

INVOLVERING AF STUDERENDE I KVALITATIVE FORSKNINGSPROJEKTER

ET IKKE SÆRLIGT VIDENSKABELIGT OPLÆG
TID TIL REFLEKSION OG DISKUSSION OM HVORDAN VI KREERER MERE TID TIL OS SELV

LARS DOMINO ØSTERGAARD, LEKTOR, PH.D., AALBORG UNIVERSITET



Intro

- Travl hverdag
 - på universiteter såvel som på UC'er og andre steder
- Mange krav lige meget hvor man er ansat



Kan vi bruge studerendes arbejde i projekterne som en arbejdsressource
– i relation til såvel forskning- som udviklingsprojekter??

Universitetsansatte

- Semesterprojekter (AAU, RUC)
- Bachelor- og kandidatprojekter



Ansatte på professionshøjskoler/ UC'er

- Praktikperioder
- Afsluttende bachelor-projekter



Hvad kan de opnå – med hjælp?

Dialogisk undervisning Et indblik i den kommunikative anvendelse i idrætsundervisningen i gymnasieskolen

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THE CREATIVE SOCCER PLATFORM: New Strategies for Stimulating Creativity in Organized Youth Soccer Practice

LUDVIG JOHAN TORP RASMUSSEN
LARS DOMINO ØSTERGAARD

Creativity plays a crucial part in both individual and societal development (Kakarelle, 2009), and many organizations take advantage of creative problem-solving as a main tool in the formation of new knowledge and innovation (Puccio & Cobra, 2011). Individuals who work in an environment that supports original thoughts and actions are generally more likely to be creative than individuals in environments that discourage such things (Baer & Kaufmann, 2005). As matters stand, athletes' creativity may be limited if leaders and coaches do not appreciate new ideas,



November 14, 2017 · 0 Comments

Digitalt medieret
makkerfeedback: En
undersøgelse af deltagerstyr
idrætsundervisning støttet af
digitale teknologier

Syftet med Steffen Søndergaards og
Lars Domino Østergaards studie var at undersøge
hvor kamratfeedback kombineret med
videofeedback påvirker eleveres aktive
deltagelse og tekniske færdigheder so

INTERNATIONAL JOURNAL OF
SPORT NUTRITION AND
EXERCISE METABOLISM
www.LISNEM-Journal.com
ORIGINAL RESEARCH

Improved Marathon Performance by In-Race Nutritional Strategy Intervention

Ernst Albin Hansen, Anders Emanuelsen, Robert Mørkegaard Gertsen,
and Simon Schøler Raadahl Sørensen

It was tested whether a marathon was completed faster by applying a scientifically based rather than a freely chosen nutritional strategy. Furthermore, gastrointestinal symptoms were evaluated. Nonelite runners performed a 10 km time trial 7 weeks before Copenhagen Marathon 2013 for estimation of running ability. Based on the time, runners were divided into two similar groups that eventually should perform the marathon by applying the two nutritional strategies. Matched pairs design was applied. Before the marathon, runners were paired based on their prerace running ability. Runners applying the freely chosen nutritional strategy ($n = 14$; 33.6 ± 9.6 years; 1.83 ± 0.09 m; 77.4 ± 10.6 kg; 45:40 ± 4:32 min for 10 km) could freely choose their in-race intake. Runners applying the scientifically based nutritional strategy ($n = 14$; 41.9 ± 7.6 years; 1.79 ± 0.11 m; 74.6 ± 14.5 kg; 45:44 ± 4:37 min) were targeting a combined in-race intake of energy gels and water, where the total intake amounted to approximately 0.750 L water, 60 g maltodextrin and glucose, 0.06 g sodium, and 0.09 g caffeine per hr. Gastrointestinal symptoms were assessed by a self-administered postrace questionnaire. Marathon time was 3:49:26 ± 0:25:05 and 3:38:31 ± 0:24:54 hr for runners applying the freely chosen and the scientifically based nutritional strategy, respectively ($p = .010$, effect size = -0.43). Certain runners experienced diverse gastrointestinal symptoms were low and not different between groups ($p > .05$ min, corresponding to 4.7%, respectively). Furthermore, average

