G. D., & Kimball, S. M. (2005). Teacher quality and educational equality: Do teachers with higher standards-based evaluation ratings close student achievement gaps?. *The elementary school journal*, 106(1), 3-20.
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6. Forman, K., & Markson, C. (2015). Is "Effective" the New "Ineffective"? A Crisis with the New York State Teacher Evaluation System. *Journal for Leadership and Instruction*, 14(2), 5-11.
7. Garrett, R., & Steinberg, M. P. (2015). Examining Teacher Effectiveness Using Classroom Observation Scores: Evidence from the Randomization of Teachers to Students. *Educational Evaluation and Policy Analysis*, 37(2), 224-242.
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11. Santelices, M. V., & Taut, S. (2011). Convergent validity evidence regarding the validity of the Chilean standards-based teacher evaluation system. *Assessment in Education: Principles, Policy & Practice*, 18(1), 73-93.
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Appendix 4.2. Selected articles for narrative review of qualitative studies on teacher evaluation

1. Donaldson, M. L. (2013). Principals' Approaches to Cultivating Teacher Effectiveness. *Educational Administration Quarterly*, 49(5), 838-882. doi:10.1177/0013161X13485961
2. Donaldson, M. L., & Papay, J. P. (2015). An Idea Whose Time Had Come: Negotiating Teacher Evaluation Reform in New Haven, Connecticut. *American Journal of Education*, 122(1), 39-70. doi:10.1086/683291
3. Flores, M. A. (2012). The implementation of a new policy on teacher appraisal in Portugal: how do teachers experience it at school? *Educational Assessment Evaluation and Accountability*, 24(4), 351-368. doi:10.1007/s11092-012-9153-7
4. Goldring, E., Grissom, J. A., Rubin, M., Neumerski, C. M., Cannata, M., Drake, T., & Schuermann, P. (2015). Make Room Value Added: Principals' Human Capital Decisions and the Emergence of Teacher Observation Data. *Educational Researcher*, 44(2), 96-104. doi:10.3102/0013189x15575031
5. Ha, B. W., & Sung, Y. K. (2011). Teacher reactions to the performance-based bonus program: how the expectancy theory works in the South Korean school culture. *Asia Pacific Education Review*, 12(1), 129-141. doi:10.1007/s12564-010-9131-z
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7. Jiang, J. Y., Spote, S. E., & Luppescu, S. (2015). Teacher Perspectives on Evaluation Reform. *Educational Researcher*, 44(2), 105-116. doi:10.3102/0013189X15575517
8. Kim, J., & Youngs, P. (2016). Promoting instructional improvement or resistance? A comparative study of teachers' perceptions of teacher evaluation policy in Korea and the USA. *Compare: A Journal of Comparative and International Education*, 46(5), 723-744. doi:10.1080/03057925.2015.1057478
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10. Kraft, M. A., & Gilmour, A. F. (2016). Can Principals Promote Teacher Development as Evaluators? A Case Study of Principals' Views and Experiences. *Educational Administration Quarterly*, 52(5), 711-753. doi:10.1177/0013161X16653445

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12. Lundström, U. (2012). Teachers' Perceptions of Individual Performance-related Pay in Practice: A Picture of a Counterproductive Pay System. *Educational Management Administration & Leadership*, 40(3), 376-391. doi:10.1177/1741143212436954
13. Malakolunthu, S., & Vasudevan, V. (2012). Teacher evaluation practices in Malaysian primary schools: issues and challenges. *Asia Pacific Education Review*, 13(3), 449-456. doi:10.1007/s12564-012-9207-z
14. Monyatsi, P., Steyn, T., & Kamper, G. (2006). Teacher perceptions of the effectiveness of teacher appraisal in Botswana. *South African Journal of Education*, 26(3), 427-441.
15. O'Pry, S. C., & Schumacher, G. (2012). New teachers' perceptions of a standards-based performance appraisal system. *Educational Assessment, Evaluation and Accountability*, 24(4), 325-350. doi:10.1007/s11092-012-9148-4
16. Page, D. (2015). The visibility and invisibility of performance management in schools. *British Educational Research Journal*, 41(6), 1031-1049. doi:10.1002/berj.3185
17. Rigby, J. G. (2015). Principals' sensemaking and enactment of teacher evaluation. *Journal of Educational Administration*, 53(3), 374-392. doi:10.1108/JEA-04-2014-0051
18. Tucker, P. D., Stronge, J. H., Gareis, C. R., & Beers, C. S. (2003). The Efficacy of Portfolios for Teacher Evaluation and Professional Development: Do They Make a Difference? *Educational Administration Quarterly*, 39(5), 572-602. doi:10.1177/0013161X03257304
19. Tuytens, M., & Devos, G. (2013). The problematic implementation of teacher evaluation policy. *Educational Management Administration & Leadership*, 42(4_suppl), 155-174. doi:10.1177/1741143213502188
20. Vekeman, E., Devos, G., & Tuytens, M. (2015). The influence of teachers' expectations on principals' implementation of a new teacher evaluation policy in Flemish secondary education. *Educational Assessment Evaluation and Accountability*, 27(2), 129-151. doi:10.1007/s11092-014-9203-4
21. Zhang, X. F., & Ng, H. M. (2011). A case study of teacher appraisal in Shanghai, China: in relation to teacher professional development. *Asia Pacific Education Review*, 12(4), 569-580. doi:10.1007/s12564-011-9159-8

