

UTDANNINGSFAGLIG PORTEFØLJE

Pedagogisk profileringsdokument og vedlegg

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DEL I: Pedagogisk profileringsdokument

Profileringsdokument følger oppgitt mal for søknad om status som merittert underviser ved OsloMet – storbyuniversitet og inkluderer i gitt rekkefølge: pedagogisk CV, undervisningsrepertoar, syn på undervisning, utvikling av utdannings- og undervisningskvalitet, andres vurderinger, dokumentert utviklingsarbeid (inkludert utvikling av læremidler), det reflekterte tilbakeblikk og det reflekterte framsyn. Enkelte temaer er overlappende, men jeg har forsøkt å unngå unødvendige gjentakelser.

I mappen dokumenterer jeg hvordan jeg har utviklet undervisning- og utdanningskvalitet gjennom utvikling av ulike emner på bachelorstudiet i fysioterapi. Jeg har særlig bidratt til å løfte utdanningskvaliteten på bachelorstudiet i fysioterapi innen områdene etikk og internasjonalisering. Presentasjonen i mappen viser hvordan jeg har bidratt til undervisning- og utdanningskvalitet både nasjonalt og internasjonalt. Samlet sett får mappen/profileringsdokumentet frem hvordan jeg går i spissen for å utvikle undervisnings- og utdanningskvalitet – og hvordan jeg arbeider kollegialt og institusjonsbyggende.

Pedagogisk CV

Jeg er utdannet ballettpedagog fra Nord -Norsk Balletthøyskole (1989-1992) og fysioterapeut fra Mensendieck-utdanningen (1992-1995). Pedagogutdanningen fra Balletthøyskolen inneholdt også praktisk-pedagogisk utdanning (PPU) fra Bodø Lærerhøyskole (10 vekttall; tilsvarende 30 studiepoeng) (våren 1991). Av annen formell pedagogisk utdannelse har jeg Universitets- og høyskolepedagogisk basiskompetanse (UH-PED), 15 studiepoeng, fra OsloMet - storbyuniversitet, (høsten 2019; se vedlegg 1). Jeg har også et kortere kurs for PhD-veiledere fra Senter for Profesjonsstudier, OsloMet (2018). Mensendieckutdanningen (1992-1995) ga ordinær utdanning som fysioterapeut, men hadde også en tydelig pedagogisk profil. Jeg har master i Helsevitenskap fra Universitet i Oslo (2007) og doktorgrad i Profesjonsstudier fra Høgskolen i Oslo og Akershus (nå OsloMet – storbyuniversitet) (2015).

Undervisningserfaring og emneansvar

Fra høsten 2002 har jeg vært ansatt i høyere utdanning (100%), først i stilling som høgskolelærer, deretter i stilling som høgskolelektor (2008), stipendiat (2010) og førsteamanuensis (2015-d.d.). Under følger en tabell som gir oversikt over min undervisningserfaring fra OsloMet -storbyuniversitet (tidligere HIO og HIOA). De aktuelle emnene er inndelt i bachelor, master og ph.d. nivå. Jeg har også oppgitt aktuell tidsperiode og hvilken type ansvar jeg har hatt, samt hvilke typer undervisning- og veiledning det dreier seg om.

Tabell 1: Undervisningserfaring ved OsloMet i perioden 2002-2020

Undervisningsnivå og kurs/emner	Tidsperiode	Type undervisning/veiledning
Bachelorstudiet i fysioterapi		
Mendi1000 Veiledning og instruksjon - helse, kropp og relasjon	2002-2010	Emneansvarlig, forelesning, seminarleder og eksamensansvarlig, intern sensor
Mendi1300 Funksjonsundersøkelse og manuelle ferdigheter	2002 -2008	Forelesning, veiledning, intern sensor
Mendi2000 Forebygging og behandling ved muskel- og skjelettskader, -sykdommer og - plager	2002 - 2008	Forelesning, veiledning, intern sensor
Mendi2200 Folkehelse, fysisk aktivitet og bevegelse	2002-2010	Emneansvarlig, forelesning, seminarleder og eksamensansvarlig, intern sensor
Mendi2300 Rehabilitering og habilitering	2003-2010 og 2015 -	Emneansvarlig, forelesning, seminarleder og eksamensansvarlig, intern sensor
IPH 3000 International Public Health	2002-2010	Veileder, intern sensor
MENDIPRA Kunnskapsbasert praksis i fysioterapi	2002-2010	Veileder, intern sensor
Mendi3900 Bacheloroppgave	2009 og 2019	Veileder, intern sensor
Masterstudiet i fysioterapi, masterstudiet i ergoterapi og master studiet i rehabilitering		
MAFY54000 Kunnskapsgrunnlag og praksis i fysioterapi	2015 -	Forelesning
MAFY54200 MAERGD4200 MAREH4200 Vitenskapsteori og etikk	2016 -	Forelesning, seminarleder
MAFY54400 Kvalitativ metode	2016 -	Forelesning
MARE4000 Rehabilitering som kunnskap og praksis	2020	Emneansvarlig i nytt program (fra 2021), forelesning, seminarleder og intern sensor
MAFY55900 Masteroppgave	2016 -	Veileder, intern sensor
MAREG5900 Masteroppgave	2020	Intern sensor
Doktorgradsstudiet i helsevitenskap		
PHVIT9100 Helsevitenskap II: Vitenskapsteori, forskningsetikk og forskningsmetodologi	2016 -	Forelesning
PHVIT9900 Thesis	2019 – 2018 – 2020 –	Hovedveileder (brobyggerstilling) Medveileder Medveileder

Jeg er opptatt av nasjonalt og internasjonalt samarbeid og har satt opp en tabell som viser hvilke emner jeg har bidratt inn i, samt hvilke steder, tidsperioder, og type undervisning og sensur dette gjelder.

Tabell 2: Undervisningserfaring fra andre nasjonale og utenlandske utdanningsinstitusjoner

Undervisningsnivå/emne	Sted	Tidsperiode	Type undervisning/sensur
HESLSEF4200 Forskningsmetoder og forskningsetikk	Universitet i Oslo	2015 - 2016	Emneansvarlig for kvalitativ metode, undervisning kvalitativ metode
HESLEF4405	Universitet i Oslo	2015 - 2016	Valgfritt emnet i Profesjon, kjønn og kvinnehelse (i dag heter kurset Kjønn, kropp og medikalisering)
HESLSEF4200 Forskningsmetoder og forskningsetikk	Universitet i Oslo	2010 -	Sensor kvalitativ metode
HELSEF 4503 Masteroppgave i tverrfaglig helseforskning	Universitet i Oslo	2010 -	Sensor masteroppgaver
MAFY602 Masteroppgave klinisk fysioterapi	Høgskolene på Vestlandet (Bergen)	2020 -	Ekstern sensor masteroppgave
MVH142 Forskningsmetode - kvalitativ metode	Universitet i Stavanger	2019 -	Ekstern sensor metode eksamen
HEL-3160 Vitenskapsteori for helsefag	UIT Norges arktiske universitet	2019 -	Ekstern sensor
AK3720 Master of Philosophy	AUT Auckland University of Technology	2020	Ekstern sensor

I tillegg til undervisning, har jeg erfaring med veiledning på master og ph.d. nivå. En oversikt over dette fremgår av tabell 3.

Tabell 3: Oversikt over erfaring med master-og ph.d veiledning

Masterveiledning		
2015-2017	Hovedveileder	Ungdom med barneleddgikts hverdagslivsforhandlinger: forhandlinger om normalitet. UIO. Publisert artikkel i etterkant. Startet i PhD-stilling
2017-2021	Hovedveileder	Tverrfagligsamarbeid i kommunale rehabiliteringsteam. En kvalitativ studie av profesjonsutøvernes erfaring (deltid)
2019-2021	Medveileder	Ansattes erfaringer med tverrfaglig samarbeid ved de regionale tverrfaglige smertesentrene i Norge. (deltid)
2019-2021	Hovedveileder	Fysisk funksjonshemning og psykisk helse. Hva kan oppveksthistorier lære oss?
2019-2022	Hovedveileder	Fysioterapeutar si erfaring med forebygging og behandling av barn og unge med overvekt og fedme
PhD-veiledning		
2018-2022	Medveileder	Didactics and digitalisation in physiotherapy education, Faculty of Health Science, Oslo Metropolitan University
2019-2024	Hovedveileder	Children with physical disabilities and collaboration with their municipality services Faculty of Health Science, Oslo Metropolitan University (brobyggerstilling – 5 årige PhD-løp)
2021 -2024	Medveileder	Giving torture survivors a voice: developing guidelines to prevent re-traumatization during surgical care

Undervisningsrepertoar

Fysioterapeututdanningen er en profesjonsutdanning som inneholder teori, ferdighetstrening og praksis. Utdanningen inneholder følgende et bredt spekter av undervisnings – og veiledningsformer. Eksempler på disse formene er forelesning, seminar, kasuistikk-undervisning/case-basert undervisning, ferdighetstrening og praksis (inkludert mesterlære), gruppearbeid, individuell veiledning og veiledning i grupper. Jeg har erfaring med alle de nevnte formene. Mitt undervisningsrepertoar inkluderer studentaktive undervisnings- og læringsformer og i senere år innbefatter dette også aktive digitale undervisningsformer. Jeg vil i det følgende vise hvordan jeg har tatt i bruk og systematisk utviklet ulike former for studentaktive undervisningsformer i tre emner jeg har hatt ansvar for.

Mendi1000 Veiledning og instruksjon - helse, kropp og relasjon (15 studiepoeng)

I 2002 startet jeg som høyskolelærer ved Mensendieckutdanningen ved det som den gang var Høgskolen i Oslo. I starten underviste jeg særlig i ferdighetstrening og praksis. I undervisningen viste (demonstrerte) vi som var lærere ferdighetene og deretter øvde studentene på dette i praksis. Vi som var lærere, gikk da rundt og «rettet/korrigerte» og svarte på spørsmål fra studentene. Jeg hadde også noe teoriundervisning og her ble det brukt tavle og kritt til å forklare studentene det vi lærere mente det var viktig at de kunne som fysioterapeuter. Vi brukte også mye «flipp over» og (over- headed) med tusj og (senere ble det digitalt med pc og powerpoint). Jeg var opptatt av vi burde fornye undervisningsoppleggene. Særlig mente jeg at det vi underviste i måtte henge sammen med det studentene skulle ha på eksamen og at vi måtte forklare dem hva vi forventet at de kunne (lærte seg). Jeg engasjerte meg også i at vi som underviste burde slippe studentene mere til i undervisningen når det gjaldt selve tenkning i faget og ikke ensidig fokuserer på den praktiske utførelsen av manuelle ferdigheter.

Som emneansvarlig i Mendi1000 la jeg i samarbeid med kollegaer om opplegget. Vi utviklet kasuistikker – og lagde et studentaktivt gruppearbeid hvor studentene utøvde oppleggene i praksis og ga tilbakemelding til hverandre. Vi bygget opp kasuistikkene (case-studier) fra det enkle til det komplekse. Det enkle her innebar at kasuistikkene kun hadde en medisinsk problemstilling og en biomekanisk problemstilling. Etter hvert fikk pasientene i kasuistikkene noen flere utfordringer og på slutten introduserte vi kasuistikker som innebar at studentene måtte veie ulike medisinske perspektiv og valg opp mot hverandre. Studentene forberedte oppleggene (besvarelsene) på forhånd og lastet dem opp i Fronter (daværende læringsstøttesystem). På Fronter var to og to grupper sammen og forberedte kommentarer til hverandre. I undervisningen presenterte de sitt løsningsforslag via et rollespill og deretter fikk de feedback både på opplegget (hvilke øvelser de hadde valgt) og på hvordan de hadde formidlet øvelsene (pasientbehandling). Opplegget ble godt evaluert; studentene meldte tilbake at de følte seg «kastet ut i det», men på en god måte og med solid oppfølging. I refleksjonsnotatene (til eksamen) beskrev de at det hadde vært en bratt læringskurve.

Mendi2200 Folkehelse, fysisk aktivitet og bevegelse (20 studiepoeng)

I det andre emnet (Mendi2200) utviklet jeg som emneansvarlig sammen med kollegaer et opplegg for *bevegelsespraksis* som var studentaktivt og som integrerte teori og praksis på nye måter. I dette undervisningsopplegget jobbet studentene parvis og de valgte selv en

bevegelsespraksis (eksempler på valgte praksiser var: fotball, håndball, dans, yoga, langrenn, løping, boksing, afrikansk dans, pilates, klassisk ballett, orientering, sirkeltrening, styrketrening og så videre). Studentene presenterte først en forelesning for de andre studentene der de skulle inkludere historisk bakgrunn, teorigrunnlag og læringsteorier. Forelesningen inkluderte bruk av powerpoint og innholdet skulle relateres til læringsutbyttene for emnet. De fikk så innspill og spørsmål og kommentarer fra medstudenter (både på innhold og form). Deretter gjennomførte de en praktisk time med opplegget som var etterfulgt med tilbakemelding generelt og relatert til læringsutbytter spesielt. Studentene fikk dermed øving i både å gi og få tilbakemelding. De ble i tillegg utfordret på sine ferdigheter i å metareflektere over praksisen. De ble trent i å begrunne egne valg og stille konstruktive og kritiske spørsmål til egen og andres praksis. Erfaringene viste at studentene hadde en bratt læringskurve ikke minst med tanke på at de måtte bruke pensumtekster (og eventuell annen litteratur) til å begrunne og stille spørsmål til gjeldende praksis. Som en følge av arbeidsmetodene i emnet utviklet de sine ferdigheter i å kunne sammenstille kunnskapen og bruke ulike teorier og modeller til å belyse og diskutere praksisen. En viktig tilleggslæring var at i og med at praksisene ble så varierte så erfarte alle at de deltok i noe de mestret bra og noe de ikke mestret fullt så bra. Nettopp dette siste var noe flere trakk frem i emneevalueringen. Mange av fysioterapeutstudentene har bakgrunn fra idrett og er vant til å mestre og erfaringene med å gjøre noe de ikke rent ferdighetsmessig var gode i gjorde inntrykk på dem – og de sa at deres erfaring var at det var nyttig for å bedre forstå hvordan pasientene eksempelvis kunne erfare ulike typer bevegelse. Vi innførte også en skriftlig mappe som studentene arbeidet med underveis i hele emnet (over to semestre). Gjennom dette fikk de øving i å beskrive sin praksis og å knytte teori og praksis sammen i faglige begrunnelser. I starten var mappen et arbeidsdokument, men på bakgrunn av innspill fra studentene ble den med som grunnlag for vurdering til eksamen (som var praktisk, muntlig).

[Mendi2300 Rehabilitering og habilitering](#)

Etter at jeg var ferdig med stipendiatperioden og kom tilbake til fysioterapeututdanningen (januar 2015) har jeg vært emneansvarlig og undervist i emnet Mendi2300: Rehabilitering og habilitering (15 studiepoeng). Dette emnet har hovedtyngden på teori, men inneholder også noe praksis og ferdighetstrening. I kurset forstås rehabilitering som en planlagt prosess hvor fysioterapeuten er bidragsyter blant mange aktører for å bistå brukerens egen innsats for å oppnå best mulig funksjons- og mestringsevne, selvstendighet og deltagelse sosialt og i samfunnet. Rehabilitering belyses gjennom ulike perspektiv. Følgende seks fagområder inngår: rehabilitering og habilitering, fysioterapeutisk tilnærming innen psykisk helsearbeid, fysioterapeutisk tilnærming til personer med nevrologiske lidelser, fysioterapeutisk tilnærming til barn med funksjonsutfordringer, fysioterapeutisk tilnærming til personer med respirasjonslidelser og fysioterapeutisk tilnærming til personer med hjertelidelser. Emnet omfatter også rammebetingelsene som styrer behandlende, rehabiliterende- og habiliterende virksomhet: lover, forskrifter, politiske føringer og andre bestemmelser. Faglige og etiske dilemmaer som kan skape konflikt i individuelt rehabiliteringsarbeid er også i fokus. Blant studentene ble emnet Rehabilitering og habilitering regnet som krevende da det inngikk mange ulike temaer. I tillegg innebar en stor mengde faktakunnskap i emnet, samt at stoffet

ble formidlet av undervisere som var domeneeksperter på sine felt og ofte var opptatt av detaljer, til risiko for en overfladisklæring og til at studentene fokuserte mye på pugging.

Forelesninger var det bærende elementet i Mendi2300 Rehabilitering og habilitering. For at studentene skulle utvikle mer inngående kunnskap til de ulike teamene i emnet, men innenfor de eksisterende rammene (antall studiepoeng), utviklet jeg sammen med kollegaer et nytt undervisningsopplegg. Forelesningene fikk fortsatt en sentral plass, men de endret form og ble mer aktive og i tillegg utviklet vi (og reviderte) tematisk arbeidsoppgaver. At forelesningene ble mer aktive innebar konkret at vi la om til å ha mindre økter med formidling, avbrutt av korte oppgaver der studentene vekselvis jobbet individuelt, parvis og i grupper. De små oppgavene som gis i timene er da planlagte slik at de har relevans for arbeidsoppgavene som følger i etterkant av forelesningene. Studentene har tilgang til nettet via sine pc'er og ofte har oppgaven en lenke til en aktuell sak i media som illustrer poenget i oppgaven og det de skal aktivt jobbe med (eksempelvis ulike typer helse råd, eksempel på informasjon på ulike kommunale eller statlige nettsider). Eller det kan være en kort filmsnutt. Hensikten er å vekke engasjement og vise studentene hvordan undervisningsstoffet har relevans for det yrkeslivet de skal ut i. Arbeidsoppgavene vi utviklet (en til hvert av de seks temaene som inngår i emnet) rettet seg inn mot læringsutbyttene i emnet og sammen utgjorde de grunnlaget for eksamen. Arbeidsoppgavene vi utviklet krevde at studentene i sine besvarelser går utover faktakunnskap og oppgavene løses i stor grad i grupper. For å hjelpe studentene i å se sammenhenger i opplegget (på tvers av fagemnene) utviklet jeg en metode der ulike etiske dilemma fungerer som en «rød tråd» i opplegget. Dette arbeidet resulterte i læreboken Profesjonsetikk i ergoterapi og fysioterapi. Boken er utgitt på Samlaget i samarbeid med to kollegaer (se vedlegg 6).

For å utvide studentenes perspektiv på rehabilitering utover en norsk kontekst, utarbeidet jeg et undervisningsopplegg i samarbeid med nasjonale og internasjonale kollegaer. For dette prosjektet fikk jeg i 2018 innvilget støtte fra UTFORSK programmet i DIKU - 2 årig prosjekt (2019-2021). Den nevnte etikkboka og DIKU-prosjektet beskrives nærmere under avsnittet om dokumentert pedagogisk utviklingsarbeid (For DIKU-prosjektet se vedlegg 4, 9 og 10).

Veiledning

Når det gjelder undervisningserfaringen min på master- og ph-d nivå er det slik at masterstudiene ved Institutt for fysioterapi i likhet med mange andre masterstudier bygger på forelesning og seminar som gjennomgående undervisnings- og læringsformer. Medstudentvurdering er også en vurderings- og tilbakemeldingsform som brukes her, men på master og ph.d. nivå benyttes også mer tradisjonell individuell veiledning.

På PhD-veilederkurset som jeg deltok på høsten 2018 (2 dagers kurs som gis av Senter for Profesjonsstudier) fikk vi mange eksempler på veiledningsutfordringer (anonymiserte erfaringer). Eksempelene omhandlet problemstillinger knyttet til medforfatterskap, dominerende veiledere, stipendiater som hadde private utfordringer, stipendiater som trengte mye støtte og stipendiater som var for selvstendige og ikke ville ta imot veiledning. Dette ga innsikt i mange ulike utfordringer og var svært lærerikt. Som en følge av dette opplegget fikk jeg et mye bredere erfaringsgrunnlag enn det jeg ville hatt om jeg kun skulle basere meg mine egne personlige erfaringer. Jeg har erfarte denne kollektive opplæringen som svært nyttig.

Eksempelvis har jeg tidligere sendt mye litteraturtips til mine studenter, men nå differensierer jeg dette og er mer restriktiv med å sende til kandidater jeg ser kan ha utfordringer med å holde fokus. Jeg har også fått en annen forståelse for at kandidater har ulikt behov for «tett oppfølging» og erfarer at noen har behov for at jeg hjelper dem med å dele opp arbeidsoppgavene og å fokusere på en ting om gangen.

Syn på undervisning og læring

Fysioterapiens historiske røtter er sterkt forankret i medisinen og det biomedisinske paradigmet har historisk stått sterkt innen fysioterapi (Nicholls & Cheek, 2006; Nicholls, 2018). Som profesjon trekker fysioterapi imidlertid på kunnskap både fra naturvitenskap og fra humaniora- og samfunnsvitenskap. I et internasjonalt perspektiv har norsk fysioterapeututdanning mer fokus på samfunnsperspektiver og tverrfaglig samarbeid, noe som også er forsterket gjennom RETHOS-reformen fra 2020. I Norge er grunnutdanningen i fysioterapi organisert som en treårig bachelor. For å få autorisasjon som fysioterapeut må kandidater som har bestått bachelor gjennomføre ett år med turnustjeneste (Dahl-Michelsen, 2015). Internasjonalt er fysioterapeututdanningen derimot vanligvis fireårig og flere steder (USA, Canada, Australia) er utdanningen femårig (masternivå). At norsk fysioterapiutdanning er noe kortere enn de fleste internasjonale utdanningsprogrammene og i tillegg har mer vekt på samfunnsvitenskap og tverrfaglige kunnskap gjør at utdanningen har svært «tette studiepoeng». Studiet regnes som krevende, og studentene som utdannes oppnår gode resultater. Det er også tøff konkurranse om studieplassene og studentene som tas opp på programmene har følgelig høy inntakskvalitet (gode karakterer fra tidligere utdanningsløp) (Dahl-Michelsen, 2015).