Gender effects on the coordination of subdivisions of the trapezius muscle during a repetitive box-folding task

Thorbjørn I. Johansen · Afshin Samani ·
David M. Antle · Julie N. Côté · Pascal Madeleine

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Abstract This study aimed at investigating gender differences in the coordination of the subdivisions of the trapezius muscle during a repetitive box-folding movement. Twenty-two healthy volunteers (11 males and 11 females) performed the repetitive box-folding task for 10 min. During the task, perceived exertion and surface electromyographic (EMG) signals from the upper, middle, and lower trapezius subdivisions were recorded. Absolute

underlined that females adopted a different motor strategy than males did during a dynamic repetitive task. Such differences within and among muscle subdivisions may not be a favourable trait and could partly contribute to the higher prevalence of musculoskeletal disorders reported in females.



Artikel (nr. i litteraturlisten)	Semester som den studerende var på mens du deltog i projektet	Overordnet forskningsområde	Type af studie	Overordnet formål	Vigtige fund
(0)	9-10	Motorisk kontrol og håndfærdighed	Laboratoriel undersøgelse	At undersøge afviklingen af topstyrke under ensidigt arbejde hos raske mænd og kvinder	Kvinder udfører ensidigt præget arbejde med en større relativ muskelstyrke og større muskelansættelse end mænd
(1)	9-10	Ernæring og præstation i langdistanceløb	Feltstudie. Randomiseret intervention	At teste om et maratonløber kunne gennemføre hurtigere med en videnskabeligt anerkendt ernæringsstrategi under løbet, forhold til en selvvalgt strategi	Det var ca. 11 min. hurtigere at løbe et maratonløb med en videnskabeligt anerkendt ernæringsstrategi under løbet, forhold til en selvvalgt strategi
(2)	9-10	Ernæring, ergonomi og præstation i håndbold	Randomiseret kontrolleret studie (RCT)	At undersøge effekten af en kosttilskudsintervention (indtagelse af fødevarer og kosttilskud) hos unge håndboldspillere i forhold til deres præstation og sundhed	Efter tre ugers brug havde spillere som anvendte kosttilskud en større indtagelse af fødevarer og kosttilskud end dem som ikke anvendte kosttilskud
(3)	9-10	Motorisk kontrol af gang under anvendelse af mobiltøj	Overvågningsstudie	At undersøge effekten af gang under anvendelse af mobiltøj på gængængs hastighed og energi	Sammenlignet med almindelig gang medførte brug af mobiltøj en lavere gængængs hastighed og mindre energi
(4)	9	Motorisk kontrol af gang under anvendelse af mobiltøj	Laboratoriel undersøgelse	At undersøge effekten af gang under anvendelse af mobiltøj på gængængs hastighed og energi	Træningsforløbet gav en højere gængængs hastighed og mindre energi
(5)	10	Motorisk kontrol af gang under anvendelse af mobiltøj	Laboratoriel undersøgelse	At undersøge effekten af gang under anvendelse af mobiltøj på gængængs hastighed og energi	Træningsforløbet gav en højere gængængs hastighed og mindre energi

Hvorfor det? (Hansen et al, 2017; Willison & O'Regan, 2007)

- Projektarbejde er meget lig forskningsprocessen
 - Handler om engagement og nysgerighed
- Autencitet, relevans og ejerskab bliver i høj grad nærværende
- Det er en 'gulerod' for de studerende

➔ Research Skill Development Framework

- Studerendes 'skills'/ autonomi vs stadier i forskningsprocessen

(The Boyer Commission, 1998)

I am neither especially clever nor especially gifted. I am only very, very curious.