Appendix 5.1. Selected articles for narrative review of quantitative studies on rewards

1. Angelle, P. S., & DeHart, C. A. (2011). Teacher perceptions of teacher leadership: Examining differences by experience, degree, and position. *Nassp Bulletin*, 95(2), 141-160.
2. Belfield, C. R., & Heywood, J. S. (2008). Performance pay for teachers: Determinants and consequences. *Economics of Education Review*, 27(3), 243-252.
3. Borman, G. D., & Dowling, N. M. (2008). Teacher attrition and retention: A meta-analytic and narrative review of the research. *Review of educational research*, 78(3), 367-409.
4. Demir, K. (2015). The Effect of Organizational Trust on the Culture of Teacher Leadership in Primary Schools. *Educational Sciences: Theory and Practice*, 15(3), 621-634.
5. Douglas Lee Lauen (2013) Jumping at the Chance: The Effects of Accountability Incentives on Student Achievement, *Journal of Research on Educational Effectiveness*, 6(2), 93-113.
6. Ingersoll, R. M., & May, H. (2012). The magnitude, destinations, and determinants of mathematics and science teacher turnover. *Educational Evaluation and Policy Analysis*, 34(4), 435-464.
7. Johnson, S. M., Kraft, M. A., & Papay, J. P. (2012). How context matters in high-need schools: The effects of teachers' working conditions on their professional satisfaction and their students' achievement. *Teachers College Record*, 114(10), 1-39.
8. Kilinc, A. Ç. (2014). Examining the Relationship between Teacher Leadership and School Climate. *Educational Sciences: Theory and Practice*, 14(5), 1729-1742.
9. Kilinc, A. Ç., Cemaloglu, N., & Savas, G. (2015). The Relationship between Teacher Leadership, Teacher Professionalism, and Perceived Stress. *Eurasian Journal of Educational Research*, 58, 1-26.
10. Liang, G., & Akiba, M. (2015). Characteristics of teacher incentive pay programs: a statewide district survey. *Journal of Educational Administration*, 53(6), 702-717.
11. Liu, S. (2012) The influences of school climate and teacher compensation on teachers' turnover intention in China. *Educational Psychology*, 32(5), 553-569.
12. Loeb, S., Miller, L. C., & Wyckoff, J. (2015). Performance screens for school improvement: The case of teacher tenure reform in New York City. *Educational researcher*, 44(4), 199-212.
13. Mäkelä, K., Hirvensalo, M., & Whipp, P. (2015). Determinants of PE Teachers Career Intentions. *Journal of Teaching in Physical Education*, 34(4), 680-699.
14. Silins, H., & Mulford, B. (2004). Schools as learning organisations-Effects on teacher leadership and student outcomes. *School effectiveness and school improvement*, 15(3-4), 443-466.

15. You, S., & Conley, S. (2015). Workplace predictors of secondary school teachers' intention to leave: An exploration of career stages. *Educational Management Administration & Leadership*, 43(4), 561-581.

Appendix 5.2. Selected articles for narrative review of qualitative studies on rewards

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Appendix 6. Research model of our initial research proposal