Selv om utdanningen trekker på kunnskap fra flere ulike vitenskapstradisjoner, har fysioterapeututdanning sterke røtter til et positivistisk kunnskapsparadigme og har vært kritisert for å være nølende til å ta i bruk autonome og studentaktive læringsformer (Rowe, 2018). Kritikken dreier seg om at utdanningen fokuserer mye på overføring av faktakunnskap og i mindre grad på at studentene skal være aktive i egen kunnskapsproduksjon og læring. Stortingsmelding om kvalitet i høyere utdanning vektlegger studentaktive læringsformer og dybdelæring (Kunnskapsdepartementet, 2016). På bakgrunn av 18 års erfaring er det mitt klare inntrykk at fysioterapeututdanning har endret seg i tråd med de politiske føringene og lagt om til mer studentaktive undervisningsformer. I hvilken grad det legges vekt på dybdelæring eller mer konkret hvordan faktakunnskap og faglig fordypning står i forhold til generiske metakognitive ferdigheter og kritisk tenking er et mer åpent spørsmål. Dette gjelder også graden av studentens autonomi. Disse spørsmålene henger sammen med pedagogisk grunnsyn og hvilke kunnskaps- og læringssyn som er gjeldende i egen undervisningspraksis. Den enkelte undervisers pedagogiske grunnsyn inngår også i en bredere faglig kontekst (det vil si utdanningskulturen der underviseren jobber) (Lindblom-Ylänne, Trigwell, Nevgi & Ashwin, 2006).

Jeg bygger min pedagogiske forståelse av undervisning og læring på et sosiokulturelt grunnsyn (Vygotsky, 1980). Det innebærer at jeg er opptatt av at studentene skal lære *med og av hverandre* – selv om læring også er en individuell kognitiv prosess. Fysioterapeututdanningen har lang tradisjon med gruppearbeid og er slikt sett forankret i et sosiokulturelt læringssyn. Imidlertid kan slike gruppearbeid også være forankret i en

behavioristisk forståelse. Dette vil gjerne komme til uttrykk i forhold til grad av kontroll av undervisningen og læringen (og hvor lærerstyrt dette er). I undervisningsopplegg som er forankret i en behavioristisk forståelse (grunnsyn) der «in-put» er lik «out-put» (når læringen har skjedd) vil man naturlig nok være opptatt av å «kontrollere» læring. Til sammenligning vil en i undervisningsopplegg som er forankret i en sosiokulturell forståelse være mer opptatt av å stimulere til kollektive læringsprosesser. På min arbeidsplass handler diskusjonene knyttet til undervisnings og læringsdesign ofte om ulike oppfatninger av studentenes grad av autonomi i undervisningsoppleggene. Kjennskap til og klarhet i eget pedagogisk grunnsyn kan etter mitt syn generelt sett være viktig for å forstå eget og andres ståsted i pedagogiske debatter knyttet til læring i profesjonsutdanninger.

Som emneansvarlig (og underviser) har jeg vært opptatt av å lage undervisningsopplegg (og undervisning) som stimuler til dybdelæring og i forhold til arbeidslivsrelevans er jeg opptatt av at morgensdagens profesjonsutøvere har behov for metakognitive ferdigheter (for å kunne tilpasse seg endringer). Kort sagt når det gjelder eget kunnskaps- og læringssyn er jeg særlig opptatt av hvordan dybdelæring og metakognitive ferdigheter henger sammen med studenters læring – og deres læringsstrategier. I litteraturen om studenters læring -og læringsstrategier kontrasteres begrepet om *dybdelæring* mot begrepet om *overflatelæring*. Overflate læringsstrategier innebærer at studenter typisk er opptatt av å reprodusere kunnskap, og studentene kobler ikke kunnskap fra ett område over til et annet. De ser i mindre grad sammenhenger og kunnskapen deres fremstår som løsrevet fra kontekst og kan ha preg av å være pugget og ikke forstått. De kan typisk ha utfordringer med å kjenne igjen nøkkelbegreper – særlig dersom konteksten er endret. Dybdelæringsstrategier innebærer i motsetning til overflatelæringsstrategier at studentene er dypt involvert i læringen. De kobler typisk ny- og tidligere kunnskap sammen, og læringen kjennetegnes av forståelse. Studentene har ofte gjort kunnskapen til sin egen (Biggs, 1987, 2011, 2012; Elmgren & Henriksson, 2016; Marton & Säljö 1976, 2001, Trigwell, Prosser & Waterhouse, 1999). Med andre ord er overflatelæring kjennetegnet av at læringen begrenses til å reprodusere fakta, mens dybdelæring er kjennetegnet av fakta inngår i en større sammenheng, der studentene også kan innta et kritisk perspektiv. I deler av litteraturen benyttes også begrepet strategisk læringsstrategi som særlig dreier seg om hvordan studentene organiserer sin egen studering (Ramdsen, 2003). Studenter som benytter denne strategien kjennetegnes ved effektiv tidsbruk og innsats, samt at de tilpasser seg eksamenskravene. De legger gjerne ned mye tid i studiene, men velger henholdsvis dybde eller overflatetilnærming i forhold til det de selv tenker vil gi best uttelling på eksamen (Entwistle, McCune & Walker, 2001 ;Ramdsen, 2003,;Hatlevik, 2018a).

Inndelingen i overflate- og dybdelæring kan også ses i sammenheng med Blooms reviderte taksonomi der (teoretisk) kunnskap deles inn i hierarkiske organiserte prosesskategorier. Lavere ordens kognitive nivå innebærer «å huske, forstå og anvende», mens høyere ordens kognitive nivå innebærer «å analysere, evaluere og skape» (Anderson, Kratwool & Bloom, 2001; Kratwohl, 2002). I henhold til taksonomien er kategoriene kumulative, og studentene må derfor tilegne seg kunnskapene av lavere orden (Kratwold, 2002). Med andre ord; studenter kan ikke bare reflektere - de må også ha noe å reflektere over. I tråd med Blooms taksonomi vil kritisk refleksjon være kunnskap av høyere orden som hviler på andre kunnskap

former. Dette er et viktig poeng og betyr at faktakunnskap også må ha plass i undervisningsoppleggene. Poenget er slik jeg ser det at læring innebærer komplekse prosesser (Illeris, 2018), og et interessant spørsmål er hvordan studentens tilnærming til læring henger sammen med lærerens tilnærming til undervisning.

Trigwell, Prosser og Waterhouse (1999) har undersøkt en slik sammenheng. I sin undersøkelse finner de at i studier der lærere rapportere at fokuset er på å overføre kunnskap så er det mer sannsynlig/sterkere sammenheng at studentene rapporterer overflate læringsstrategier. Omvendt, men ikke så tydelig, finner de at i klasser der studentene rapporterer dybdelæringsstrategier, rapporterer læreren at undervisningen er rettet mot at studentene endrer begrepsforståelsen sin (Trigwell, Prosser & Waterhouse 1999). Funn fra en annen studie kan nyansere disse funnene da den peker på at undervisernes planlegging av undervisning ofte var mer knyttet til lokale forhold og kulturer enn mer overordnet begrepsforståelse (Eley, 2006). Om dybdelæring har bedre læringseffekt enn vanlig praksis – eller hvilke læringsstrategier som gir best læring er et empirisk spørsmål. Det er gjennomført få sammenlignende studier og Melby-Lervåg (2019) peker på at det er viktig å gjennomføre grundige systematiske litteraturoversikter (eksempelvis gjennom Cambell-systemet) for å få mer robust kunnskap.

På et teoretisk/konseptuelt plan henger dybdelæring sammen med metakognitive ferdigheter og metakognitiv resonnering omtales i litteraturen også som transformativ læring (Hatlevik, 2018b). Transformativ læring innebærer at studenten (den som lærer) endrer sin tenkning og forståelse. I den transformative læringsprosessen oppstår det typisk en uoverensstemmelse mellom tidligere forståelser og nye erfaringer. I undervisningsopplegget som jeg har skissert fra Mendi2300 er arbeidsoppgavene designet slik at det «blir en uoverensstemmelse» i form av at studentene må forholde seg til ulike forståelser av kunnskap og til ulike verdier. Ideen er at dette bidrar til å transformere studentenes forståelse. I undervisningsopplegg som fremmer transformativ læring er læringsaktivitetene studentaktive og det er også viktig at studentene opplever noe mestring i forhold til det som betraktes som sentrale ferdigheter i den aktuelle profesjonen (Hatlevik, 2018a). Både Mendi1000, Mendi2200 og Mendi2300 er designet med blick for dette – og studentene stimuleres til å oppnå både ferdigheter og mestring gjennom kollektiv feedbacken (Steen-Utheim & Wittek, 2017).

Veiledningsformen i de beskrevne emnene bygger på dialogisk tilbakemelding (feedback). Steen-Utheim og Wittek (2017) har utviklet en analytisk modell som inneholder fire sentrale trekk ved dialogisk tilbakemelding (feedback). De fire konseptene er: 1) emosjonell og relasjonell støtte, 2) opprettholdelse av tilbakemeldings dialogen, 3) muligheter for studentene til å uttrykke seg selv og 4) den andres bidrag til individuell vekst (Steen-Utheim & Wittek, 2017). Både i Mendi1000, Mendi2200 og Mendi2300 foregår den dialogiske tilbakemeldingen først og fremst som en kollektiv og ikke individuell feedback. I Mendi2300 er det for eksempel slik at i tillegg til den tilbakemeldingen som inngår i forelesningene arrangeres det seminarer der studentene presenterer i grupper og gir tilbakemelding til hverandre. I tillegg inngår underviseren i en metakognitiv resonnering og tilbakemelding med studentene – i tråd med beskrivelsene til Steen-Utheim og Wittek (2017) og Hatlevik (2018a).

Studentenes læring handler både om undervisningen og om studentene. Den innsatsen som studentene selv legger i studiene – og kvaliteten på undervisningstilbudet er de to aspektene som har størst innflytelse på studentenes faglige læringsutbytte av høyere utdanning (Gibbs, 2010). I artikkelen God undervisning og studenter som lykkes (Hatlevik, 2018b) sammenligner Hatlevik teoretiske og empiriske bidrag fra tre forskningsretninger som omhandler studenters læring: studenters engasjement, studenters læringstilnærming og selvregulering. Hatlevik (2018b) viser i artikkelen til Chikering og Gamsons syv prinsipper for god undervisningspraksis, Ramdsen (2003, s. 86 og 87) liste over kjennetegn ved en god underviser og til Pintrichs (2003, s. 672) prinsipper for god undervisning. Med utgangspunkt i Hatleviks gjennomgang har jeg satt opp en tabell som gir en oversikt over disse prinsippene og kjennetegnene ved god undervisning. Min undervisningspraksis har vært inspirert av de aktuelle tilnærmingene.

Tabell 4: Oversikt over prinsipper og kjennetegn ved god undervisning

Prinsipper for god undervisningspraksis <i>Hva skaper engasjement</i>	Liste over kjennetegn ved en god underviser <i>Hva påvirker læringstilnærmingen</i>	Prinsipper for god undervisning <i>Hva motiverer studentene</i>
<p>Oppmuntrer til kontakt mellom studenter og faglige ansatte</p> <p>Utvikler gjensidighet og samarbeid mellom studenter</p> <p>Oppmuntrer til aktiv læring</p> <p>Gir rask tilbakemelding til studenter på deres læringsarbeid og prestasjoner</p> <p>Vektlegger betydningen av tid brukt på studier</p> <p>Kommuniserer høye forventinger relatert til studenters innsats og prestasjon</p> <p>Respekterer at studenter har ulike talenter og foretrukne læringsstiler</p>	<p>Viser oppriktig interesse for fagkunnskapen</p> <p>Gjør innholdet interessant og stimulerende</p> <p>Tilpasser undervisningen etter studentens faglige nivå</p> <p>Forklarer innholdet enkelt</p> <p>Gjør tydelige hva som må læres, hvorfor det må læres og hvor godt det må læres</p> <p>Viser studentene respekt og omsorg</p> <p>Oppmuntrer studenter til å bli selvstendige</p> <p>Improviserer og tilpasser undervisningen til nye krav</p> <p>Bruker undervisningsmetoder og oppgaver som krever at studentene må lære innholdet grundig, samarbeide med medstudenter og ta ansvar for egen læring</p> <p>Bruker eksamineringsmetoder som måler det en ønsker at studentene skal lære</p> <p>Fokuserer på nøkkelbegreper og på å oppklare misforståelser i stedet for å skulle gå gjennom hele pensum</p> <p>Gir best mulig tilbakemelding på studentarbeid</p> <p>Søker å forbedre egen undervisning ved å lære av studenter og av forskning på utdanning</p>	<p>Utforme undervisning, læringsoppgaver og vurderingsformer slik at de fremmer mestring, læring, innsats og progresjon, og ikke fokuserer på at studentene sammenligner seg med hverandre.</p> <p>Variere undervisningen og vektlegge forståelse av innhold.</p> <p>Læringsoppgaver som er passe utfordrende, som utformes slik at studentene har mulighet til å mestre dem, og som oppleves som interessante og personlig meningsfulle for studentene.</p> <p>Studentene gis mulighet til å velge mellom ulike læringsoppgaver og utøve en viss grad av kontroll over læringsarbeidet.</p> <p>Tilbakemeldinger på studentarbeid som fokuserer på den enkeltes kompetanseutvikling (hvor de er i forhold til hvor de skal), og som tydelig viser studentene hva læringsarbeid innebærer selvkontroll, innsats og bruk av læringsstrategier.</p> <p>Læringsmiljøet er trygt og forutsigbart, og studentene oppmuntrer til samarbeid og til å ta personlig og felles ansvar for læringsarbeidet.</p> <p>Engasjerte undervisere som viser interesse for læringsstoffet, og som tydeliggjør læringsinnholdets verdi, nytte og relevans.</p>

Utvikling av utdannings- og undervisningskvalitet

Jeg er opptatt av, motivert for og har bred erfaring med utvikling av utdannings- og undervisningskvalitet. Her følger et utdrag av mine bidrag.

2005-2007

Sammen med mine kollegaer deltok jeg i en større programplansrevisjon ved bachelorprogrammet i fysioterapi (studieretning Mensendieck). Arbeidet ble ledet av studieleder og gjennomført som et kollektivt arbeid i staben.

2015-2019

Jeg var prosjektleder for den første fasen av arbeidet med å utvikle en ny programplan for bachelorstudiet i fysioterapi (2015-2016). Arbeidet innebar å lede en prosjektgruppe (arbeidsgruppe), samarbeide med styringsgruppe og med interne og eksterne samarbeidsaktører.

Som prosjektleder etablerte jeg programplanseminar med tema som læringsutbytte, sammenheng i programplan, muligheter og fallgruver i utvikling av nye programplaner. Eksterne innledere ble invitert til seminarene; eksempelvis professor Tine Sophie Prøitz, førsteamanuensis Ida Katrine T Hatlevik og professor Dave Nicholls.

2015-2017

I denne perioden var jeg programkoordinator for de to bachelorstudiene i fysioterapi. Det innebar koordinering av 15 ulike emner og faglig ledelse av emneansvarlige.

2015-2019

Som medlem av Utdanningsutvalget på Fakultet for Helsevitenskap var jeg med å vurdere og godkjenne programplaner og kvalitetsikre ulike sider ved utdanningsprogrammenene på Fakultet for Helsevitenskap.

2016

Våren 2016 hadde jeg ansvaret for den kvalitative delen av en intern evaluering av PhD-programmet ved Senter for Profesjonsstudier. Hensikten med undersøkelsen var å få innblikk i stipendiater, veiledere og programansvarliges erfaringer med PhD-programmet i profesjonsstudier.

2015 -

Jeg har bidratt med ulike presentasjoner og faglig formidling. Her er noen eksempler. Jeg har:

- Presentert arbeidet med etikk og læreboka i profesjonsetikk på ulike praksisveilederseminarer internt
- Holdt innlegg og ledet seminar om denne tematikken for eksterne samarbeidspartnere (Sunnaas, Lovisenberg sykehus)
- Holdt presentasjoner og postere på en del nasjonale- og en rekke internasjonale konferanser gjennom mange år.
- Publisert en rekke artikler knyttet til utdanningsforskning og kvalitet i utdanningen Synliggjort utdanningen gjennom medlemskap i Critical Physiotherapy Network [CPN](#) fra starten i 2015, og fra 2017 som styremedlem.
- Vært med og utviklet det andre internasjonale digitale kurset i *Critical Physiotherapy*. Kurset er tilgjengelig online og er gratis. Lenke til sesjonen der jeg var med som en av

kursholderne: - [How Are We Doing? Placing Human Relationships at the Center of Physiotherapy](#)

- Ledet faglunch på instituttet sammen med en kollega høsten 2020
- Vært med sammen å utarbeide det faglige opplegget sammen med en kollega - om feedback for personalseminaret i februar 2021. Innleder Anna Therese Steen-Utheim.

Andres vurderinger

Når det gjelder andres vurderinger viser jeg til følgende vedlegg:

Vedlegg 2 Vurdering fra leder.

Vedlegg 3 Vurdering fra kollega.

Vedlegg 4 Vurdering fra kollega.

Vedlegg 5 Vurdering fra kollega.

Vedlegg 14 Emneevalueringer Mendi2300.

Dokumentert pedagogisk utviklingsarbeid, inkludert utvikling av læremidler.

Jeg vil trekke frem tre pedagogiske utviklingsarbeid jeg har gjennomført. Det første er et prosjekt som omhandler profesjonsetikk, det andre et internasjoniseringsprosjekt for fysioterapistudenter i Sør-Afrika, Brasil og Norge og det tredje er utvikling av digital studentaktiv undervisning med bruk av Flipped classroom modellen. Nedenfor beskrives disse utviklingsarbeidene i mer detalj.

Profesjonsetikk

I 2018 utga jeg sammen med to kollegaer en lærebok i profesjonsetikk for ergoterapeuter og fysioterapeuter (vedlegg 6). Boken er utviklet med tanke på bruk i undervisning både på bachelor- og masternivå for ergoterapeut – og fysioterapeutstudenter og inneholder blant annet praktiske eksempler og kasuistikker. I forbindelse med lanseringen ble boken anmeldt i [Fysioterapeuten](#) og den ble utgangspunkt for en podkast. Når det gjelder fysioterapeutstudenters læring og utvikling av profesjonsetisk kompetanse har jeg i tillegg publisert to fagfelleverderte artikler (vedlegg 7 og 8). For arbeidet med profesjonsetikk ble jeg i 2018 nominert til Norsk Fysioterapeutforbunds Forskerspirepris.

Motivasjonen for å skrive lærebok i profesjonsetikk sprang ut fra behovet for en slik bok. I emnet Mendi2300: Rehabilitering og habilitering erfarte jeg at selv om studentene fikk gode resultater til eksamen, så var det utfordrende for mange studenter og se sammenhenger på tvers av de ulike områdene i dette emnet. I tillegg til at det konkrete læringsutbyttet knyttet til etisk refleksjon med fordel kunne ivaretas gjennom et mer strukturert og systematisk opplegg. Det pedagogiske utviklingsarbeidet i emnet innebærer et undervisningsopplegg der studentene introduseres til ulike etiske perspektiver og til bioetikken. Vi legger særlig vekt på *kritisk etikk* – det vil si en etikk som etterspør hva som er tatt for gitt – ledet av spørsmålet «hva er det du gjør når du gjør det du gjør» (Gibson, 2016).

Boken brukes sammen med arbeidsoppgavene i emnet. For å løse de seks arbeidsoppgavene må studentene først ta utgangspunkt i faktakunnskap. I arbeidsoppgave 1 er dette knyttet til organiseringen av helse- og rehabiliteringstjenester i en norsk kontekst og i en internasjonal kontekst (oppgave og peer-assement med internasjonal student i det nevnte DIKU-prosjektet). I de øvrige (fem) oppgavene er faktakunnskap og etisk refleksjon knyttet til medisinsk (og

fysioterapifaglig) kunnskap innen det aktuelle temaet. De må vurdere ulike medisinske kunnskap opp mot hverandre og gjøre en klinisk vurdering og kritisk begrunne sine valg i kasuistikkene/oppgavene. Det «nye» er at de bruker den etiske refleksjonsmodellen (som kort sagt betyr at de identifiserer hvem som er involvert i en oppgitt case og hva som er dilemmaet – og hva som er de åpne og de skjulte verdiene). De identifiserer hva som er posisjonene til de ulike aktørene og deretter må de komme opp med et løsningsforslag. Konkret betyr det at vi har utvidet oppgavene (casene) ved å trekke inn mer sosial- og kulturell kontekst der ulike verdier må veies opp mot hverandre (eksempelvis hva helsepersonell (her fysioterapeuten) mener er til pasientenes beste og hva pasientene selv ønsker (gjøre godt prinsippet versus autonomi)).

Internasjonaliseringsprosjekt

I 2018 fikk jeg innvilget støtte fra UTFORSK programmet i DIKU - 2 årig prosjekt (2019-2021). Prosjektet har tittelen: [*Physiotherapy Education in Norway, South Africa and Brazil: A Joint Online Learning Project in Rehabilitation*](#). Bakgrunnen for utviklingen av prosjektet var behovet for at fysioterapeututdanningen skulle bidra til å oppfylle OsloMets strategiplan om økt internasjonalisering. Videre så jeg som sagt et behov for å utvide studentenes perspektiv på rehabilitering utover en norsk kontekst. Prosjektet er inspirert av PhotoVoice metode og det er 130 fysioterapeutstudenter som deltar hvert år. Det er knyttet seminar og medstudentvurdering til opplegget (både sammen med internasjonale studenter og lokalt på eget universitet). Vi har også benyttet cafe-modellen og poster presentasjoner som en del av undervisningsopplegget. En pilot av opplegget ble gjennomført i 2017 og 2018.

I prosjektet prøver vi ut en digital læringsplattform for å fremme studentenes samhandling og øke deres forståelse av rehabilitering innenfor ulike sosial- og helsefaglige kontekster. Et sentralt mål for prosjektet er etablering av en bærekraftig modell for internasjonalisering i fysioterapeututdanning og utvikling av studentenes og lærernes digitale ferdigheter. Når det gjelder formidling av resultatene, er det publisert en artikkel på arbeidet med pilotprosjektet (vedlegg 10). For en nærmere beskrivelse og vurdering av prosjektet viser jeg til vedlegg 9. DIKU har nå ute ny utlysning i UTFORSK programmet og jeg sender ny søknad 30 januar 2021 (4 årig prosjekt). Prosjektet legger seg i forlengelse av det pågående prosjektet. Hovedfokuset i ny søknad er bærekraftperspektiver og bærekraftig internasjonalisering.

Studentaktiv undervisning med bruk av Flipped classrom

Jeg deltok fra starten i en prosjektgruppe som utviklet et nytt undervisningsopplegg i emnet Mendi2000 Forebygging og behandling ved muskel- og skjelettskader, -sykdommer og -plager. Jeg har medvirket i design og utvikling, samt forskning knyttet til dette arbeidet. Utviklingen av opplegget bygger i sin helhet på Flipped classroom metoden der nettbaserte ressurser og digitaliserte forelesninger har frigjort tiden i klasserommet til ulike typer gruppearbeid og seminarer. Denne formen for undervisning har vist lovende resultater i forskningslitteraturen (Smeby, Gundersen, Røe & Jamtvedt, 2021). Undervisningsopplegget og de vitenskapelige tilnærmingene er formidlet i form av tre publikasjoner (se vedlegg 11-13) og flere muntlige presentasjoner. At studentene er aktive i diskusjoner og utvikler faglige begrunnelser og argumentasjon er en sentral ide i opplegget. Rollespill, paneldebatter, poster konkurranser, cafe- modell og samskriving i felles digitalt dokument m.m. har også vært brukt. Det er videre lagt vekt på å skape et godt læringsmiljø for studentene. Oppmøte på seminarene er ikke obligatoriske, men lærerne er alltid tilgjengelig for studentene i

seminarene. Emneansvarlig har på forhånd klargjort for studentene hvilken innsats som er forventet og det er satt av tid på timeplanen til forberedelser og etterarbeid (for å synliggjøre dette). Både selvrappport læringsutbytte og eksamensresultater har gjennom en årrekke vært svært gode. I forlengelsen av dette arbeidet er det ansatt en stipendiat som forsker på digitale undervisningsdesign i fysioterapeututdanningen. Ph.d. stillingen er knyttet til programmet Forskning på digitalisering og læring ved HV-fakultetet i samarbeid med Senter for Profesjonsstudier. Jeg er medveileder for stipendiaten

Det reflekterte tilbakeblikk

Arbeidet med meritteringssøknaden har åpnet et rom for refleksjon av min egen undervisningspraksis. Gjennom et tilbakeblikk gjør jeg i det følgende en kritisk analyse av de ideene og metodene som har preget min utvikling gjennom mange år som underviser. Dette gjør jeg gjennom å knytte de beskrivelsene jeg har gitt tidligere i dokumentet opp mot teori.

Da jeg startet som underviser i høyere utdanning i 2002 ble (som tidligere beskrevet) ferdighetstrening og praksis demonstrert av mesteren (læreren) og deretter utført av studenten. I litteraturen betegnes denne metoden som mesterlære (Nielsen & Kvale, 1999). Den samstemmer også med deltagelse i et læringsfelleskap der man gradvis utvikles fra novise til ekspert gjennom å observere og kopiere mesterens ferdigheter (Lave, 1991). Denne forståelsen av læring har fortsatt stor plass og gyldighet i helsefaglige utdanninger (Brien & Battisa, 2020). I starten av min undervisningskarriere bestod den teoretiske undervisningen av tradisjonelle forelesninger, noe som innebar fokus på underviseren som en som overfører kunnskap (Dyste, 2001). De tradisjonelle forelesningene har endret seg på to måter. Enten har de blitt lagt om etter Flipped class room modellen eller så har de blitt mere aktive. Aktive betyr her at det legges inn aktiviteter der studentene er aktive i selve forelesningen. Kort sagt skal forelesningene fungere som aktiv læring gjennom å skape engasjement i klasserommet (Bonwell & Eison, 1991).

Gruppearbeid har vært en sentral læringsmetode i fysioterapeututdanning og studentene har her vært aktive. Den nyutviklingen jeg bidro til handlet om to ting. For det første å sette praksisen i et system gjennom videreutvikling av kasuistikker (som også historisk har vært en mye brukt undervisningsmetode i fysioterapeututdanning). Vel så viktig var kanskje fokuset på og systematiseringen av feedback. Som tidligere beskrevet har denne feedbacken i all hovedsak vært kollektiv. En måte å forstå dette på er at læringen fortsatte gjennom praksisfelleskap (Lave, 1991), men fokuset på mesterlære ble tonet ned og erstattet med et syn på studentene som medskapere.

Når jeg nå ser tilbake på min undervisningspraksis i høyere utdanning (fra 2002-2021) ser jeg at en ide som går som en rød tråd gjennom praksisene er mitt fokus på *sammenheng* i undervisningsoppleggene. Som tidligere beskrevet ble jeg tidlig opptatt av at det var et potensiale for bedre sammenheng mellom innhold, undervisning og vurdering i undervisningsoppleggene. I litteraturen omtales denne sammenhengen som constructive alignment (Biggs, 2012). På norsk benevnes dette teoretiske perspektivet som samstemt læringsdesign. Stortingsmelding om kvalitet i høyere utdanning (Kunnskapsdepartementet, 2016) peker på at gode utdanninger har samsvar mellom læringsutbyttebeskrivelsene og undervisningsformene som benyttes – altså at de har et samstemt læringsdesign. De endringene jeg har drevet frem gjennom mitt arbeid som emneansvarlig og gjennom

samarbeid med kollegaer samsvarer med tenkningen innen constructive alignment (samstemt undervisning) (Biggs, 2012) og føringene i Stortingsmelding 16.

At kollegaer som overtok emneansvar i Mendi1000 og Mendi2200 videreførte oppleggene i mange år har trolig sammenheng med at det var utviklet et samstemt læringsdesign i emnene. Det vil si at det var god sammenheng mellom læringsutbytte, innhold og læring og vurdering i emnene, noe de nye emneansvarlige ønsket å videreføre.

Når det gjelder spørsmålet om hvordan analyse og kritisk refleksjon har ført til endring og videreutvikling er det også slik at studentevalueringer har vist meg hvordan studenter kan vurdere den samme undervisningen (og behovet for den) ulikt. Et eksempel er den første pilotgjennomføringen av det internasjonale prosjektet. Her var utgangspunktet at jeg valgte å sette i gang piloten på kort varsel (alternativet hadde vært at det ikke ble pilot det året). Både jeg og studentene måtte snu oss rundt for å få til dette opplegget. I den (anonyme) evalueringen var det stort sprik i tilbakemeldingene. Noen skrev «For mye tid ble brukt på det internasjonale prosjektet. Jeg synes ikke vi trenger å lære om dette» mens andre skrev «Det var for lite tid på det internasjonale prosjektet. Dette er viktig kunnskap og vi burde lært mye mer om det i utdanningen». Når det gjaldt informasjon og forutsigbarhet var tilbakemeldingene mer samstemte (gode). Jeg har i ettertid reflektert over at det jeg kan bidra med er å motivere for opplegget, sørge for at det er god informasjon og forutsigbarhet i forhold til det som skal gjøres og så vil ulikheter i studentenes interessefelt trolig avgjøre hvor viktig de synes opplegget er (se vedlegg 14).

Det reflekterte framsyn

I perioden 2002-2015 har nesten all min undervisningspraksis vært på bachelorutdanningen. Etter 2015 har jeg også erfaring fra master- og ph.d. Fra høsten 2021 legges masterprogrammene ved Fakultet for Helsevitenskap om til en paraplymaster. Jeg er emneansvarlig for vitenskapsteori og metode i det nye masterprogrammet (sammen med kollega fra Institutt for sykepleie og helsefremmende arbeid). Det er lagt opp til Flipped classroom og digital undervisning (samt noe seminar på campus). Det er ca. 200 studenter som skal ta emnet. I tillegg er jeg emneansvarlig for Rehabilitering som kunnskap og praksis ved studieretningen; Rehabilitering og habilitering. Jeg underviser også på master i psykomotorisk fysioterapi. Jeg er opptatt av å ha en vitenskapelig tilnærming til undervisningsmetoder også på masternivå.

Dersom jeg får status som merittert underviser ønsker jeg å bidra inn i det felles opplegget som nå etableres for kollegium for meritterte undervisere. Når det gjelder engangsbeløpet på 100.000 kroner som går til den merittertes hjemmehørende enhet og skal brukes til utvikling av undervisning og ha et kollegialt tilsnitt ønsker vi å bruke disse pengene til å utvikle et kunnskapsområde som kan bidra inn i den nye masteren i Helsevitenskap. For nærmere beskrivelse se vedlegg 2.

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UTDANNINGSFAGLIG PORTEFØLJE

DEL II VEDLEGG

TONE DAHL-MICHELSEN

Del II: Vedlegg

Vedlegg 1: Dokumentasjon UH-ped

Vedlegg 2: Uttalelse fra leder (ikke vedlagt offentlig versjon)

Vedlegg 3: Letter support Tone Dahl-Michelsen (ikke vedlagt offentlig versjon)

Vedlegg 4: Letter support Tone Dahl-Michelsen (ikke vedlagt offentlig versjon)

Vedlegg 5: Erklæring om samarbeid (ikke vedlagt offentlig versjon)

Vedlegg 6: Lærebok i Profesjonsetikk i ergoterapi og fysioterapi (ikke vedlagt offentlig versjon)

Vedlegg 7: Artikkel: Professional competences, embodiment and ethics in physiotherapy education in Norway

Vedlegg 8: Artikkel: Approaching intimacy, sexuality and ethics in the professional training of physiotherapy students in Norway

Vedlegg 9: DIKU-project Decision Letter (ikke vedlagt offentlig versjon)

Vedlegg 10: Formidling: Using Internationalisation at Home to provide international learning to all physiotherapy students

Vedlegg 11: Artikkel: Flipping the classroom in physiotherapy education: experiences, opportunities and challenges.

Vedlegg 12: Artikkel: Learning with technology in physiotherapy education: design, implementation and evaluation of a flipped classroom teaching approach.

Vedlegg 13: Artikkel: How do university teachers convey flipped classroom teaching and learning? (Versjon for trykking - ikke vedlagt offentlig versjon)

Vedlegg 14: Emneevaluering Mendi2300 Våren 2018 og 2019 (ikke vedlagt offentlig versjon)

Vedlegg 1.

Bekreftelse Universitets- og høyskolepedagogisk basiskompetanse

Tone Dahl-Michelsen har valgt å dele følgende resultater:

OsloMet - storbyuniversitetet

Resultater (15 studiepoeng/stp)

Emne		Termin	Poeng	Karakter
UHPED6000	Universitets- og høgskolepedagogisk basiskompetanse	2019 Høst	15 stp	Bestått

Vedlegg 7.

**Artikkel: How do we learn professional ethics?
Professional competences, embodiment and ethics in
physiotherapy education in Norway**

How do we learn professional ethics?

Professional competences, embodiment and ethics in physiotherapy education in Norway

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Abstract

This paper aims to enhance the understanding of how physiotherapy students develop professional ethical insight. The empirical data is based on participant observations and in-depth interviews with first-year students attending skills training classes in one of Norway's four physiotherapy bachelor programmes. Theoretically, this paper is framed within Merleau-Ponty's and Daly's embodied approaches to ethics. The analysis pays special attention to the concepts of ethical insight, ethical sensibility and hyper-reflection. The findings are presented according to two themes: 'embodying tacit care' and 'in-between abstract and embodied ethics'. In the discussion, we address students' development of ethical sensibility and lack of hyper-reflection skills. Ultimately, we argue that while physiotherapy education should embrace the unique nature of skills training as an opportunity to stimulate students to develop their ethical sensibility, at the same time, the curriculum must also emphasise hyper-reflection (critical thinking). We also discuss how educators can organise their curriculum and teaching in a way that enhances the potential for students to develop professional ethical insight.

Keywords: professional ethics, professional competences, physiotherapy education, embodiment, curriculum design

Introduction

All professionals should practice their profession in an ethical way. The profession of physiotherapy is regulated by the Declaration of Ethical Principles, which was issued by the World Confederation of Physical Therapists (WCPT) in 1995 (Partridge, 2010). The overarching principle of this declaration states that physiotherapists should respect the rights and dignity of all individuals (Partridge, 2010: 65). However, little information is available on how physiotherapy educational programmes have aligned their curriculums with WCPT guidelines. The extent to which physical therapy universities and learning institutes around the world report a formal ethics component on their syllabus varies extensively (Partridge, 2010: 67). For example, some institutions cover ethical guidelines within the context on clinical reasoning, whereas others concentrate on the application of ethics to research. Moreover, some institutions introduce ethics in the first year and then incorporate elements of ethics into different modules in later years, whereas others introduce ethics in a first-year

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lecture and then require an ethics seminar in the second year. As Patridge (2010: 67) argues, the extent to which ethical issues are regarded as important appears to depend, to some extent, on the personal interests of the staff involved. Swisher (2010: 69) addresses similar concerns about the availability of professional development opportunities related to ethics and moral reasoning within entry-level physiotherapy curriculums. Regarding the topic of ethics, it seems that physiotherapy curricula lack clarity regarding specific teaching content and learning goals. Moreover, the curricula do not emphasise the relevance of ethics to practice, and teaching faculties within these programmes often lack ethics experts (Barnitt and Roberts, 2000: 37). Accordingly, this lack of adequate ethics training in physiotherapy education presents a concern, as practicing physiotherapists are then ill-equipped to manage ethical issues in their clinical practice (Triezenberg, 1996; Greenfield and Jensen, 2010: 89).

The variation in how physiotherapy education programmes include ethics in their curriculums reflects how the WCPT on the one hand promotes standardisation, and on the other hand recognises the diversity of its members. The WCPT represents over 360,000 physiotherapists worldwide, and the recommended guidelines to which its member organisations have agreed apply to entry-level university education programmes that involve a minimum of four years of study and prepare graduates to become autonomous practitioners (Dahl-Michelsen, 2015). In practice, the structure of these educational programmes varies widely; this reflects the considerable diversity that exists in the regional, social, economic, political, cultural and professional environments in which physiotherapy programmes are taught around the world (Webb et al., 2009). In Norway, there are four physiotherapy bachelor degree programmes, and they are offered in the cities of Bergen, Oslo, Trondheim and Tromsø. Overarching national guidelines regulate the content of these bachelor degree programmes and ensure that they are sufficiently similar (UFD, 2004). Each programme requires three years of full-time study, which is equivalent to 180 points in the European Credit Transfer and Accumulations System (i.e. 180 ECTs). This three-year curriculum is followed by a one-year internship, wherein students spend six months working in municipality health services and six months working in a hospital setting.

Norway is home to more than five million people. Currently, ethnic minorities comprise 16% of the population, which is becoming increasingly more ethnically pluralistic, especially in larger cities (Statistic Norway, 2017). However, this cultural diversity is not reflected in physiotherapy programmes. The majority of physiotherapy students in Norway are white and middle-class, and they are therefore a somewhat homogenous group (Dahl-Michelsen and Leseth, 2011). In contrast, the increase in the number of physiotherapy programmes in Australia, for example, has paved the way for a more diverse student group by emphasising variations with respect to age, ethnicity and prior qualifications (McMeeken, 2007).

The gender distribution of the combined physiotherapy work force in the UK, the US, Australia, Sweden and Norway is 70% women and 30% men (Enger, 2001; Hammond, 2009; MacLean and Rozier, 2009; Sudmann, 2009; Öhman, 2001). This gender distribution is reflected in the physiotherapy student population (Öhmann, 2001). Norway is seen as a pioneer in gender equality because of its successful inclusion of women in the labour market and in influential positions in the public sector, politics and industrial management (Holst, 2009). However, despite this reputation, Norway has one of the most gender-segregated

labour markets, a fact that has been termed the Norwegian equality paradox. For example, within the physiotherapy profession, men dominate manual physiotherapy, whereas women dominate psychomotor physiotherapy (Dahle, 1990; Enger, 2001). Moreover, men dominate sports physiotherapy, whereas women dominate physiotherapy for children (Dahl-Michelsen and Leseth, 2011). In addition to these specialisation divides, the working spheres in physiotherapy are also gendered: men more often work in the private sector, whereas women more often work in the public sector (Dahle, 1990; Dahl-Michelsen and Leseth, 2011; Enger, 2001). The extensive focus on equality in the Norwegian welfare state is underlined by a free education and the availability of good scholarships. By ensuring a strong educational framework, the state encourages individuals to undertake education and career choices regardless of their backgrounds or traditional gender roles. We found it particularly interesting to explore how professional ethics are learned in physiotherapy education within the context of a society such as Norway.

As noted by Doherety and Purtilio (2015), professional ethics encompasses a systematic reflection on morality. In this case, ‘systematic’ points to ethics as a discipline that includes specific methods and approaches for examining moral situations, whereas ‘reflection’ entails questioning assumptions about existing components of moralities that fall into the category of habits, customs and traditions (Doherety and Purtilio, 2015). In this paper, we explore through a critical lens how physiotherapy students develop professional ethics. We extend Doherty and Purtilos’s emphasis on challenging ingrained norms as paramount in health professionals’ development of ethical reflection by taking an embodied approach to ethics. An embodied approach to ethics involves being sensitive to bodily and somewhat tacit dimensions embedded in physiotherapy encounters – dimensions that might not fit neatly into traditional, normative ethics (Merleau-Ponty, 2002; Daly, 2016).

Merleau-Ponty’s approach to ethics takes as its starting point the idea that human experience is intersubjective in the sense that ‘the interdependence of self, other and the world is affirmed’ (Daly, 2016: 2). Daly argues that this approach to ethics is markedly different from traditional normative ethics, which are founded ‘on assumptions of dualist ontologies’ (Daly, 2016: 2). She points to Merleau-Ponty’s ethics as an embodied bottom-up ethics that relies on direct insight into our own intersubjective approaches – or in other words, into the ‘I’ within the ‘we’ and the ‘we’ within the ‘I’ – and into the relations of others and the particularities within any given situation. Indeed, the more the circle of ‘we’ is widened, the more empathetic is the subject to other sentient beings. In other words, if identification remains focused on the ‘I’ perspective, orientation is likely to be predominated by individualism and competition (Daly, 2016: 258). Merleau-Ponty’s theory also denotes the ‘we’ through the metaphor of the ‘world body’, which focuses on how all human beings are intersubjectively related by belonging to the same ‘world body’ (Engelsrud, 2006). Building on these ideas, Daly introduces the concept of ethical insight, which involves systematic reflection on one’s own bodily experiences, including one’s motives, in seeking to promote the well-being of others.

Focusing on the well-being of others thus enables physiotherapists to move beyond biomedical approaches that emphasise curing to uncover ethical challenges that might cause more harm than good (Daly, 2016: 5). As Daly put it, ‘This skilful action is possible by virtue of direct, pre-reflective insight, intelligent percipience into the real nature of our relations to

others and the particularities of the given situation, not on any absolutist formulations... nor principles nor the moral accounting typical of consequential or utilitarian ethics' (Daly, 2016: 5). Accordingly, ethical insight is related to enhancing critical reflection, or hyper-reflection, as Daly terms it. Indeed, hyper-reflection also implies a bodily sensitivity and 'know-how' in promoting the well-being of others in concrete situations. Notably, this bodily sensitivity to ethical reflection is more context-sensitive and relational than a more theoretical, top-down view of ethics, taking as its starting point established norms, obligations and prescriptions. Ethical insight, understood as a professional competence that must be developed, thus involves sensitivity to the situation here and now, involving one's own body and being sensitive to bodily responses of one's patients.

Research Methods

The data for this paper derives from a larger qualitative study on the process by which physiotherapy students become physiotherapists (the first author's PhD project). The empirical material is based on participant observations and in-depth interviews with first-year students attending skills training classes as part of one of Norway's four bachelor programmes in physiotherapy. Participant observation is particularly suited for exploring implicit and taken-for-granted phenomena (Fangen, 2010; Hammersley and Atkinson, 2007). This method is therefore appropriate for exploring the ways in which physiotherapy students develop professional ethical insight. Skills training classes in two different courses, 'Functional Assessment and Manual Skills' and 'Massage and Palpation', were observed in June, October and November of 2010. The former ran from January through June (10 ECTS), and the second ran from September through December (5 ECTS). These courses were identified as particularly relevant for participant observation because they included a special emphasis on students using their own bodies to roleplay both the therapist and the patient.

Altogether, 165 students, including 118 female students and forty-seven male students, were observed for a total of eighty-three hours. The students ranged in age between eighteen and forty-five, and most were in their early twenties. Additionally, eight teachers, including five female teachers and three male teachers, all between ages forty and fifty-eight, participated in the study. In addition to the observations, we interviewed sixteen students who participated in the 'Functional Assessment and Manual Skills' course. Practical reasons influenced the selection of the students who were interviewed. Although the students in the two courses belonged to different cohorts, the cohorts were regarded as similar, and thus it was not seen as necessary to include interviews with students from the 'Massage and Palpation' course. These interviews enabled us to explore students' experiences as they developed ethical insight (Järvinen and Mik-Meyer, 2005). The sample of students interviewed reflected variations among the students in the classes concerning differences in social activity (for example, some 'shy and modest' students and others who were more 'direct and loud'), as observed by the first author in the classroom. Eight male and eight female students were asked to participate, and all agreed to participate in the interviews. Of the sixteen students interviewed, fourteen were ethnically Norwegian. The first author conducted both the participant observations and the interviews.

Analysis

Qualitative analysis often begins with an inductive approach and later develops into a more explicitly theory-driven analysis (Patton, 2002). The analysis in this paper fits this pattern. The following two questions guided our analysis: (1) How do professional ethics become significant during skills training?, and (2) How do students develop professional ethical insight?

Bearing in mind these two research questions, several examples and anecdotes were selected for systematic analysis based on the first author's preliminary reading of the transcribed data. The data were read several times, and relevant topics were colour-coded and discussed by the two authors in face-to-face meetings. We agreed on preliminary topics, which represented the different themes we had highlighted as we read. We then discussed relevant ethical theories. The first author had read different theories relating to care ethics (e.g. Gilligan, 1982; Noddings, 1984, 2013). However, she found that these theories were not designed to handle the bodily aspects of the empirical data. The second author was familiar with Merleau-Ponty's ideas and had carried out a great deal of analysis using this theory (see e.g. Groven and Heggen, 2016). We also encountered Anya Daly's work on Merleau-Ponty, which helped us unwrap his ethics of intersubjectivity (Daly, 2016). After reading and discussing this work, we agreed that three concepts in particular – ethical insight, ethical sensibility and hyper-reflection – were useful in conducting a more theoretically informed analysis of the empirical material. With this focus in mind, we worked separately, though we maintained an ongoing dialogue and exchanged analytical points. This process led to our second analytical question: How do physiotherapy students develop ethical insight? This second research question guided us through our more theoretically informed analysis. Finally, we arrived at two topics that represented our findings: 'embodying tacit care' and 'in-between abstract and embodied ethics'.

Research Ethics

This study was authorised by the Norwegian Social Sciences Data Service. All the students and teachers in the classes and the interviewees provided their written consent. All the names included in this paper are pseudonyms. Furthermore, the strength of the analysis was enhanced because both authors were engaged in the analytical process. According to Kvale and Brinkman (2009), 'Analytical generalisation involves a reasoned judgement about the extent to which findings of one study can be used to guide what might occur in another situation. It is based on an analysis of the similarities and differences of the two situations' (Kvale and Brinkman, 2009: 262). We argue that the findings in this study are analytically generalisable to physiotherapy programmes in Norway, and probably to other Scandinavian programmes as well, as the context for these education systems is quite similar. The findings are less generalisable to other countries, such as South Africa, that are very different from Norway; in such cases, the findings will only be applicable if skills training is provided and the curriculums are organised in a similar manner as described in this study. However, read through a critical lens, findings from a very different context often make visible knowledge that is implicit and taken-for-granted in one's own society.

Findings

The themes of ‘embodying tacit care’ and ‘in-between abstract and embodied ethics’ will be presented through empirical examples and anecdotes. Then, we will provide a more critical discussion of the findings.

Embodying Tacit Care

A recurring theme in the empirical material revolved around students’ efforts to embody caring and curing during skills training. However, caring was embodied differently than curing. Whereas curing was explicitly linked to the effects of skills and techniques, caring was embodied in a more tacit manner, one that seemed to be related to sensitivity. Care was typically identified as tacit care incorporated at an embodied level, as described in the following extract from the field notes:

In the skills training classroom, Thomas, a male teacher in his early forties, is about to demonstrate some techniques and skills that the students will then practice on their benches [in pairs]. There are twenty students in the room, all of whom are standing in a circle around one of the benches at the front of the classroom. Today, the hip joint is the main area for the skills and techniques to be demonstrated in this class. Thomas asks, ‘What do you think about this situation?’ This is an open question related to a patient story [casuistic] that students have prepared. He continues to ask more detailed questions [probably to check out how much the students already understand from the ‘patient story’ they are supposed to have prepared for the class]. At the same time, he nods towards Line, a female student, and indicates that she is going to be the demonstration model. Line comes forward and sits down on the bench. Thomas directs questions at all the students and, at the same time, uses tacit body language to communicate with Line, who lies down on her back on the bench. During the sequence that follows, Line shifts from lying on her back, to lying on her front, to a sitting position. Thomas uses Line’s body to demonstrate whether the students’ answers to his questions are right or wrong and to add nuance or point out different possibilities as to how the techniques can be carried out to more or less effect. The students pay close attention to what Thomas says and does. When he comments verbally on how his bodily demonstration techniques may have a better or worse effect according to the different positions of the joint, the students are paying full attention. I [the first author] standing among the students notice how they admire Thomas for his skills. I exchange glances with some of the students and smile. Hedda, one of the students with whom I spoke during the break, whispers to me and two other students standing nearby: ‘He is so clever’. All of us smile and, although nothing is said, I understand that the embodiment of his competences is what particularly impresses them. At the same time, as Thomas demonstrates and talks with the students about different techniques and effects, he pays discreet attention to Line’s reactions. After lying on her back for some minutes, she begins to look a bit uncomfortable [red spots become visible on her chest]. Quietly, without explaining to the students what he is doing, Thomas

places his body slightly in front of her so that she is shielded from the students. He then places a caring hand on her shoulder and silently asks her to shift positions so that she is lying on her front.

Notably, although both effect and sensitivity are present in this anecdote, sensitivity is presented on a tacit level. Thomas does not explicitly address sensitivity as paramount in embodying care. It is displayed implicitly, however, through his approach towards students as they performed as demonstration models. As an experienced clinician, he embodies care through tacit aspects of his professional competence. His skills show an embodied and personal way of bringing about smoothness, flow, rhythm, awareness and more in his non-verbal communication, including touch; all this plays a part in his teacher demonstrations. Thomas could have commented directly on care by telling his students that they need to pay attention to sensitivity and smoothness as a part of care. However, he does not. We observed that other teachers took a similar approach as they demonstrated their skills in these classes.

None addressed such aspects explicitly, and care was not framed explicitly within theories of care. However, teachers occasionally spoke of care implicitly in relation to the use of pillows and bolsters. Such care was then related to ‘care for joints’ and, as such, framed as a biomechanical way to prevent uncomfortable positions for patients, which could lead to ineffective treatment outcomes. Care was also mentioned when providing ‘patients’ with carpets to prevent them from feeling cold during skills training. Nevertheless, as students returned to their benches to practice in pairs, they did not automatically adopt the same styles as their teacher, that is, the same smoothness in their movements. However, they seemed to grasp what they were expected to achieve. In other words, they had somehow understood the embodied dimensions of tacit care. How students tried to both copy their teacher and find their own way is evident in the following extract from the filed notes:

The teacher, Lisa [female teacher] has demonstrated different techniques and manual skills for the hip joint. Hedda [female student] and Hans [male student] are practicing these skills together on a bench in the middle of the classroom. Hans is the patient, whereas Hedda is the physiotherapist. First, they practice by trying to copy what Lisa has demonstrated. Hans lies on his back, and Hedda takes his leg into a starting position. She moves his legs in circles, in a similar way to what the teacher demonstrated, and they ask and answer each other about what happens in the joint [biomechanically]. They repeat some cue words from the teacher, and Hedda pays close attention as she probably looks for Hans’ bodily responses of breath and tensions, as pinpointed in the previous teacher demonstration. After a while, Hedda says, ‘Forget it Hans, you must give me more direct feedback I think. Close your eyes and try to feel what I am doing’. Hans closes his eyes, and Hedda works on seemingly trying to copy the movement of the teacher. They work in silence for a while, then Hans says, still with his eyes closed, ‘More effort, Hedda, especially when you are moving my leg to the right’. ‘Like this, you mean?’ asks Hedda. ‘Hmm’, says Hans. He opens his eyes and shifts positions and says, ‘I cannot really believe this, but I feel exhausted and I have done absolutely nothing. It is crazy, I think this movement stuff really does something’, he says. They talk for some minutes. Then Hedda says, ‘I do

not think I really did my best; I want to try to do it some more'. Hans goes back into the same position and wordlessly they pick up where they left. Now something changes. Hedda is doing more 'free and bigger movements', and it does not look quite the same as the teacher demonstration. Hans responds immediately, 'This is better, Hedda'. Lisa walks by and nods towards Hedda. 'Nice, Hedda, try to find your own style'.

In this anecdote, the ethical sensibility of care that the students seemingly implicitly understood from the teachers' demonstration is evident in Hedda's caring glance at the 'patient', which was similar to the teacher's, and in the way she is sensitive to and responds to bodily signs from her classmate. In other words, as students practiced on their benches, they tried to copy their teachers. However, they also experimented with ways to perform the skills and techniques to find their own, more personal way of doing so. Some of the teachers explicitly emphasised the significance of finding one's own style in performing these skills. In this way, the students went beyond simply reproducing the skills of their teachers by further reflecting on how to develop their own professional competence.

In-Between Abstract and Embodied Ethics

Students who attended skills training also participated in other courses. Either before or simultaneously while attending skills training, the students participated in a mandatory introductory course, in which they learned about the normative theories of ethics. The students described these theories as revolving around 'big questions of life and death' rather than addressing dimensions of ethics relevant to clinical physiotherapy practice. Students expressed their experiences with ethics as being somewhere in-between an abstract and embodied conceptualisation of ethics. Harald, a male student, expressed it this way:

You have probably heard it from other students, but when we were sitting in that huge hall and the lecturer was reading from these PowerPoints on ethics, I thought, 'I will never need this' [as a physiotherapist]... they were these abstract theories on ethics. I guess few physiotherapists actually know these theories, and I will forget them myself. ... Still, I have learned something, and the discussions with classmates were interesting. Nevertheless, so much of what [the lectures] said about how we should approach patients was self-evident ... and I am not sure if they have ever seen a patient themselves, so then it is a huge gap in a way ... I think ... I think we learn much more from experiencing ourselves – so in skills training, there, we somehow put ourselves in the shoes of the patients. That experience of knowing how it might feel to be in your underwear in front of a therapist. I think that is very useful. Then you know that it might not be that fun to stand in front of a therapist in only underwear.

Although the students appeared undecided as to whether or not the introductory course was 'a good use of their time' and often commented that the clinical dimensions of the introductory course were reduced to common-sense knowledge, they were not negative about ethics as it was presented in the course. For example, the students spoke of interesting group

discussions with their peers. Nevertheless, the students were unsure if and how they were supposed to use the ethical theories outlined in the introductory course. Although they saw the benefits of learning about these theories, they saw clinical skills training as a more favourable learning arena than the introductory course for discussions about ethics. In particular, they emphasised the value of learning through experience with their own bodies.

As demonstrated in the extract above, the students emphasised the significance of having experienced the role as patient within skills training. By playing the role of the patient, the students developed the ability to see things from the perspective of the other, i.e. the patient. In this way, they were able to reflect on how they felt about being touched and evaluated by their student peers, who differed in their approaches to touching and evaluating patients. In doing so, they also gained the opportunity to reflect on how they preferred being touched or not touched, as well as their own vulnerability as patients lying or sitting on the bench and their boundaries and comfort zones in terms of having to protect themselves in potentially intimate situations. In particular, the students learned that they felt vulnerable in their underwear, and that this sense of vulnerability was interdependent on the therapist (i.e. they felt more vulnerable with some co-students than with others in the roleplaying).

According to the students, their experiences of different situations in which the body was exposed to diverse manual physiotherapy techniques and their feelings about receiving massage were also important. In the therapist role, the students increasingly learned that interdependence was at stake in the bodily encounter, and that their approach influenced the patient's approach and vice versa. For example, if the therapist was stressed the patient became stressed and if the patient was encouraging in her/his feedback the therapist became less stressed. This implies that in their practicing the students developed skills in regulating their glances and responses to the reactions of the individual playing the patient role on a tacit level. Moreover, they learned to vary the pressure of their touch based on the responses and reactions of individual patients (co-students) when carrying out manual techniques. In a similar vein, as 'patients' lying on the bench, their perspectives switched as they experienced what it was like to receive a massage. Hence, during skills training, students engaged in professional ethics on an embodied level. These experiences provided a different and more tacit approach to ethics, and this approach starkly contrasted with the theoretical and abstract ways in which they had previously engaged with ethics during the introductory course.

Discussion

In our discussion, we will delve further into the challenges involved in how students learn professional ethics, highlighting in particular their efforts to juggle between abstract and embodied ethics. We also discuss how educators can organise their curriculum and teaching in a way that enhances the potential for students to develop professional ethical insight. Finally, we argue that while skills training provides a unique opportunity to stimulate students to develop their ethical sensibility, at the same time, providers of physiotherapy education must also emphasise hyper-reflection as a means of developing students critical thinking.

Ethical Sensibility as an Embodied Approach to Ethics

Ethical sensibility encompasses physiotherapists' embodied professional competence, which to a great extent is tacit. Moreover, students develop professional competences in skills training through embodied interactions with their student peers and their teachers, as well as through interaction with imagined future patients. The significance of these embodied interactions, which imply ethical sensibility, brings intersubjectivity to the forefront. Our findings show that developing the competence to embody the interconnectedness of the 'I' and the 'we' occurs through bodily encounters during the student roleplays in skills training, where the students play the roles of both the therapist and the patient. Although intersubjectivity includes both the 'I' and the 'we', values become collective only when this identification is embraced by the 'we' and when this orientation is characterised by cooperation (Daly, 2016). In this regard, the 'we' in the physiotherapy encounter includes the patient and the physiotherapist. However, the 'we' relates not only to the concrete encounter but also to encounters in physiotherapy more generally, as emphasised in this context through interactions with imagined future patients.

Moreover, in skills training, students explore how to embody ethical sensibility as they learn how to be fully present in the situation and acknowledge their interdependence with their co-students. Through practicing their skills by performing them on their co-students, including experiences of touching and being touched, they learn the significance of being sensitive to bodily signs and gestures and can thus reflect on their own approach. In this way, they learn how to embody ethical sensibility in different contexts. Indeed, our findings show that roleplaying both the patient and the therapist during skills training makes students more sensitive to the need for 'fellow feeling' with future patients. In line with Daly's argument, developing embodied sensitivity for 'fellow feeling' depends on a sense of empathy as the foundation for ethical insight (Daly, 2016: 267). This perspective relates to Clouder's (2005) argument regarding caring. Clouder notes that if students are to develop caring as a professional competence, they need to be personally touched by the events that connect them as human beings with those for whom they care (Clouder, 2005: 512). In making this claim, Clouder builds on Gilligan's ethic of care (1977), which emphasises that the morality of care must include care of self as well as care of others. In this sense, a sustained progress of physiotherapy education requires critical self-reflection as a key component (Jensen and Paschal, 2000).

Hyper-Reflection as a Means of Identifying Blind Spots

Based on our findings, we argue that one way to bring ethics more explicitly to the forefront in these courses is to include hyper-reflection as part of student learning. According to Daly, hyper-reflection can help identify blind spots in our reflections. Hyper-reflection enables us to question taken-for-granted assumptions, thereby serving as an antidote or corrective to reflection and its totalising and reductive tendencies, not only in the epistemic domain but also in our relations with others. (Daly, 2016: 295). As outlined in the introduction, hyper-reflection places a more critical eye on one's approach, including one's motives, in order to unwrap ethical challenges that might potentially do more harm than good. Such a hyper-reflective approach might involve, for example, reflecting more critically on the implications of bodily touch and undressing in front of other students. When some of the students noted

their exhaustion during skills training, for example, this could be interpreted as a means of relating to the stress or discomfort undressing or being touched by co-students might cause. However, such reflections were not discussed as part of the skills training, so that students were grappling with them on their own. Reflecting critically on this tacit aspect would be useful as a means of developing one's ethical insight into touching and being touched; through this critical reflection, for example, one might learn that not everybody experiences this practice as unproblematic. Indeed, seen in a very critical light, participating in this roleplay undressed to their underwear can potentially do more harm than good for some of the students, such as those struggling with eating disorders (Sundgot-Borgen, 2001). In other words, in terms of their hyper-reflection, there is a gap here in students' development of ethical insight. Said differently, there is a gap in their transition between ethical sensibility and hyper-reflection. Although students learn how to reflect on their practice, they do not know how to critically reflect on it, and they are thus unable to understand how critical reflection is related to ethical norms and assumptions.

According to Smith and Trede (2013), physiotherapy students should learn how to reflect with educators. More precisely, they point to the need for physiotherapy educators to acknowledge that reflection is intertwined with many practice dimensions, and that enhancing journal reflection must be supplemented with a more practical approach to ethical reflection to enhance students' level of reflection. Smith and Trede question whether the time spent on reading and commenting on students' journals might better be used to engage in dialogue with students (Smith and Trede, 2013: 450). By engaging students in face-to-face dialogues, teachers can arguably help students understand the missing link between ethical sensibility and hyper-reflection (critical reflection).

Furthermore, in our observations, we saw that teachers rarely articulated their embodied competences of caring and ethics verbally. This may be because the teachers were not aware of these aspects themselves and/or because these ethical dimensions were not part of the syllabus for the two courses observed. Notably, neither course had learning outcomes explicitly related to ethical dimensions. According to the 'Massage and Palpation' course syllabus, the students were expected to learn an empathic and acknowledging way of being; such a learning outcome indirectly implies ethical dimensions. The other learning outcomes, however, more strongly emphasised technical skills, hygiene and work techniques. As the first author observed, the focus on technicality differed among the various teachers leading this course.

Though not a focus of this paper, it should be mentioned that the extent to which this course should emphasise 'technicality or humanity' forced debate among the teachers. For example, on the one hand, some teachers focused mainly on technicality and were occupied with standardisation and the right and wrong ways of teaching massage. On the other hand, other teachers focused mainly on humanity and placed more emphasis on exploring movements. The teachers in the latter group also argued in favour of including more theoretically informed lectures on the meaning of touch and touching within massage. The 'Functional Assessment and Manual Skills' course did not include any learning outcomes directly related to ethics. Moreover, the focus and discussions on 'technicality versus humanity' were not observed in this course. Notably, although the learning outcomes in this course emphasised biomechanics and measurement, the first author observed that the general

learning approach in these classes was explorative, focusing more on encouraging students to ‘find their own way’ of doing things, an approach that was evident from the starting point, as demonstrated by the teachers. Accordingly, the huge variation regarding professional focus differs not only between programmes in different countries (as outlined in our introduction) but also within the same programmes and institutions. Surely, some variations regarding professional focus within the same programme are unavoidable, as different teachers have different approaches to physiotherapy. It is important for students to encounter different physiotherapists so they can observe how physiotherapy is enacted in a variety of ways. Nevertheless, we propose that the development of the physiotherapy profession will benefit from teachers engaging their students in more critical informed professional discussions (Smith and Trede, 2013).

According to Triezenberg (2000), ethics should be at the philosophical centre of every physiotherapy curriculum. Indeed, educators need to define and be conscious of the values they want to promote among their students. Throughout the curriculum, teachers must clearly communicate the values and behaviours that students are expected to display in their future professional practice (Triezenberg, 2000: 50). Triezenberg argues that when considering the focus and organisation of a physiotherapy curriculum, the concept of physiotherapists as moral agents should be the starting point. Consequently, teaching physiotherapy must go beyond simply training students on a code of ethics to help them reflect on these ethics and their implications (Romanello and Knirht-Abowitz, 2000). According to the authors, physiotherapy programmes should emphasise ethical dilemmas and challenge students’ ethical assumptions and moral knowledge. To this end, the use of philosophical texts, case studies and field observations must be central components of the physiotherapy curriculum (Romanello and Knirht-Abowitz, 2000: 22).

Notably, the students who participated in our study were introduced to Merleau-Ponty’s body phenomenology in a lecture during their first year as bachelor students. Bearing in mind that the lecture was theoretical and arguably abstract, as the students had not yet engaged in skills training, we propose that students would benefit from further insight into Merleau-Ponty’s theories. For example, they could develop hyper-reflection skills by drawing on the theory as they reflect on their practical knowledge and ethical know-how. Ideally, such reflections could take place in classes in which teachers reflect together with their students (Smith and Trede, 2013).

Historically, physiotherapy education has drawn heavily on biomedical knowledge. Although biomedical discourses still dominate physiotherapy programmes around the world, the dominant position of these discourses is increasingly challenged. As a result, some physiotherapy curriculums have tried teaching alternative modules to enhance physiotherapy students’ critical insight. The physiotherapy curriculum at the University of Cape Town (UCT) in South Africa and the Auckland University of Technology (AUT) in New Zealand are two such examples. Recently developed alternative modules in these curriculums incorporate anthropology, philosophy and the history of the physiotherapy profession into physiotherapy assignments, particularly emphasising topics as social embarrassment, age, space, gender and race (Macdonald and Nicholls, 2017). In short, the alternative module designs developed by these universities offer students insight into the difficulties and the opportunities embedded in their professional epistemologies and ontologies. Indeed, these

modules include exposure to conceptualisations of critical thinking and professional practice (Macdonald and Nicholls, 2017: 313). Notably, both South Africa and New Zealand offer physiotherapy programmes that draw heavily on their colonial past. As Commonwealth countries, the practice model originally developed by the Society of Trained Masseuses in England is heavily emphasised in the physiotherapy programmes offered in these countries (Nicholls and Cheek, 2006). Nevertheless, both the problems and opportunities inherent in these countries' colonial heritage have influenced how these universities now engage students in thinking about 'the past, present and future for their professional identities' (Macdonald and Nicholls, 2017: 313).

Contextual Embeddedness of Ethics in Physiotherapy Education in Norway

As outlined in our introduction, the WCPT's overarching ethical principle holds that all physiotherapists should respect the rights and dignity of all individuals (Partridge, 2010). However, physiotherapy is still predominantly a white, female, middle-class profession in Norway as well as globally (Dahl-Michelsen, 2015). A UK study revealed that the recruitment of ethnic-minority students in physiotherapy programmes is low (5%) (Greenwood and Bithell, 2005). The recruitment of ethnic minority students is even lower in Norway (between 1% and 1.5%) (Dahl-Michelsen and Leseth, 2011). Internationally, applicants are selected based on marks and interviews, depending on institutional philosophies (Bithell, 2007; McMeeken, 2007; Redenbach and Bainbridge, 2007; Threlkeld and Paschal, 2007). Some interesting recruitment strategies have been implemented to address this gap. For example, a recent study in the UK found that the use of recruitment interviews has contributed to increased diversity, resulting in higher rate of minority students (Hammond, 2013). In Norway, students are enrolled in physiotherapy programmes based solely on their upper secondary school marks. Thus, the educational institutions have limited influence on who is enrolled. Apart from how they advertise themselves in programme brochures and online, the educational institutions do not have direct influence on who becomes a student. This means that educational institutions in Norway cannot choose students that are more suitable for becoming physiotherapists, nor can they select certain students to enhance diversity (Dahl-Michelsen, 2015). One question, then, is whether the recruitment system and admission politics of physiotherapy education in Norway reinforce the continued legacy of physiotherapy as a white, female, middle-class profession. We argue that this is an important concern for physiotherapy education in Norway.

Of the five million people living in Norway, 16% are ethnic minorities, and nearly all of these individuals live in Oslo (Statistic Norway, 2017). Although this means that many parts of Norway have very few persons with an ethnic-minority background, this might change quite radically during the next years, as Norway has seen increasing numbers of immigrants, foreign workers and asylum-seekers from various part of the world (Fougner and Horntvedt, 2012: 19). The ongoing refugee crisis in Europe will also play a role in this changing picture, as the population will become more diverse, which means that ethics and cultural competences are even more necessary in educating tomorrow's physiotherapists.

We argue that because physiotherapy students in Norway are such a homogenous group, there is seemingly a need to widen the scope concerning sameness and difference within this particular educational context. As outlined by Fougner and Horntvedt (2012),

referring to Norwegian Governmental White Paper No. 17 and No. 49 (1996–1997), cultural minorities are, on the one hand, encouraged to preserve their culture in a society characterised by ‘otherness’, and on the other hand, encouraged to integrate into a society based on ‘the ideology of sameness’ (Fougner and Horntvedt, 2012: 21). The authors found that Norwegian physiotherapy students at the University of Oslo and Akershus (HIOA) draw on the same paradoxical intentions in their work with ethnic-minority students, specifically with regard to Muslim women participating in physical activities led by female Norwegian physiotherapy students. Fougner and Horntvedt (2012) highlighted how Norwegian society encounters challenges regarding the ideas of ‘sameness’ and ‘otherness’, as integration in Norway is based on adaptation to the Norwegian culture and at the same time focuses on protecting immigrants from forced assimilation (Fougner and Horntvedt, 2012: 19). These authors define sameness as being ‘more or less the same as everybody else in the group’ and otherness as being ‘different from what is otherwise experienced or known’ (Fougner and Horntvedt, 2012: 20). The students in our study were raised in Norway, and nearly all of them were ethnically Norwegian.

Though not the focus of this paper, gender power is evident in some of the anecdotes we have presented. Also, the gendered aspect of situations in the skills training classes – for example, the need to be scantily dressed in these classes – remained more or less ethically tacit. The significance of gender is complex and depends on the context, as seen in the example with Hedda and Hans. For them, practicing with a classmate of the opposite sex and undressing in front of a class of students did not bother them much. This might be because they grew up in a society with a heavy focus on equality, implying that they have no experience with, for example, sex-segregated classes. For Norwegian students, sex-segregated classes are seen as oppressive. In terms of cultural competence, this may present a problem. According to Fougner and Horntvedt’s (2012) study, students who lack experience with people different from themselves face problematic issues related to how well they are equipped to meet patients with cultural backgrounds different than their own. In short, Norwegian physiotherapy students are bothered by their stereotypical perceptions of ethnic minorities, and they believe they have succeeded in their physiotherapy work when the patients become ‘Norwegian’ by, for example, being comfortable undressing during exercises.

However, this does not necessarily mean that they are acting unethically in how they approach their patients. As Daly pointed out, Merleau-Ponty’s approach to ethics includes tacit and intuitive aspects, in addition to those aspects that fit cognitive categories (Daly, 2016). The physiotherapy students in Fougner and Horntvedt’s study put effort into preparing themselves for the physiotherapy encounters with Muslim women and wanted to act as good professionals. We agree with the authors, arguing that the curriculum must be changed to enable students to develop the cultural competences necessary for their future professional work as physiotherapists. The physiotherapy students in Fougner and Horntvedt’s study (2012) had one preparatory ‘Intercultural Communication and Medical Anthropology in Health Care’ lecture. The authors questioned the value of such a brief introduction to this critical domain (Fougner and Horntvedt, 2012: 19). Accordingly, Fougner and Horntvedt suggest changing the curriculum to increase programme content rooted in theory related to medical and social anthropology, religion and religiousness, and the skills of critical

reflection in clinical decision-making, as well as the theory of understanding power and group dynamics. Furthermore, as ‘the students need expert instruction to integrate theory and practice, the instructors’ level of cultural competence must be high to ensure the value of cultural knowledge transfer’ (Fougner and Horntvedt, 2012: 24). Thus, these authors suggest that teachers must be trained in cultural competence as well.

We agree that these changes should be made with regard to the physiotherapy curriculums in Norway. Such changes align with recent curriculum changes at UCT in South Africa and AUT in New Zealand. We find that cultural competence can be improved by integrating its teaching with ethics.

Conclusion

Physiotherapy education providers must address ethical sensibility as a bottom-up approach to professional ethics in skills training. The learning situations under scrutiny in this study represent uniqueness in terms of developing ethical sensibility. Physiotherapy education is, however, part of higher education, and critical thinking is a basic skill for all students within this system. Therefore, there is a need to enhance students’ capacity for critical thinking by stimulating hyper-reflection, for example by engaging both students and teachers in collective reflection. We argue that courses in skills training could help students hyper-reflect by including theory and alternative module designs. Merleau-Ponty’s ideas, including his embodied ethics, should be given more emphasis in the curriculum to enhance hyper-reflection. We argue that ethical dimensions of physiotherapy could also facilitate students’ hyper-reflection if integrated with the dimension of cultural competence. Combining theoretical training with embodied knowledge can enable students to hyper-reflect and thereby improve their ethical insight beyond the level of embodied ethical sensibility. Finally, we need to pay closer attention to the organisation of the different courses within the curriculum.

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Vedlegg 8.

Artikkel: Approaching intimacy, sexuality and ethics in the professional training of physiotherapy students in Norway

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Approaching intimacy, sexuality and ethics in the professional training of physiotherapy students in Norway

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ABSTRACT

Background: Historically, avoiding any association with prostitution was paramount in the process of making physiotherapy a recognised profession, and maintaining boundaries around intimacy, sexuality and ethics has been an important aspect of physiotherapy since the beginning of the profession.

Objectives: Against this background, we explore how matters of intimacy, sexuality and ethics are approached in the professional training of physiotherapy students.

Methods: The empirical data derive from participant observations in skills-training classes in a Norwegian physiotherapy education setting. The material includes in-depth interviews with students who attended the skills-training classes. The data are analysed thematically, using an inductive approach.

Results: Students and teachers approach intimacy, sexuality and ethics as *tacit professional standards*. The results are organised in two themes: (1) tacit codes of proper behaviour and (2) tacit competencies in interpreting intimate boundaries.

Conclusion: In order to enhance students' approaches to intimacy, sexuality and ethics beyond mere tacit knowledge and technical skills, students must be taught the history of the profession. Matters of sexuality in physiotherapy must also be addressed from perspectives such as those of sexual health and inclusive practices. Accordingly, there is a need to think differently about the physiotherapy curriculum, professional regulation and scope of practice.

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Introduction

Ethical tensions surrounding the licentiousness of touch stretch back to the earliest days of the physiotherapy profession, and concern about the ability of physiotherapists to touch others dispassionately has for many decades constituted the foundation of professional standards. The origins of this concern can be seen in the desire of early practitioners to distinguish themselves from prostitutes and from the poorly trained practitioners with whom they competed [1]. Demonstrating that practitioners could adopt a depersonalised form of physical therapy allowed physiotherapists to claim professional status. As in the case of the massage scandals of the mid-1890s in England [1], Norway's physiotherapy profession formed in part as a response to a massage scandal. In 1936, a police action led to the adoption of legislation that regulated Norwegian massage practices, giving rise to the country's physiotherapy profession [2,3].

Nicholls and colleagues have argued that physiotherapy drew on a range of strategies to manage the risks inherent in sensual touch and that these measures have had a profound effect in shaping physiotherapy curricula, professional regulations and scopes of practice around the world [1,4,5]. Chief among these strategies has been the adoption of the biomedical approach of treating the body as a machine, with

students being taught to depersonalise their therapy and focus on an objective reading of the body as a discrete set of interconnected structures and systems. Indeed, the body-as-machine approach was enhanced by a number of other approaches, which were equally designed to inculcate repressive heteronormative values in practitioners and students [4]. These approaches included placing restrictions on men's ability to train and be treated in a female-dominated profession, relying on the patronage of established medical practitioners for patient referrals, and establishing an examination system that paved the way for early professional regulators to act as gatekeepers, controlling access to 'safe' medical referrals [5]. In 1995, the World Confederation of Physical Therapists (WCPT) issued a declaration of ethical principles in which respecting the rights and dignity of all individuals were considered overarching principle [6]. The member organisations of the WCPT were to have explicit ethical codes [7]. Furthermore, member organisations were asked to develop systems, including disciplinary procedures and sanctions, to manage cases where members violated or failed to uphold the professional body's codes of conduct [8].

Thus, it can be seen that touch, sexuality and ethics are issues at the very heart of the physiotherapy profession. In their clinical encounters with patients, physiotherapists

usually employ their own bodies in close and intimate interaction with the bodies of their patients. Although the necessity for physiotherapists to engage in forms of therapeutic touch that are inherently sensual – in the broadest sense of the word – is central to their professional practice, it has yet to receive adequate critical attention in the literature. It is axiomatic that some forms of physical touch associated with therapeutic practice are at times sensual and arousing for some patients *and* therapists, so this practice clearly must be managed [1,4]. But physiotherapy's historical approach to touch has often been repressive, with professional regulators around the world preferring to deny the existence of natural human feelings, emotions and connections, rather than fundamentally confront the issues raised by the inherent sensuality of touch [5]. Given the lack of critical scrutiny paid to the subject to date, it is hard to know whether this strategy is wise or valid for the profession as it moves into its second century as an orthodox health profession [5]. Regarding research literature, studies have reported that physiotherapy students and physiotherapists in clinical practice experience sexual harassment and inappropriate patient sexual behaviour [9–14], and that these matters of sexuality, being part of physiotherapists' codes of conduct, need to be addressed in physiotherapy education [14,15].

In this study, we consider how questions of intimacy, sexuality and ethics are approached in the professional training of physiotherapy students and consider how the results may help us to understand how curricula, forms of professional regulation and scopes of practice may need to change in the future.

Aim of the study

This study aims to gain insight into how intimacy, sexuality and ethics are approached in the professional training of physiotherapy students in Norway in light of the history of the physiotherapy profession and the demands now facing physiotherapy practice and ethical codes of conduct.

Materials and methods

The empirical material for this study includes participant observations and in-depth interviews of first-year students attending skills-training classes in one of Norway's four physiotherapy bachelor's degree programmes. Participant observation is a method suited for exploring implicit and taken-for-granted phenomena [16,17], and is, therefore, appropriate for exploring how intimacy, sexuality and ethics

are approached by teachers' and students' in the professional training in the physiotherapy education. Interviews, on the other hand, are a suitable method for exploring students' thoughts and experiences regarding matters of intimacy and sexuality [18]. The first author observed skills-training classes (83 h) in two courses: 'Functional Assessment and Manual Skills' and 'Massage and Palpation'. She observed 165 students who participated in the two courses and conducted interviews with 16 students from the 'Functional Assessment and Manual Skills' course. See [Table 1](#) for more details.

Students were selected for the interviews in accordance with a purposive sampling strategy [19], which ensured that the students interviewed reflected the diversity of the students with regard to differences in social activity in the classroom. The students were informed that they were being asked to participate in the interview because the first author had noticed that they had 'skills and perspectives about physiotherapy practice that it would be interesting to know more about'.

It should be noted that the PhD project from which the data of this paper derived focussed on gendered competencies in contemporary physiotherapy education implying that whereas matters of intimacy, sexuality and ethics came to the fore, both in the observations and in the interviews, they were not the main focus in the data collection.

Ethics

Regarding research ethics, this study was authorised by the Norwegian Social Sciences Data Service (Ref. 23597). All the students and teachers in the classes provided written consent, and the interviewees provided an additional written consent for the interviews. All the participant's names included in this paper are pseudonyms. The Head of Studies gave her approval for the study. The information about the project were given both orally and in writing, and informed consent was discussed thoroughly beforehand so that the participants had time to consider if they wanted to participate. The participants were informed that they would not be identified in the empirical material and that the project would be conducted within current research ethics guidelines [20]. It was agreed that if some students and teachers chose not to participate in the study, they would be allocated to be in one class in which the researcher would not be present.

Table 1. Characteristics of participant observations and interviews.

	Period	Hours observed	Male students	Female students	Male teachers	Female teachers	Age of student	Age of teachers
Participant observations in Functional assessment and manual skills	May–June 2010	68	13	42	2	1	18–45	40–43
Participant observations in massage and palpation	Oct–Nov 2010	15	34	76	1	4	20–45	35–58
Interviews in functional assessment and manual skills	May–June 2010		8	8			19–35	

Analysis

Our analysis was guided by the principles of thematic analysis [21,22], and the empirical material was analysed using a qualitative inductive approach [23,24]. The following research questions guided our analysis: (1) *How are intimacy, sexuality and ethics approached in physiotherapy students' skills training?* and (2) *How do these approaches towards intimacy, sexuality and ethics intersect with the profession's historical past and future demands?* The first author wrote the field notes and transcribed the interviews. First, the empirical data was read and several examples were selected, including anecdotes for a more systematic analysis based on the preliminary reading of the transcribed data. Second, both the first and third authors read the transcribed material several times and coded relevant themes. The two authors discussed the coded material in face-to-face meetings in which they agreed on preliminary topics representing the various themes that they had highlighted during their reading. The first author then developed a draft of the results on which the third author commented. In the final round, all three authors discussed the analysis and the relevant research findings of other studies.

Results

The analysis reveals that intimacy, sexuality and ethics were approached as *professional standards* in the professional training of physiotherapy students. However, these professional standards operated tacitly. Although we present the results in two distinct themes, it should be borne in mind that these themes are largely interrelated. Below, we present the two themes that constitute the results by outlining the themes of (1) *tacit codes of proper behaviour* and (2) *tacit competencies in interpreting intimate boundaries*.

Tacit codes of proper behaviour

The study showed that proper behaviour involved codes of conduct regarding behaviour that are acceptable from the perspective of professional standards, but the observed skills-training classes included no theoretical introduction to codes of conduct for the students. Accordingly, the students encountered expected professional standards as *practical information*. For example, physiotherapy students participating in massage classes had to wear a uniform. The uniforms comprised blue trousers and a white smock. These were ordered from a particular company to ensure that everyone in class wore the same uniform. Students playing the role of patient had to be prepared to undress to their underwear. To cover their breasts, female students were advised to wear a sports bra. In classes where their backs needed to be accessible, students had to wear bras that could be opened. Students were not required to wear a particular colour of bra but were told that they should be plain. In the observed classes, students wore only black or white bras, with neither lace nor accessories. Notably, the need to undress to their underwear openly in class and not in cubicles was taken for

granted as an implicit requirement for physiotherapy students. In this way, the ethical dimensions of dressing and appearance remained implicit, so, while the students could sense that these requirements had to do with ethics, and were somehow related to professional behaviour and standards, this was not explicitly addressed.

Students were also expected to attend massage classes with clean nails, preferably without nail polish. If they wore nail polish, they had to make sure that it was not flaking. They were not allowed to wear wristwatches or jewellery, except for a discreet pair of earrings. Significantly, these 'rules of professional conduct' were introduced as practical information related to hygiene, which was also a learning outcome for the course. Students were told that they needed to wash their hands before beginning a massage, and hand washing facilities, including hand sanitisers, were available in all classrooms. Students were also told to clean the benches prior to and following each massage, and equipment for that purpose was also provided.

These practical adjuncts to the codes of conduct were presented as non-negotiable standards, and reinforced as medical questions of hygiene, designed to reduce the risk of infection. Notably, the students also responded to the information as practical information and did not question the information they were given.

The interpretation of intimate boundaries and of the crossing of sexual boundaries may sometimes be blurred, and boundaries can be interpreted differently. This was noticeable in the following interview extract in which Anna, a female student, elaborated on a significant event:

I remember once that we had an old lady [teacher], she was a deputy sometimes. I do not remember her name, but she had white hair and was very nice and incredibly competent, I think. You could see that she had knowledge, yes, by the way she used her body, you could tell. But then something happened [students were practicing some manual techniques in pairs on the benches]. I did not actually see what really happened. It was one of the boys who did something with the girl he was practicing with, and then suddenly she [the teacher] became furious. She stopped the whole class and said in an amazingly clear and angry voice, 'You just do not do that'. I do not know, but I think they were just fooling around or maybe flirting or something. But she [the teacher] reacted so strongly, it was like embarrassing, and we [the students] did not understand what she meant ... I think she thought something sexual or something happened, I do not know.

Episodes like this were passed over in classes without further discussion of ethics, ethical codes of conduct, or intimate boundaries. For example, although it might be taken for granted that patients should not be exposed to sexual attention in the physiotherapy encounters, what this actually meant in various clinical situations remained unexamined. This suggests that, even when students accepted the professional standards being promoted, they lacked the opportunity to go beyond the tacit level and reflect on how such topics of intimacy and sexuality related to their ethical conduct.

Tacit competencies in interpreting intimate boundaries

The issue of intimate boundaries also appeared in other situations. In particular, the students preferred to work in

same-sex pairs with the same fellow student over time. In the interviews, the students explained that this related to their need to feel safe and have trust. We see this need as being related to the students' own sensibilities regarding how developing competence in interpreting intimate boundaries presupposes a certain duration of time in a stable relationship – at least in the beginning. At the same time, students saw the need to change partners and to cooperate and work with other students. They justified this by citing the need to build competence in, and experience with, diverse bodies. The students' feelings about working in familiar pairs and switching are shown in the following extract from an interview with Bettina, a female student:

Yes, we like to work in the same pairs all the time. In a way, the one who is your best friend ... I have had the same partner for a long time; however, it is also important to work with others, and with male students as well, because then you experience new things and learn other things ... so I think it is important to shift ... Also, that teachers encourage us to shift.

The need to change partners was cited in relation to gaining experience of the ways biomechanics played out differently for different individuals, and in acknowledgement of the fact that male students typically had greater muscle mass and less flexible joints than their female peers. This understanding was held by teachers as well as students.

Moreover, through their work in pairs, the students developed skills in interpreting intimate boundaries. Typically, they focussed on practicing those skills that were 'the lesson for today', thus avoiding the need to test perceived intimate boundaries. However, there was a balancing act to be performed through the interpretation of their fellow student's bodily signs and levels of comfort, as well as through a sensitivity towards their own intimate boundaries. The manner of the students' performance is illustrated in the following extract from the first author's field notes:

Mari and Mona are working together. They are rehearsing and exploring techniques and skills related to the hip joint. The one who is the patient (Mari) is lying on her back on the bench. Mona has placed Mari's right hip joint into a position of flexion and she uses her right hand to palpate the groin. 'This is the origin of the adductor longus muscle', she says, with a serious voice and a professional attitude, shown in her face and her somewhat stiff back. Then her voice shifts tone: 'Where is it actually [where is the origin] ... can we actually find it? I mean, how far in [speaking in an emphatic tone] can I go without going into [pronouncing 'into' in an emphatic voice] you, if you know what I mean?' They laugh silently and stop rehearsing. Mari finds her anatomical textbook, and they look up the muscles, discussing them for some minutes. Then they go back to rehearsing. Mari [still lying on her back] now holds the book in front of her face and tries to read whether Mona is doing it 'right or wrong'. They continue for a while, but then Mona says: 'Actually, you cannot have the book in front of your face, Mari. I need to see your face and you need to feel and respond to me'. Mari lowers the book and Mona places it on a stool nearby. Mari closes her eyes and takes a deep breath. They continue to work and Mari gives feedback to Mona [still with closed eyes]. Mona looks at Mari's face all the time and tries to read from Mari's body language how Mari is responding to her performance of the technique. After a few minutes, she lowers Mari's leg and says: 'God, I am exhausted'. 'Actually, me too, although I am only lying here', Mari responds.

In this example, we see how experiencing one's own, as well as a fellow student's body, represents a unique source of knowledge through which students may learn to interpret intimate boundaries. Although both students looked up the muscles in their textbook, the book became a literal and metaphorical barrier to reading the patient's (Mari's) face. (Perhaps Mari used her book to create a distance between herself and Mona in this potentially intimate situation?) Significantly, when the book was removed, Mari closed her eyes, thus avoiding intimate visual contact. It seems that closing her eyes somehow enabled Mari to be more sensitive to how Mona's touching was experienced in her own body; on the other hand, it might have been Mari's way of dealing with discomfort associated with the potential breach of her own subjective, intimate boundaries. Accordingly, from the point of view of Mona's competence in touching Mari and being sensitive to Mari's reaction, our analysis points to the ambiguity of sensitive bodily boundaries. In such a potentially intimate situation, sensing how the other person feels and responds is essential for effective, respectful physiotherapy practice. Such experiences were commonplace for physiotherapists in this class, they did, however, remain largely unexamined as a formal component of the students' learning.

Discussion

In the discussion, we have focussed on the approaches towards intimacy, sexuality and ethics, revealed in the results, and the way these intersect with the profession's historical past, present, and future demands. Historically, physiotherapy's codes of conduct were concerned with the implicit intimacy and sexuality of the therapeutic encounter [1,4,5]. This concern was addressed, in large part, with the adoption of a biomechanical approach to the body, and was reinforced through the rigorous study of anatomy, physiology, pathology, kinesiology and biomechanics. Biomechanical discourses have underpinned the tacit and overt constructions of the profession's identity for physiotherapists for much of the profession's history [1,5]. In our results, biomechanical discourses are evident in the skills training offered repeatedly to students. However, the tacit codes of proper behaviour were more evident. These standards connect to the profession's past, but were only presented to the students as practical information.

Our results suggest a tacit approach to the development of competence in the student's understanding of intimacy, sexuality and ethics. This tacit approach involves learning to negotiate proximity and distance in a 'safe' atmosphere in pairs with fellow students (through strategies like working with the same partner every time is significant), without formal guidance in how to navigate the ethical complexities of safe, respectful interpersonal contact [25,26]. Conversely, strict codes of conduct regarding clothing and appearance, inculcated in the students a version of the professional code of conduct that created a distance between themselves and their patients. Certainly, in practicing with their peers under close supervision, the students learn tacit codes of proper

behaviour, and teachers appeared to intervene in situations where it was perceived students had 'crossed the line' into inappropriate behaviour. The nature and context of this behaviour remained unexamined, however, the results demonstrate that ethical boundaries pertaining to sexuality were viewed differently from different perspectives, as was shown when the student Anna complained that the teacher's 'angry' response to another student's behaviour seemed disproportionate to their actions. Our concern here is that these situations remained unexamined, and were not reflected upon in a systematic fashion or linked back to specific ethical codes of conduct or ethical reflections. As a result, students seemingly sensed that they had somehow overstepped a line, but were not invited to consider how and why the situation demanded ethical scrutiny and reflection. As shown in our example of when the students emphasised feeling embarrassed, the sense of uncertainty remained tacit and private. Accordingly, the teachers left students wondering what was not 'proper' in a situation, and how the impropriety related to ethical codes of conduct. Put differently, such examples suggest that even when students implicitly grasped the professional standards of practice, they missed the opportunity to go beyond the tacit level and relate the topics of intimacy and sexuality explicitly to the ethical codes prescribed for their profession.

Notwithstanding the fact that today's healthcare environment is radically different to that which fostered the profession's founding regulations a century ago, it is clear that matters of sexuality and ethics will continue to be important concerns for physiotherapy educators, practitioners and students. If physiotherapy is going to remain relevant as a professional service in the twenty-first century, we argue it will need to adapt to people's growing desire for more holistic, personally responsive, inter-relational, sexually diverse and postmodern approaches to health and wellbeing. The question of the relationship between professional touch, sexuality and ethics will, therefore, continue to be a major concern for physiotherapists for many years to come.

In Norway, all primary/basic health and social-welfare programmes in higher education are currently undergoing a reorganisation, including the development of a new shared curriculum. The governance reform, termed RETHOS, sets a new framework that assumes a common purpose, content and learning outcomes for all basic education in health- and social-care higher education. RETHOS also provides guidelines and overall learning outcomes on a national level for distinct types of programmes. In the academic year 2020–2021, students in 19 educational programmes, including physiotherapy, will adopt this new curriculum. The first common learning outcome for this framework states that 'The student can identify, reflect on and deal with ethical issues in their services and clinical practice' [27]. The second states that 'The student has knowledge of inclusion, gender equality and non-discrimination regardless of gender, ethnicity, religion and vision of life, disability, sexual orientation, gender identity, gender expression and age, so that the candidate contributes to ensuring equal services for all groups in society' [27].

Accordingly, our results suggest that there is a need to modify physiotherapy programmes in situations where ethical issues pertaining to touch and sensuality are tacit rather than overt, if they are to meet requirements now being laid down in frameworks like RETHOS curriculum. More than this, however, our results suggest that there is a need to address matters of intimacy, sexuality and ethics in physiotherapy more transparently; a call also echoed in the research literature where studies have reported experiences of sexual harassment and inappropriate patient sexual behaviour [9–14]. Furthermore, recent studies have suggested that the topic of sexuality is of concern in physiotherapy, particularly where physiotherapists fail to pay sufficient attention to sexual health as an important part of patients' general health [28]. Studies have also found that physiotherapy students feel positively towards working with sexual health [29], although less positively than nursing students and occupational-therapy students [30]. A recent study assessing the knowledge, comfort and attitudes of physiotherapy students towards human sexuality found that students' knowledge of human sexuality increases during the study programme, whereas their comfort decreases. Additionally, female students were found to experience more discomfort than male students [31].

One consideration may be that the notion of sexual health has traditionally been viewed as a biomedical discourse by many in physiotherapy. Here, sexual health is seen as the absence of diseases that cause injuries affecting the ability to have sex. By contrast, more holistic approaches emphasise sexual health and wellbeing as a constellation of physical, emotional, mental and social perspectives [8,28]. All health professionals, as well as the publics they serve, must see sexual health as an important part of quality of life, and such topics should form an important part in all health professional education, but perhaps more so in areas like physiotherapy, where intimate physical contact plays such an important part in the therapeutic encounter [29].

In our study, we found that ethical questions of sexuality were addressed covertly through dress codes and tacit rules of behaviour, which may be seen as a way of toning down sexual connotations in the physiotherapy encounter. Furthermore, we question whether repressive heteronormative values are tacitly interwoven into practice experiences for students, in line with other studies finding, that suggest that students lack knowledge of lesbian, gay, bisexual, transgender and queer sexual wellbeing, and strategies to help them communicate sensitively with diverse client groups [29]. These latter results are in line with a recent study exploring the experiences with physiotherapy of people who identify as LGBTIQ+ [32]. The results show that LGBTIQ+ people can experience challenges when attending physiotherapy. In particular, these challenges involve erroneous assumptions by the physiotherapists, discomfort, as well as explicit and implicit discrimination and a lack of knowledge specific to their needs [32]. Ways of improving physiotherapy for LGBTIQ+ people include *overt* diversity training in LGBTIQ+ health issues (particularly transgender health) for physiotherapists [32].

The increased awareness of sexual health issues for diverse populations reflects the changing nature of society in the twenty-first century. The social changes accompanying the #MeToo movement have made matters of ethics and sexuality increasingly relevant for health professionals, including physiotherapists, raising questions about distance and proximity, interpersonal space and relationality. This debate has not yet penetrated much of the mainstream physiotherapy literature – in keeping with the manner in which all issues of sexuality were broadly suppressed in the data presented here.

It is clear that physiotherapists must practice ethical reasoning, a call already well established in the literature [8,33–36]. Indeed, the ethical code of physiotherapy can act as a point of departure for reflection on thought-provoking ethical dilemmas to improve the practice of physiotherapy, and support patients' overall health [8]. We argue that the issues brought forward in this paper are highly relevant for today's physiotherapy education. The question remains, though, how should we go about teaching and implementing frameworks for reflection on the topics of intimacy, sexuality and ethics in physiotherapy education? To approach physiotherapy students' skills training differently, we argue that there is a need to see these issues as context specific.

First, intimacy, sexuality and ethics should be framed within a historical context. Indeed, bringing to the fore the historical embeddedness of intimacy and sexuality in the physiotherapy profession will help to frame students' understanding of these issues, and their importance to the very essence of what it is to be a physiotherapist. Second, students need to see that what is understood as acceptable in one context and at one time is not necessarily acceptable in another. Certainly, bringing the profession's past and present together, in the context of skills training, can provide an interesting opportunity for students to reflect on intimacy, sexuality and ethics. For example, showing students that, just as the massage scandal constituted a turning point with regard to proper codes of conduct and ethical standards, so too has #MeToo has changed society's understanding of ethical codes of conduct in potentially intimate, although not necessarily sexual, situations. Third, we would argue that a conversation with students about the future needs of people in an increasingly technologically-saturated milieu would provide an ideal opportunity to examine the importance of respectful nurturing touch for people's ongoing health and wellbeing.

We argue that ongoing reflection, as well as more overt theoretical and practical framing of the ethical dimensions of sexuality, intimacy and touch, might provide students with highly significant and relevant tools for reflecting on their ethical codes of conduct in skills training, a situation in which therapist and patient (or fellow student) engage in a range of intimate situations.

Limitations of the study

The data presented in this study were derived from opportunistic findings emerging from a PhD whose original

intention was to examine gendered competencies in contemporary physiotherapy education. Matters of intimacy, sexuality and ethics were not, therefore, the original motivation for the thesis. These issues came to the fore, however, in both the observations and the interviews. The original data was captured in 2010, before the most contemporary events of the #MeToo movement had framed sexual ethics in the way that they now have. Hence, it could be argued that the students' understanding and approaches to intimacy, sexuality and ethics might be different today. However, the likelihood of the results varying at different times is intrinsic to any qualitative study [37], and the purpose of this study was to bring to light issues that we believe – based on our experiences as educators, and on the existing literature – have been redolent of physiotherapy educational practices for many years and across many jurisdictions. We therefore believe that although the empirical data for this study is somewhat dated, the generalisable issues that have emerged from this study are as pertinent today as they were when the data was first generated.

Conclusion

Although the historical association between prostitution and physiotherapy is less noticeable, matters of intimacy, sexuality and ethics are as relevant today as they were in the years when the physiotherapy profession was first established. The results from this study suggest that students and teachers approach intimacy, sexuality and ethics as *tacit professional standards*, including *tacit codes of proper behaviour* and *tacit competencies in interpreting intimate boundaries*. Hence, to move the professional standards of physiotherapy beyond mere tacit knowledge and technical skills, we argue that students should be taught to examine the historical significance of sexuality, intimacy and touch to the profession, and be offered overt opportunities to explore these issues through a diversity of perspectives. Moreover, issues of sexuality in physiotherapy from such perspectives as sexual health and inclusive practices should be addressed. Accordingly, there is a need to think differently about the physiotherapy curriculum, professional regulation and codes of conduct.

Disclosure statement

No potential conflict of interest was reported by the authors.

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Vedlegg 10.

Artikkel (short communication): Using Internationalisation at Home to provide international learning to all physiotherapy students

Using Internationalisation at Home to provide international learning to all physiotherapy students

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Why was the idea necessary?

The recent emphasis on globalisation in healthcare education includes the importance of internationalisation as an approach for providing students with international and intercultural competence.^[1] However, the challenge of sending large groups of students on exchange programmes has driven the rise of Internationalisation at Home (IaH) programmes, where all students are given international learning opportunities.^[2] This article elaborates on how IaH provided international learning opportunities to 104 physiotherapy students in Norway and South Africa (SA). The article also highlights how the project influenced students' understanding of the local context in clinical practice and rehabilitation.

What was tried?

In 2017, we piloted an IaH project that included all physiotherapy students in the second-year cohort at Oslo Metropolitan University in Norway and the University of the Western Cape in Cape Town, SA. The project included online and face-to-face components, where students completed an assignment and then received feedback and guidance from peers in the other institution. The assignment was informed by principles of photovoice methodology,^[3] where students took photos of their local communities with the aim of contextualising healthcare and patient experiences of health and rehabilitation services. These photos were discussed in class and then combined with personal reflections that emphasised how students' thinking regarding clinical practice and rehabilitation was influenced by their local context. Students were also expected to integrate relevant academic literature with their personal narratives to better understand their reflections. The assignment was mandatory for all students as part of their course. We found that most students were eager to participate and enjoyed the assignment, with high levels of activity throughout.

The initial drafts of the assignment were shared on Google Drive so that students from both universities could provide one another with guidance and critical input in the form of questions. This feedback was then reviewed by lecturers, who provided additional comments where necessary. Students were able to make changes to their assignments using the peer feedback before submitting the final version. All students participated in a face-to-face seminar, where lecturers in each university guided a discussion on how local health contexts influenced clinical practice and health systems more generally. Finally, we conducted a focus group discussion with 4 students from the Norwegian cohort, during which they elaborated further on the

themes from the seminar. The SA students chose not to participate in the focus group interview because the interviews took place during the students' examination period.

What were the lessons learnt?

When students gave each other feedback, they not only learnt about other health contexts but also gained insight into their taken-for-granted assumptions regarding their own health system. They were able to identify some of the social and cultural influences on healthcare and rehabilitation, as well as specific aspects of their own culture that were previously underappreciated.

This pilot study demonstrates a process for implementing low-cost IaH projects, where students in very different health, social and cultural contexts can be introduced to internationalisation concepts within the existing curriculum. Such programmes may have important implications for countries that are interested in developing internationalisation components in the curriculum, but cannot afford to send large groups of students on exchange programmes. The availability of free online environments that facilitate student interaction, in combination with common learning resources, means that internationalisation can be achieved without expensive and environmentally harmful travel.

Declaration. None.

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Vedlegg 11.

Artikkel: Flipping the classroom in physiotherapy education: experiences, opportunities and challenges



Flipping the classroom in physiotherapy education: experiences, opportunities and challenges

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ABSTRACT

In higher education, resistance to shifting educational methods presents a challenge in fulfilling the opportunities offered by new methods. The purpose of the present study is to document the experiences of a flipped classroom intervention in a Norwegian physiotherapy programme, from the perspectives of the students and the teachers. The findings demonstrate that the students' attitudes were mainly positive. In particular, the students evaluated autonomous group work and unlimited access to digital material as positive. The academic outcomes from the final exam were similar to previous years. Interviews with the teachers showed that the learning environment associated with the group work in the flipped classroom was a different and highly appreciated experience. In conclusion, the present study indicates that there is potential in implementing digital approaches in physiotherapy programmes.

Keywords

flipped classroom, physiotherapy, technology in higher education

INTRODUCTION

A recent status report on Norwegian higher education showed that although there seems to be increasing attention on the pedagogical use of digital technology in higher education institutions, the possibilities are far from utilised (Kunnskapsdepartementet, 2018). Pedagogical use of digital technology is closely related to active learning strategies. Survey findings on teaching in Norwegian higher education show that higher education learning environments are still characterised by traditional, passive teaching methods, and that educators have little trust in their students' contributions to quality improvement (Amundsen, Damen, Haakstad, & Karlsen, 2017). Due to these findings, a recent review on learning and teaching with technology in higher education suggested an institution-wide, scholarly approach to teaching, as a means of promoting active learning (Lillejord, Børte, Nesje, & Ruud, 2018). Other reports claim that the development of robust strategies for integrating teaching with technology, is a question of survival for higher education institutions (Adams Becker et al., 2017).

Consistent findings from research show that learning outcomes are improved when students actively engage in learning activities (Freeman et al., 2014; Michael, 2006; Prince, 2004). The flipped classroom is a blended learning approach in which students receive digital lectures as homework, while group-based problem-solving activities are used in the classroom (Abeysekera & Dawson, 2014; Bergmann & Sams, 2012; J. L. Bishop, 2013; J.L. Bishop & Verleger, 2013; L.-L. Chen, 2016; Foldnes, 2016). The underlying premise of the flipped classroom is that classroom time should be used for active-learning activities instead of traditional lectures (O'Flaherty & Phillips, 2015). Although the flipped classroom model offers different opportunities of in-class learning activities, there is evidence suggesting that collaborative working releases the model's full potential (Foot & Howe, 1998; Johnson, Johnson, & Smith, 1998; Prince, 2004; Springer, Stanne, & Donovan, 1999). There is also evidence that the flipped classroom facilitates engagement and interaction (L.-L. Chen, 2016; Laal & Ghodsi, 2012; O'Flaherty & Phillips, 2015; Ruiz, Mintzer, & Issenberg, 2006).

A number of studies report increased student satisfaction with the flipped approach (O'Flaherty & Phillips, 2015). However, not all students embrace this type of learning. A study with a mixed population of undergraduate and postgraduate health education students found that they were divided into those who embraced the flipped classroom and those who, although neutral on some elements, did not endorse its pre-learning aspects (McNally et al., 2016). Other findings suggest that students enjoy the increased flexibility associated with the flipped classroom and want personalised learning through interactive, collaborative, well-structured learning activities (Wanner & Palmer, 2015). A recent qualitative study on student engagement in a flipped classroom concluded that affective dimensions of learning should not be underestimated. Dimensions such as commitment to peers, being recognized, feeling safe and the instructor relationship were particularly highlighted as conducive to student learning (Steen-Utheim & Foldnes, 2018). The teacher views and experiences with flipped classrooms have been less investigated. However, an Australian study concluded that the main concern of higher education teachers was the time commitment and lack of institutional support for flipped classrooms (Wanner & Palmer, 2015). In line with this concern, it has been suggested that flexible learning interventions require

additional resources: staff time, instructional design, technical support and administrative support (D. T. Chen, 2003). Xu & Wang (2009) claimed that in hybrid environments such as the flipped classroom, the traditional roles of the teachers as information providers and knowledge transmitters are challenged. Due to this, teachers are putting on new “hats” as expert learners, facilitators, course designers and organisers (Xu & Wang, 2009).

Blended learning interventions seem to be highly context-dependent, with the generalisation of concepts across disciplines being a challenge (Harris P, Connolly JF, & L., 2009). Within the field of physiotherapy education, a systematic review found that the use of online technologies has the potential to enhance practical skills performance, knowledge acquisition and enhance deep learning and reflection (Mącznik, Ribeiro, & Baxter, 2015). The results of this review also indicate that flipped classroom interventions have been little investigated within physiotherapy education. The aim of this study is to explore student and teacher perceptions about flipped classrooms in physiotherapy education. The research questions are:

1. What are the advantages and disadvantages of flipped classrooms from a student perspective?
2. How do students report self-perceived learning outcomes of traditional teaching and flipped classroom education?
3. How do teachers experience teaching with technology?

METHODS

The study took place within a course on musculoskeletal disorders (15 ECTS) for second-year students of the Bachelor’s Programme in Physiotherapy at Oslo Metropolitan University, in autumn 2016. The study had a cross-over design: first, the students underwent about three weeks of traditional lectures. During this period, no active learning interventions were organised. Thereafter, the students underwent a three-week period of flipped classroom education. The traditional lectures and flipped classroom intervention preceded a practice period and an individual oral exam (on a six-point grading scale). Altogether, forty-five students participated in the course.

Materials consisted of student self-perceived learning outcomes assessments, given after the traditional lectures and the flipped classroom intervention. The students’ opinions were registered anonymously in a survey. The survey contained an open-ended question, where the students were encouraged to identify three positive and three negative factors in relation to the flipped classroom intervention. In addition, the students were asked to rate their overall self-perceived learning outcome from the flipped classroom intervention and the traditional lectures, separately on ten-point numerical scales. The numerical scales were provided without any qualitative descriptions of the endpoints.

In order to explore the three teachers’ opinions about their participation in the development and implementation of the flipped classroom intervention, informal, individual interviews were conducted with each of them. In the interviews, the teachers were asked about issues relating to lecture production, their teaching role at the seminars, and teaching with technology in general. All interviews were conducted by the course leader (YR).

None of the interviews were recorded, but notes were taken during each interview and expanded upon shortly thereafter. The teachers had at least five years' experience in the physiotherapy programme.

The flipped classroom intervention entailed pre-classroom digital learning resources, and in-class collaborative learning activities. The digital learning resources consisted of twenty-two digital lectures (five hours in total), YouTube videos, podcasts and blog posts. The learning resources were organised in themes, consistent with the structure of the in-class learning activities. The digital lectures were recorded using Microsoft Office Mix, a free extension of PowerPoint that transforms PowerPoint presentations into online lessons, and allows both implementation of audio and video. In this intervention, most of the digital lectures included a video, with the teacher on the first and last slides. The rest of the slides only contained an additional voice track. The digital lectures were saved as video files, which the students were able to access from several platforms, including mobile phones. The digital lectures were made available for the students at least one week before the in-class activities.

In-class learning activities consisted of six full-day seminars where the students worked on assignments. Each seminar focused on a theme (i.e. persistent pain and evidence-based physiotherapy). A leaflet, with exercises for each seminar, was distributed to the students. The exercises were theoretical, with different levels of difficulty. Typically, the students would start with exercises requiring a brief answer, and end with more complex assignments, typically patient cases. All seminars had a similar structure, starting with a plenary session of about forty-five minutes, where the students were encouraged to clarify misunderstandings or identify particularly difficult areas. Thereafter, the students worked in groups of about seven, based on the exercise leaflet. This session lasted about five hours, and included lunch. The students were encouraged to take regular breaks during the group work. At the end of the seminars, a forty-five-minute plenary session was organised, wherein the groups had the opportunity to clarify misunderstandings or discuss difficult parts of the assignments with the others. The assignment solutions were the property of the group. At the seminars, two teachers circulated during the group work, and were responsible for organising the plenary sessions at the beginning and end of the seminars.

The students were informed that they were expected to be familiar with the digital learning resources before the seminars. In addition, it was announced that the assignment solutions were highly important for the course's final theoretical exam.

The positive and negative factors of the flipped classroom intervention, reported by the students, were analysed separately using frequencies. In addition, the self-perceived learning outcomes of the traditional lectures and the flipped classroom intervention were analysed with mean (standard deviation), and compared with a Paired Samples Test (T-Test) (Tabachnick & Fidell, 2007).

The analysis of the informal interviews was informed by Braun and Clarke's thematic analysis (Braun & Clarke, 2006). Thematic analysis is a method for identifying, analysing and reporting patterns (themes) within data (Braun & Clarke, 2006). The analysis followed a stepwise recommendation and consisted of becoming familiar with the data, generating initial codes, searching for themes, reviewing themes and defining and naming themes. In line with the recommendations, the prevalence of themes within each data item, as well as

across the entire data set, was emphasised (Braun & Clarke, 2006). The material was first analysed independently by two researchers (YR and TD-M). These analyses were then discussed in four meetings: two online and two face-to-face. Although there was little disagreement between the researchers, the meetings contributed to a more in-depth analysis of the data.

RESULTS

Students' opinions

Altogether, thirty-nine students (91%) returned the questionnaires. Based on the responses, eighty-nine positive and fifty-seven negative factors of the flipped classroom intervention were identified.

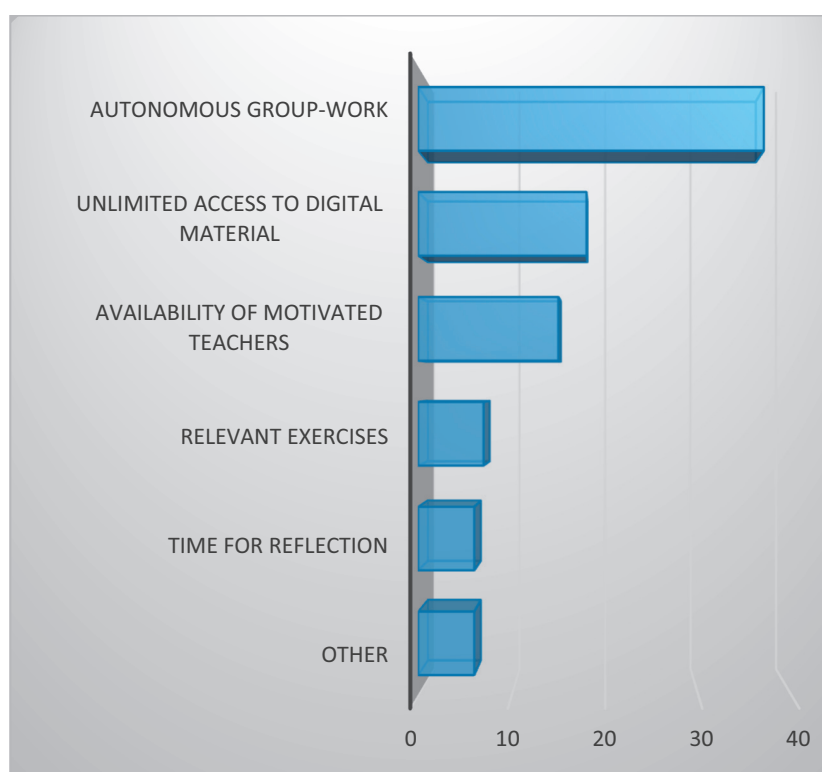


Figure 1: Frequent positive factors of the flipped classroom intervention, in ranked order

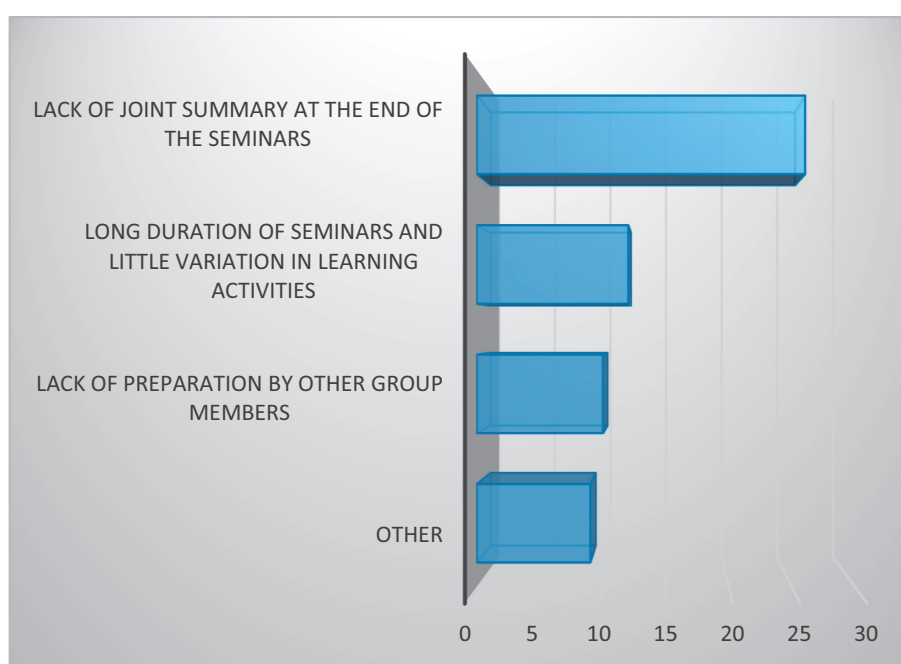


Figure 2: Frequent negative factors of the flipped classroom intervention, in ranked order

There was a significant difference in the scores for student satisfaction of the flipped classroom intervention ($M=6.85$, $SD = 1.39$) and traditional lectures ($M=5.62$, $SD = 1.33$); $t(38) = -4.459$, $p < 0.001$. These results suggest that the students really were more satisfied with flipped classroom learning than traditional lectures.

Teachers' experiences

The teacher interviews ($n = 3$), revealed noteworthy experiences with the flipped classroom intervention. The experiences revolved around three themes: digital lectures as technical issues and pedagogical concerns, the new teacher role, and increased responsibility of students. Notably, these themes occurred interrelatedly. However, in order to increase readability, we present them as separate themes.

Digital lectures

Notably, the teachers reported that the production of the digital lectures was time-consuming far beyond their expectations. In particular, they emphasised that they needed to record their lessons repeatedly, because many issues of concern occurred to them as they watched and listened to their lectures. The teachers moderated the somewhat negative experiences of time-consuming practices by emphasising that new approaches are always time-consuming, and in particular by foregrounding their experiences of being inspired by the new approaches. As one of the teachers expressed:

I think, it takes [a certain] amount of time to do it, far more than we are compensated for in the work plan. But you know, it is still very fun. It is fun to see how it develops and to see the results. When you see the results, you get very inspired. (Teacher 2)

This experience of the teacher points to how the digital lecture production is far more time-consuming than the resources allocated by their work plan; however, the teachers still find the work inspiring. Moreover, these findings highlight how the digital lecture production is not merely production, but relates to a pedagogical process: finding the time spent on digital lecture production worthwhile seemingly relates to the teachers' positive experiences of pedagogical development.

The teachers thought that the technical issues concerning production of digital lectures was challenging, although they only experienced minor difficulties. Notably, the teachers say that they are used to technology and describe themselves as above-averagely interested in technology. Still, they found that there were many decisions to be made for the recording, such as the length of the lectures and the examples to use for clarifying a theme. In short, they found that it was different to talk to the computer instead of the students. As one of the teachers said:

You know, the natural way you speak in the classroom does not work when you produce digital lectures. You have to keep to the point all the time. So there were technical issues concerning being clear enough and not [beginning] to speak about something else in the middle of an explanation. (Teacher 3)

Although the teachers talked about technical issues, these seem to be closely linked to pedagogical decisions and concerns, a point we elaborate on further in the next theme, addressing the teacher role.

The new teacher role

The digital lectures were followed by in-classroom seminars. In the seminars, teachers experienced a flipped classroom teaching role for the first time. At first, they thought that their new role was a bit odd, and they were worried that the new role was less effective than traditional teaching. In short, the teachers describe how they have been familiar with being the one that drives the lecture forward by showing enthusiasm for what they are teaching and telling students. Due to this, being available and transferring more responsibility to the students is experienced as a very different teaching environment. The teachers had been worried initially because the students asked few questions, thus they questioned the effectiveness of this type of teaching and learning. However, the feeling of being a stranger in the classroom during the seminars gradually changed, as the teachers became more familiar with their new role. As one of the teachers said:

You realise that it is a different type of relation to the students. After a few times, I became more familiar with it and it felt more natural to be a participant in their group work when they invited me in to talk with them. (Teacher 1)

Teachers said that they gradually came to enjoy being a teacher in the seminars and underscore how they found it important to spend time in preparing for the group work. By putting effort into the preparation of the group work, they experienced students more easily being put in the situation of being the active ones in the seminar. This approach made teachers feeling innovative. Moreover, the new teaching role, as expressed by these teachers, gradually flourished concurrently with the teachers becoming more familiar with and used to the flipped classroom design. Notably, the teachers observed that the student role also seemed to change significantly during this intervention.

Increased responsibility of students

Initially, the teachers raised concern about the students' ability to handle the responsibility and increased autonomy associated with the flipped classroom. Indeed, the teachers noted that the amount of preparations made by students differed. Whereas some students were able to (and comfortable with) addressing what they did not fully understand, others had not listened to the digital lectures and thus were not able to participate in the discussions in the seminars. How teachers should deal with these issues are concerns addressed in the interviews. Indeed, these concerns demonstrate how students' preparations or lack of preparations becomes more visible to teachers in the flipped classroom design, compared with traditional lecturing. However, as the students get used to the flipped classroom learning environment throughout the seminars, the interaction gradually improves and the students seem to take more responsibility. As one teacher expressed:

The group work was kind of autonomous work. I thought that students wanted me to comment or provide feedback on their work, most of the time. However, to my experiences, they preferred working independently most of the time, and then afterwards, me providing feedback at the end of the working sessions. (Teacher 3)

Notably, the teachers observe that the students seem to interact differently than in a traditional learning environment, with respect to taking responsibility and thereby challenge the traditional master-novice roles. Still, they want the teacher to sum up the lessons and ask for the expert opinion as well.

DISCUSSION

Benefits and disadvantages with the flipped classroom

Findings in educational research show that collaborative learning efforts tend to enhance autonomous learning, and boost self-esteem and student satisfaction (Johnson et al., 1998; O'Flaherty & Phillips, 2015). Consistent with these findings, the student-reported data from the present study demonstrate that self-perceived learning outcomes of the students were higher in the flipped classroom intervention than in the traditional lectures. In addition, autonomous group work and unlimited access to learning resources were frequently reported as positive factors of the flipped classroom (Figure 1). The results of the present study are consistent with the findings in a study on undergraduate students of social science in Australia (Wanner & Palmer, 2015). In the Australian study, the flexibility in

learning and collaborative, well-structured, face-to-face learning activities were appreciated (Wanner & Palmer, 2015). It is, however, worth noting that the in-class learning activities in the Australian study were more varied than in ours.

In our view, the positive attitudes towards autonomy and flexibility in our study, contrast with previous experiences in the physiotherapy programme, where flexibility and self-regulation are little emphasised. Nevertheless, flipped classroom education may not be embraced by all students. A study from Australian health education found that students divided into those who embraced most aspects of the flipped classroom environment (*flip endorsers*) and those who especially did not endorse the pre-learning aspects (*flip resisters*) (McNally et al., 2016). The authors argue that improved learning outcomes are reliant on assessment integration into the intervention, in-class learning activities based on a theoretical perspective and that the entire course is flipped (McNally et al., 2016). In our study, only the self-perceived learning outcomes were assessed. Our intervention was not consistent with the recommendations of McNally et al. (2016). However, an explanation for the mostly positive attitudes of the students, probably is that they immediately embrace the technology and the flexibility associated with pre-classroom activities (Bergmann & Sams, 2012).

Lack of a joint summary at the end of the seminars, their long duration, and little variation of learning activities, were the most frequently reported negative factors of the flipped classroom intervention (Figure 2). In retrospect, it is easy to acknowledge that the learning activities in the present study did not exploit the full potential of the flipped classroom model. Implementation of a variety of well-documented learning activities has been claimed to be a success factor for educational interventions (Gurung, Weidert, & Jeske, 2012; Morehead, Rhodes, & DeLozier, 2016; Uttl, White, & Gonzalez, 2016). Consistent with this idea, a redesigned model of flipped learning has been suggested (Blau & Shamir-Inbal, 2017). In this model, the learning activities of the flipped classroom are implemented both at home and in the classroom, through extensive use of technology (Blau & Shamir-Inbal, 2017). Nevertheless, we would argue that the redesigned flipped classroom model requires extensive planning and access to support, beyond what was available for the present study.

An overview of the digital learning platform onto which the lectures were uploaded indicated that up to one-third of the students had not accessed the digital lectures prior to the seminars. This finding is echoed by data from the student evaluations, where lack of preparation from and engagement by fellow students was a frequent complaint (Figure 2). Besides motivational factors, a high work burden and lack of time allocated for autonomous study are possible explanations for the lack of preparation. In order to allow students to work structurally within normal working hours, time for self-studying likely needs to be included in the timetables for future interventions. In addition, expectations regarding preparations should have been more explicitly communicated prior to the course. Lastly, students should experience the responsibilities associated with a flipped classroom: for example, group work could begin with a session wherein all members present a summary of the material. We believe that maintaining stable groups throughout the seminars will enhance individual responsibility among each student.

The present in-class learning activities mostly developed based from long experience in teaching and a conviction that collaborative working is often beneficial to learning. In

Johnson et al. (1998), five key elements in relation to collaborative learning were highlighted: positive interdependence, individual accountability, promoted interaction, social skills and group processing. The affective and social aspects of learning, should not be underestimated. In a recent qualitative study on student experiences in a flipped classroom intervention, Steen-Utheim and Foldnes (2018) highlight a number of categories that the students reported as especially conducive to their learning, such as commitment to peers, being recognized, feeling safe and instructor relationship. Unfortunately, it was not possible to investigate whether these categories were equally important in our study. Considering these results, keeping stable groups throughout the seminars would have been preferable. This is also supported by the findings of Foldnes (2016), which implemented cooperative learning activities from team-based learning in a flipped classroom intervention. In the literature on team-based learning, four practical elements are emphasized: permanent teams, readiness assurance, application activities and peer evaluation (McMahon & Jeffries, 2010; Michaelsen & Sweet, 2011; Rezaee, Moadeb, & shokrpour, 2016). It is also possible that immediate feedback methods, as advocated in team-based learning, could have replaced the urge for a joint summary, as frequently reported as a disadvantage by the students (Figure 2). Within medical education, team-based groups generated significantly better learning outcomes than smaller groups in a course aimed at preparing students for practice (Thomas & Bowen, 2011).

Teacher experiences with technological education

Although there seems to be increasing attention on the pedagogical use of digital technology within higher education institutions, the possibilities are far from utilised (Amundsen et al., 2017; Kunnskapsdepartementet, 2018). In order to create a shift in higher education, the role of teachers is essential. In the present study, the interviews of teachers who had participated in the flipped classroom intervention, revolved around three themes: production of digital lectures, the new teaching role and the new student role.

The teachers found the production of digital lectures time-consuming, beyond what they had expected. These views are similar with findings from an Australian qualitative study, where forty-seven higher education teachers were interviewed (Wanner & Palmer, 2015). The interviews showed that a concern shared by all teachers was the time commitment and workload associated with the flipped classroom (Wanner & Palmer, 2015). Nevertheless, in the present study, the time consumption seemed to be overshadowed by the excitement of developing the teachers' first digital lectures. Although lack of technical competence among teachers has been identified as a barrier to digital education, the teachers in the present study only experienced minor difficulties in the production of digital lectures (Schneckenberg, 2009). The reasons for this may have been the generally user-friendly interface of Microsoft Office Mix and the step-by-step guide put together by the course leader. In addition, the technical competence of the participating teachers in this study may have been higher than that demonstrated elsewhere. Thus, we suspect that technical support and education should be carefully addressed in other, similar interventions. In addition, the interviews show that lecture production involves a number of pedagogical issues, such as the length of lectures, use of voice and the number of examples provided in

the lectures. One teacher observed the use of fewer examples in the digital lectures and that he considered this advantageous.

Many sources argue that the flipped classroom increases interactions between students, as well as between teachers and students (Adams Becker et al., 2017; Bergmann & Sams, 2012; L.-L. Chen, 2016). Based on the interviews, the teachers experienced a new and completely different teaching role, as well as observed a new student role. The new teaching role was described as unfamiliar. In the first seminars, one of the teachers (Teacher 3), was concerned that this type of learning would not be effective. However, during the seminars, this gradually changed. As Teacher 3 put it, 'Actually, I think that this way of teaching [the seminars] is much more inspiring than lecturing.' This shows that not only the students, but equally the teachers, were socialised into their new roles. It is easy to see how this new teaching role challenges traditional beliefs about learning. The research on teachers' role in teaching with technology is limited. However, Englund, Olofsson & Price (2017) investigated a ten-year longitudinal study on Swedish teachers' individual beliefs about teaching and the strategies they adopt for their practice. The results of the study show that novice teachers demonstrated more rapid change during the period than the experienced teachers (Englund, Olofsson, & Price, 2017). The study concluded that if a more effective use of educational technology is to be achieved, change in beliefs about teaching should be a central component of professional development (Englund et al., 2017). The teachers in our study, although hesitant in the beginning, rapidly adapted to the new learning environment. They cannot be considered novices, as they had more than five years of teaching experience. Another qualitative study identified five different approaches to teaching strategies among educators in higher education, ranging from teacher-focused strategies, with the information of transmitting information to the students, to student-focused strategies, aimed at students changing their conceptions (Trigwell, Prosser, & Taylor, 1994). The authors argue that teacher intentions and conceptions must be addressed in order to change teaching strategies (Trigwell et al., 1994).

One strength of this study is that the flipped classroom intervention was analysed from the perspectives of both students and educators. However, some limitations should be noted: first, due to the lack of a control group, careful interpretation of the results regarding perceived learning outcomes is recommended. Another weakness was that no validated measure was used in the assessments of the students' experiences. Thirdly, the number of teacher interviews was relatively low, which restricts the generalisation of results. Considering these limitations, this exploratory study could yield further research.

CONCLUSION

This study generated promising results, with respect to the use of the flipped classroom model in Norwegian physiotherapy education. In particular, students embraced the increased flexibility and responsibility associated with the flipped classroom. The disadvantages reported by the students were associated with little feedback and variation during learning activities. Experienced higher education teachers participating in their first flipped classroom intervention revealed initial worries about learning outcomes, but gradually developed positive attitudes about new teaching roles and learning environments.

Future research will investigate beliefs and strategies about teaching with technology among different groups of educators within higher education. In addition, more research will analyse the learning outcomes of flipped classroom education within physiotherapy and health education.

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Vedlegg 12.

Artikkel: Learning with technology in physiotherapy education: design, implementation and evaluation of a flipped classroom teaching approach

RESEARCH ARTICLE

Open Access



Learning with technology in physiotherapy education: design, implementation and evaluation of a flipped classroom teaching approach

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Abstract

Background: The purpose of the study was to describe the design, implementation and evaluation of a flipped classroom teaching approach in physiotherapy education. The flipped classroom is a blended learning approach in which students receive digital lectures as homework, while active learning activities are used in the classroom. Flipped classroom teaching enables a learning environment that aims to develop higher-order cognitive skills.

Methods: The study design was a historically controlled, prospective, cohort study. An eight week theoretical course on musculoskeletal disorders was redesigned, moving from a conventional approach to a flipped classroom model. Pre-class learning material consisted of about 12 h of video lectures and other digital learning resources that were split up over the duration of the course. In-class activities consisted of seven full-day seminars where students worked in groups in order to solve problem-based assignments. The assignments were designed to reflect authentic clinical problems and required critical thinking and reasoning. Outcomes were measured with course-grades and compared with historical controls of conventional teaching, using descriptive statistics. Self-perceived learning outcomes and students' experiences were also collected in a survey.

Results: Fifty-one students passed the course exam, two failed and one did not attend ($n = 54$). The share of students with Excellent, Very good and Good (ABC) performances increased by more than 10% relative to any previous year. In addition, Satisfactory, Sufficient and Failed performances (DEF) decreased by more than 10%. Almost two thirds of the students preferred the flipped classroom approach as compared with conventional teaching. Interaction with peers and educators, and flexibility, were the most positive factors that were reported by students. Long seminars, time-constraints and low motivation with respect to preparation and educators' roles were the most common complaints.

Conclusions: A flipped classroom approach in physiotherapy education resulted in improved student performances in this professional programme, when compared with conventional teaching. Students responded positively to the collaborative learning environment, especially with respect to the associated autonomy and flexibility. There were indicators that all groups did not work optimally and that accountability to other group members did not always ensure pre-classroom preparations.

Keywords: Flipped classroom, Teaching with technology, Physiotherapy education

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Background

The flipped classroom is a blended learning approach in which students receive digital lectures as homework, while active learning activities are used in the classroom [1–3]. The rationale is that the students' preparation prior to class enhances the efficacy of the learning activities. Findings of a systematic review on the use of flipped classroom in higher education, indicate improved student satisfaction and increased academic performance, as measured by improved examination results, pre-test to post-test scores and course grades, compared with conventional teaching [4]. Furthermore, there is also evidence that flipped classroom teaching increases class-attendance [4].

With respect to health education, a recent meta-analysis on the effectiveness of the flipped classroom concluded that the approach yielded a statistically significant improvement in learner performance when compared with conventional teaching [5]. A similar systematic review in higher education nursing programmes yielded academic outcomes that were either neutral or positive [6]. The authors of the review concluded that more studies on implementation, evaluation and refinement of the flipped classroom in health education, are warranted [6].

Learning in the flipped classroom has a number of potential benefits, including the implication that more responsibility for learning is transferred to the student. The optimal level of autonomy and flexibility in the flipped classroom, has been little studied [7]. It has been suggested that certain designs of the flipped classroom may promote self-regulated learning and higher-order thinking skills such as applying, analysing, evaluating and creating knowledge [8–11]. Another benefit of the flipped classroom model is that educators can be given more flexibility to cover a wider range and depth of material, as well as offer timely feedback and supervision to the students [11].

In designing flipped classroom approaches there are a number of factors to consider. It has been suggested that the principles for designing a flipped classroom approach include engaging students in self-learning at home, designing learning activities based on authentic problems, designing learning activities to engage students in higher-order thinking, encouraging peer-to-peer and peer-to-teacher interactions [12]. Due to the typical collaborative design of learning activities in the flipped classroom, designers should consider the affective dimensions of learning, including commitment to peers, being recognized, feeling safe, and the relationship with the educator were conducive for students' learning [13].

Physiotherapists are increasingly working in settings where they take autonomous decisions that may place increased demands on team-working abilities. In addition,

there is a global trend of a rising numbers of individuals with a range of disorders that largely cause disability but not mortality [14]. Physiotherapy education has a curriculum consisting mainly of theory (usually taking place at the university) and practice (usually taking place outside the university). The entry requirements of Physiotherapy programmes are usually relatively high, suggesting that the students who are admitted have already developed successful learning strategies. In order to graduate physiotherapy students who are able to thrive in increasingly complex health systems, it has been argued that educators must move away from teaching and learning strategies that disempower students and lecturers [15]. Until now, educational interventions that combine digital technology and active learning, have been little investigated within physiotherapy education.

The aim of this study was to describe the design, implementation and evaluation of a flipped classroom teaching approach in Physiotherapy education.

Methods

The study design was a historically controlled, prospective, cohort study. The intervention took place within a second-year course on musculoskeletal disorders in the Bachelor Programme in Physiotherapy at OsloMet – Oslo Metropolitan University. Altogether, 54 students participated in the course which took place over eight weeks in autumn, 2017. The research project was registered with the Norwegian Centre for Research Data NSD (Ref: 55901/3/ STM). Three months before the course began, students were provided with information about the flipped classroom model and the associated implications on their learning, and then again a week before the course started. In order to clarify their expectations about work intensity outside the classroom, about 80 h on the students' timetable were allocated for pre-classroom studying and after-class work.

Development of the flipped classroom approach

The design of the flipped classroom approach was inspired by social constructivism, which emphasizes the importance of the learner being actively involved in the learning process and by literature on constructive course alignment [16–18]. The course-leader (YR) and the other educators involved in the course only had the minimum pedagogical requirements for teaching in higher education.

The pre-class learning resources consisted of about 12 h of pre-recorded video lectures, YouTube-videos, podcasts and an e-learning course. In addition, several key scientific papers, were included. The video lectures were produced by five educators, who had several years of experience with teaching. The lectures were recorded using the Microsoft OfficeMix platform, which allows an

image- and audio track, parallel with PowerPoint slides. Typically, the digital lectures would include audio on all slides and a video of the educator on the first and last slides. The video lectures were accessible on all types of devices, including mobile phones. The digital learning resources were organised in seven themes (Table 1) and made available for the students a week in advance of the course.

The in-class learning activities consisted of seven full-day seminars held during a eight week period. In the seminars, the students worked on assignments in groups of about seven. In order to facilitate accountability and regulation of working, groups were constant throughout seminars. The central themes, sub-themes and learning resources for each seminar, are shown in Table 1. The assignments ranged in difficulty, from lower order thinking skills, to higher order [8]. Effort was made, to develop assignments which reflected authentic problems in physiotherapy practice [12]. For example, in one of the seminars (Evidence-based physiotherapy II), an assignment provided the students with a link to an animation film on healthcare professionals' use of metaphors in communication with patients at a hospital. After seeing the film, the students were encouraged to identify

similar types of metaphors in physiotherapy practice and discuss the consequences. In addition to the film, the learning resources included a link to a physiotherapy podcast where the use of metaphors was discussed. While some assignments were typically fact-based, others would require that the students critically debated a topic, using different perspectives.

All seminars had a similar structure, starting with a plenary session of about 45 min, where the students had the possibility to ask questions related to the pre-classroom digital learning resources. The plenary session was followed by five hours (including lunch and breaks), where the students were working in groups, solving assignments. The end of the seminars was devoted to student presentations where two groups exchanged and discussed answers of the assignments. The groups were encouraged to work on a shared document, for example in Google Drive or Microsoft OneDrive. This was supported by a study in a physiotherapy department, which found that using technology to engage in shared learning experiences facilitated the development of critical attitudes towards knowledge [19]. The use of fixed groups was inspired by a theory of team-based learning, groups were strategically formed featuring permanent teams

Table 1 Overview of the in-class learning activities of the 8 weeks flipped classroom approach

Name of seminar and central themes	Learning resources
Standardized measures for musculoskeletal disorders: ✓ Different types of measures ✓ Quality criteria ✓ The International Classification of Functioning, Disability and Health (ICF)	<ul style="list-style-type: none"> • 95 min pre-recorded video lectures • Webpages and blogposts • YouTube videos • Book chapters and three scientific papers
Evidence-based practice (I and II) ✓ Model for evidence based practice ✓ The hierarchy of evidence ✓ Planning of treatment ✓ How to structure the patient journal ✓ Self-management interventions	<ul style="list-style-type: none"> • 75 min pre-recorded video lectures • An online course • YouTube videos • Webpages • Podcast episodes • Three scientific papers
Pain as an unpleasant sensory and emotional experience ✓ Nociception and pain processing ✓ Hypersensitivity ✓ Patient experiences with persistent pain ✓ Pain monitoring models ✓ Pharmacology and pain	<ul style="list-style-type: none"> • 174 min pre-recorded video lectures • An online course in patient education • YouTube videos • Webpages • Podcast episode • Seven scientific papers
Physiotherapy for upper-extremity disorders ✓ Epidemiology ✓ Diagnostic classification ✓ Prognostic factors ✓ Treatment	<ul style="list-style-type: none"> • 167 min pre-recorded video lectures • YouTube videos • Webpages and blogposts • Book chapters and one scientific paper
Physiotherapy for lower-extremity disorders ✓ Epidemiology ✓ Diagnostic classification ✓ Prognostic factors ✓ Treatment	<ul style="list-style-type: none"> • 83 min pre-recorded video lectures • YouTube videos • Book chapters and one scientific paper
Physiotherapy for low back pain ✓ Epidemiology ✓ Diagnostic classification ✓ Prognostic factors ✓ Treatment	<ul style="list-style-type: none"> • 128 min of pre-recorded video lectures • YouTube videos • Podcast episodes • Book chapters and four scientific papers
Generic learning resources	<ul style="list-style-type: none"> • Book chapters and five web-pages

with about seven members [20]. Because students' responsibility for their own learning was a vital part of the approach, the in-classroom activities were non-mandatory and class attendance not systematically registered. However, the students were strongly encouraged to attend all face-to-face seminars.

The role of the educators was to council the groups and to organise the seminars. For each seminar at least two educators who were experts on the central themes, participated. These educators were usually the same ones who had recorded the video lectures that were watched by students at home. The participating educators had no previous experience with the flipped classroom model. Due to practical reasons, the educators did not go through any training with respect to the teaching role, before the course.

The course-exam took place about eight weeks after the last seminar. In the period between the last seminar and the course exam, the students were in clinical education. The examination was based on the assignments the students had worked on during the seminars, of which some were fact-based while other reflected higher order thinking. The topics of the assignments were consistent with those covered in Table 1. Altogether, eight assessors, working in pairs, participated in the exam. In order to increase reliability, the pairs of assessors were rotated during the day of examination. The decision with respect to grades was based on agreement between assessors, using the qualitative criteria decided by the Norwegian Association of Higher Education Institutions (UHR) (Table 2). In a preparatory meeting held for assessors, the criteria were discussed in detail. In addition, the importance of implementing both fact-based- and reasoning-based assignments in the examination, was emphasised. Agreement between assessors was not systematically assessed.

Material and analyses

The learning outcome of the teaching approach was assessed with student performance on the course-exam

and students' perceptions. Student performance was assessed with the grades from the course-exam in 2017 and then compared with historical controls of conventional teaching practices in the same course from 2016, 2015, 2014 and 2013. The historical cohorts were similar prior to taking the course. The course grades were collapsed into three categories: Excellent, Very good and Good (A, B, and C), Satisfactory and Sufficient (D and E), and Fail (F). Due to the variation of the number of attendees in the courses over the historical period (range 49–60), only relative numbers (%), are reported, using descriptive statistics.

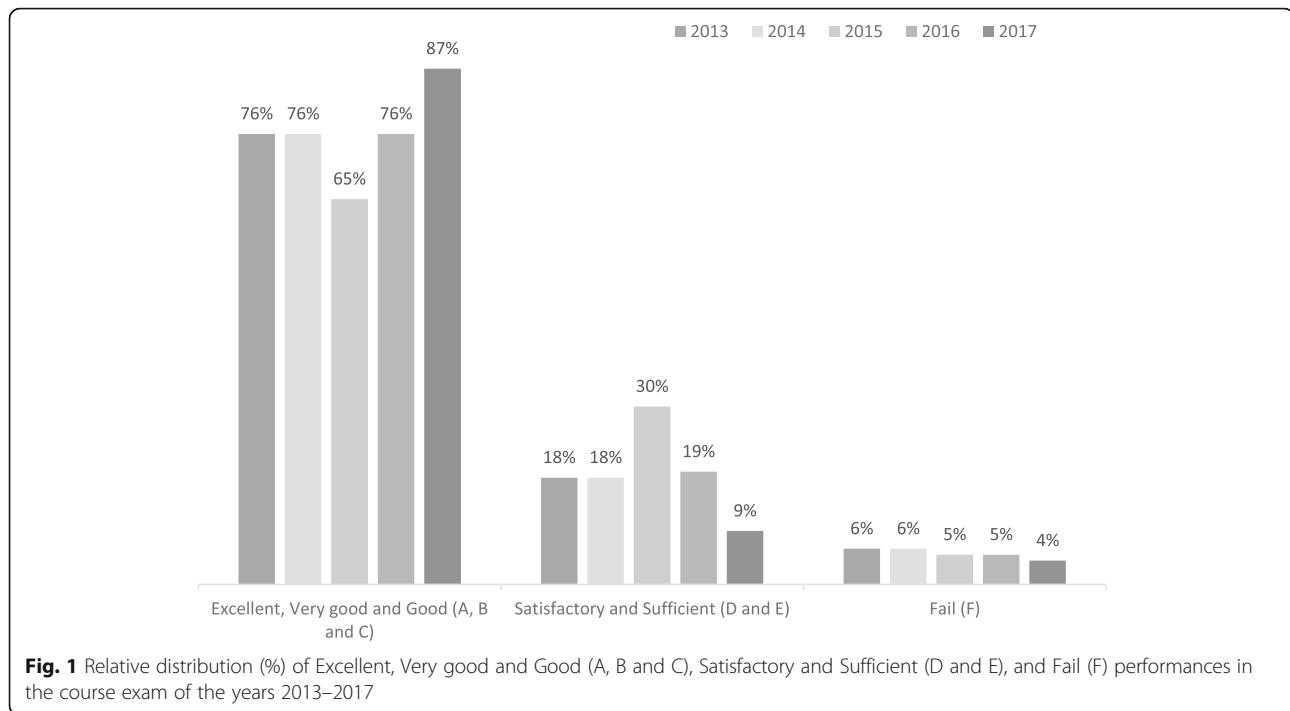
Student perceptions with respect to the teaching approach was measured in a survey that was distributed to the students after the last seminar. The survey contained six open-ended questions; whether they preferred flipped classroom teaching compared to conventional teaching, their preference for constant or movable groups, their satisfaction with the autonomy provided to them, the factors that either facilitated or hampered their learning using the flipped classroom approach, preparation for the seminars, and any other comments related to the approach. The open-ended survey questions were ordered in analytic categories, using a thematic analysis approach [21]. The analytical process included identifying and analysing themes within the data, following the stepwise guide from Braun and Clarke [21]. First we familiarised ourselves with the data. Next, we generated initial codes, and searched for themes. Lastly, we defined and named the themes. This analytical process was carried out by two of the authors (YR and TD-M). All authors participated in the final discussion of the analysis that took place in an online meeting.

Results

At the final course-exam, 51 students passed, 2 failed and 1 did not attend ($n = 54$). Relative distributions of performance the year of the study (2017) as compared with the previous four years, are shown in Fig. 1 below.

Table 2 General qualitative descriptions of grades in Norwegian higher education

Letter grades	Criteria used in the assessment of examinations.
A – Excellent	An excellent performance, clearly outstanding. The candidate demonstrates excellent judgement and a high degree of independent thinking
B – Very good	A very good performance. The candidate demonstrates sound judgement and a very good degree of independent thinking.
C – Good	A good performance in most areas. The candidate demonstrates a reasonable degree of judgement and independent thinking in the most important areas.
D – Satisfactory	A satisfactory performance, but with significant shortcomings. The candidate demonstrates a limited degree of judgement and independent thinking.
E – Sufficient	A performance that meets the minimum criteria, but no more. The candidate demonstrates a very limited degree of judgement and independent thinking.
F – Fail	A performance that does not meet the minimum academic criteria. The candidate demonstrates an absence of both judgement and independent thinking.



The share of students with Excellent, Very good and Good (A, B and C) performances showed a higher rate by more than 10% relative to any previous year. In addition, Satisfactory, Sufficient and Fail performances (D, E and F) showed a lower rate by more than 10%.

Altogether 46 students (87%) responded to the survey. Of these, 29 students reported that they preferred the flipped classroom approach in comparison to conventional teaching, 8 preferred conventional teaching and 9 reported that they were “not sure”.

With respect to the flexibility inherent the in-class activities, 20 students reported that they preferred a more structured classroom, 17 said that they were “not sure” and 9 students said that they preferred “as much autonomy as possible”. Furthermore, 35 students supported the decision to use fixed groups in the collaborative classroom activities, 8 preferred rotating group members, and 3 reported that they were “not sure”.

The most frequently reported factors that represent students’ view from the seminars were interaction with peers and educators, and the flexibility associated with digital learning resources (Table 3).

Discussion

Learning outcomes

The results of this flipped classroom teaching approach were promising with respect to students’ performance as assessed by the course-exam. Compared with historic controls, Excellent and Very good performances increased,

while Satisfactory, Sufficient and Failed performances decreased. The results suggest that both students at the higher and lower levels of performance profited from the approach. However, there are at least two factors that should be considered in the interpretation of the results. Firstly, due the lack of a control group it is not possible to decide whether the observed effects were caused by other factors. For example, this may have been an exceptional student cohort. In addition, there were other changes made to the programme that may also have contributed to the improved outcomes, such as the authentic, group-based classroom activities that were not necessarily part of the flipped classroom approach. Furthermore, it cannot be completely ruled-out that the students modified their learning-behaviour in response to their awareness of being observed (Hawthorne-effect). Finally, the reliability and validity of course-grades as a measure for learning outcomes, is arguable. Nevertheless, considering these objections, we still think the results are important for educators who plan to alter their teaching methods in an attempt to develop higher order thinking skills in physiotherapy students. The improved grades observed in the present study are similar to findings in other studies: The flipping of an Engineering course resulted in improved performance (quiz, exam questions and open-ended design problems) and also allowed the educator to cover more material the first of these studies, students reported a preference for working in the smaller-class format in teams and also achieved significantly better course grades [22].

Table 3 Analytic categories representing students' perceptions of the factors that influenced their learning at the seminars

	Examples from survey responses
Positive factors	
Interaction with peers and educators	<i>We can talk to and discuss with fellow students without interference</i>
Flexibility associated with digital learning resources	<i>Preparations can take place where and when we choose and in self-paced speed,</i>
Didactical aspects, such as course coherence, relevant assignments	<i>The exercises correspond with digital learning resources</i>
Negative factors	
Long and exhausting seminars	<i>Seminars took much time and often felt more exhausting than useful</i>
Little time for preparation or other reasons for not making preparations	<i>Heavy work-load in regard to preparation for the seminars</i>
Sub-optimal group dynamics or variation in ambitions among group members	<i>Difficult to have good discussion in the group because some members had not prepared</i>
Length of video lectures	<i>Some of the videos were much too long! You should take a look at the Khan academy!</i>
Lack of available educators during group work	<i>I wished there had been more discussions with the teacher during the group-work</i>

Similar findings were made in a study in Pharmacy education, where flipping of a large self-care course resulted in better overall course grades and improved opportunities to develop verbal communication skills and tackle unfamiliar problems [23].

It has been shown that flipped classroom teaching has the potential to enhance higher-order thinking skills and self-regulated learning, among students [10, 11, 22, 24]. Although we did no systematic investigation of this, the assessors at the course exam thought that the students had been able to discuss and debate at a higher level than in previous courses. As has already been mentioned, effort had been made to develop assignments which reflected higher-order thinking skills. This is, however, not unique for flipped classroom teaching, and similar approaches to learning can be implemented in other types of teaching. Nevertheless, we would strongly argue that an important success factor for these approaches to learning is the preparation made by students before attending the classroom, which is a key component of the flipped classroom model [2]. We also think that the collaborative working environment at the seminars, was imperative for the learning. Although the flipped classroom model give no directions with respect to learning activities, there is evidence that support the use of collaborative learning activities [25]. However, less is known with respect to the design of the learning activities. Guided by the literature on team-based learning, we chose to keep groups stable, through all the seminars [20]. We also hoped this positively would influence affective dimensions of learning, such as commitment to peers, being recognized and feeling safe, were acknowledge [13]. Results from the survey show that the choice

of stable groups were supported by an overwhelming majority of the students.

In the survey, about two thirds of the students reported that self-perceived learning outcomes of the flipped classroom approach was superior to previous conventional teaching in the programme. These results are in line with a systematic review in medical education which concluded that the flipped classroom is a promising teaching approach to increase learners' motivation and engagement [26].

Physiotherapy education should reflect present and future demands of the health care. Due to the global rising numbers of individuals with a range of disorders that largely cause disability rather than mortality, patient education strategies are increasingly emphasized, within the context of rehabilitation [14, 27, 28]. While physiotherapy education has traditionally focused on physical activity, exercises and manual skills, future education will need to expand learning with respect to communication, critical thinking and collaboration, within a clinical setting. The flipped classroom model represent an opportunity to implement higher-order learning skills in the teaching. Nevertheless, yet there is only rudimentary evidence that blended learning has the potential to improve clinical competencies among health students [29].

Lessons learned and future developments

One of the strengths of this teaching approach is that it offers students a well-planned, flexible and coherent working process. The survey responses indicate that although some students enjoyed the flexibility and autonomy of the preparatory work, about half would prefer

firmer structure in the seminars (Table 3). In retrospect, we think that this preference can be explained by the fact that the students' previous experience in higher education is strongly associated with fact-based courses like anatomy, biomechanics and physiology. Asking students to shift into a new learning paradigm, when their previous learning strategies have been successful, may be a challenge for some. This is also supported by responses from the survey, where almost half of students reported that they preferred more structured classroom activities. Few studies have investigated the optimal degree of flexibility that is associated with this type of learning [7].

In order to increase students' responsibility for their own learning, the seminars for this course were non-mandatory and class-attendance was not systematically recorded. We anticipated that group-accountability would be a barrier for absence. Although instructors never observed significantly low attendance, we do not know whether some students were absent from several seminars, or whether students who did not attend seminars performed poorly in the course-exam. In retrospect, we think that group-accountability alone not necessarily ensure class attendance. There were some indications in the survey responses that all groups did not work optimally. Our aim for future courses is to keep the learning activities non-mandatory. Instead, learning activities can be structured differently. For example, an assessed element at the end of group-work, which contributed to the final exam, could have been implemented. Another step would be to have students anonymously assessing other group-members' contributions.

Findings in a study on the flipped classroom showed that there was a tendency among students to regard class attendance as optional, as there was a perception that complete learning could be achieved by viewing video lectures alone [30]. The present approach The development of the learning activities were informed by social constructivism, which emphasizes the importance of the learner being actively involved in the learning process [16]. Furthermore, the course-design was inspired by theories of constructive alignment. The basic premise of constructive alignment is that the curriculum is designed so that the learning activities and assessment tasks are aligned in order to support students to attain the goals intended for the course [18].

Without doubt, the in-classroom learning activities in the present study offered students too little variation. "Long and exhausting seminars" was the most common complaint from survey respondents. Due to this, we would like to increase variation in the feedback sessions for future courses. Example of activities that could have added variation are facilitator-led discussions and poster-presentations. We also think that there is

some potential for implementing digital, interactive, learning activities and social-media platforms in the learning activities, which may facilitate remote interaction [10]. Furthermore, research from the fields of human memory and recall has claimed that learning is better achieved when spaced out over time, in smaller chunks. In support of this, another solution could be to break the session up into different periods of the day, or even extend it over a period of a week [31].

It has been advocated that the role of the educator in the flipped classroom should be active, rather than passive [10]. As could be expected, there are indications that educators who have previous experiences with active learning, more easily adapt to teaching in the flipped classroom [32]. In the present teaching approach, educators had little previous experience, nor received any training. There is some indications from the survey responses, that students would have preferred increased availability of educators during the group work. However, responses also indicate that students appreciated autonomous discussion with their peers, with the option to contact educators, if necessary. In retrospect, we think training of the educators before the teaching approach would have helped the educators to find an optimal level of activity. However, at the time the design of the intervention took place, much effort was devoted to the technical issues concerning the production of video lectures.

Study limitations

As has already been mentioned, this study had some limitations with respect to the interpretation of the improved learning outcomes. The study design did not control for external factors that may have affected students' performance relative to previous cohorts. It is also worth considering that a well-planned, conventional learning environment, may also lead to the kinds of improvements in learning outcomes that were observed during this study. Nevertheless, we would argue that an important success-factor lies in the combined effect of the preparatory work and the well-organised, collaborative learning activities.

Conclusions

A flipped classroom approach in physiotherapy education resulted in improved student performances in this professional programme, when compared with historical control of conventional teaching. Students responded positively to the collaborative learning environment, especially with respect to the associated autonomy and flexibility. There was indication that all groups did not work optimally and that accountability to other group members did not always ensure pre-classroom preparations. The results indicate that

physiotherapy students benefit from student-focused teaching strategies, associated with increased responsibility of learning. Further research is warranted to investigate whether health professions students are able to profit from this type of learning in a clinical setting, as well as to determine the optimal level of autonomy and flexibility in a flipped classroom approach.

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Authors' contributions

YR contributed to study design, data collection, data analysis and drafting of the manuscript. MR contributed to analysis and interpretation of data and drafting of the manuscript. NBØ contributed to design of the study and drafting of the manuscript. HS contributed to analysis of data and drafting of the manuscript. TD-M contributed to study design, analysis of the qualitative data and drafting of the manuscript. All authors read and reviewed the final version of the manuscript. All authors read and approved the final manuscript.

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Availability of data and materials

Datasets supporting the conclusions of this article are included within the article. Additional data at the level of individual students or educators are not available as per confidentiality agreements approved by the Norwegian Centre for Research Data.

Ethics approval and consent to participate

The research project was approved by the Norwegian Centre for Research Data (NSD) (Ref: 55901/3/ STM). Written consent for participation was obtained from educators to enable us to include their data from this study. The students were verbally informed about the research project and that completion of the survey was voluntary, their responses would be anonymous, and that there would be no negative consequences from opting not to participate in the study. The reason for consent being verbal, was practical. This procedure was approved by the NSD.

Consent for publication

Not applicable.

Competing interests

The authors declare that they have no competing interests.

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