- Albert Einstein

Research Skill Development Framework

For educators to facilitate the explicit, coherent, incremental and cyclic development of the skills associated with researching, problem solving, critical thinking and clinical reasoning

Students' Autonomy when Researching

	Prescribed Researching	Bounded Researching	Scaffolded Researching	Open-ended Researching	Unbounded Researching
Embark & Clarify What is our purpose? Students respond to or initiate research & clarify what knowledge is required, considering ECST issues.	Highly structured directions and modeling from educator prompt researching, in which...	Boundaries set by and limited directives from educator channel researching, in which...	Scaffolds placed by educator shape independent researching, in which...	Students initiate research and this is guided by the educator...	Students determined guidelines for researching that are in accord with discipline or context...
Find & Generate What do we need? Students find & generate needed information/data using appropriate methodology.	Students respond to questions/tasks arising explicitly from a closed inquiry. Use a provided structured approach to clarify questions, terms, requirements, expectations & ECST issues.	Students respond to questions/tasks required by & implicit in a closed inquiry. Choose from several provided structures to clarify questions, terms, requirements, expectations & ECST issues.	Students respond to questions/tasks generated from a closed inquiry. Choose from a range of provided structures or approaches to clarify questions, requirements, expectations & ECST issues.	Students generate questions/aims/hypotheses framed within structured guidelines. Anticipate & prepare for ECST issues.	*Students generate questions/aims/hypotheses based on experience, expertise and literature*. Dive into and prepare for ECST issues.
Evaluate & Reflect What do we trust? Students determine the credibility of sources, information & data, & make own research processes visible.	Students collect & record required information/data using a prescribed methodology from a prescribed source in which the information/data is evident.	Students collect & record appropriate information/data using given methodology from pre-determined sources where information/ data is not obvious.	Students collect & record appropriate information/data from self-selected sources using one of several provided methodologies.	Students collect & record self-determined information/ data choosing an appropriate methodology based on parameters set.	Students collect and record information/ data from self-selected sources, choosing or devising an appropriate methodology with self-structured guidelines.
Organise & Manage How do we arrange? Students organise information & data to reveal patterns/themes, managing teams & processes.	Students evaluate sources/ information/ data using simple prescribed criteria to specify credibility & to reflect on the research process.	Students evaluate sources/ information/ data using a choice of provided criteria to specify credibility & to reflect on the research process.	Students evaluate sources/ information/ data & inquiry process using criteria related to the aims of the inquiry. Reflect insightfully to improve own processes used.	Students evaluate information/ data & the inquiry process using self-determined criteria developed within parameters given. Reflects to refine others' processes.	Students evaluate information/ data and inquiry process rigorously using self-generated criteria based on experience, expertise and the literature. Reflect insightfully to renew others' processes.
Analyse & Synthesise What does it mean? Students analyse information/ data critically & synthesise new knowledge to produce coherent individual/team understandings.	Students organise information/ data using prescribed structures. Manage linear process provided (with pre-specified team roles).	Students organise information/data using a choice of given structures. Manage a process which has alternative possible pathways (i.e. specify team roles).	Students organise information/data using self-determined processes (including team function) with multiple possible pathways.	Students organise information/data & the inquiry process using self-determined structures, & manage the processes (including team function) within the parameters set.	Students organise information/data and management of processes (including team function).
Communicate & Apply How will we relate? Students discuss, listen, write, respond to feedback & perform the processes, understandings & applications of the research, heading ECST issues and needs of audiences.	Students interpret given information/ data & synthesise knowledge into prescribed formats. Give patterns. *Ask emergent questions of clarification/curiosity*.	Students interpret several sources of information/ data & synthesise to integrate knowledge into standard formats. *Ask emergent, relevant & researchable questions*.	Students analyse trends in information/ data & synthesise to fully integrate component parts in structures appropriate to task. *Ask relevant, researchable questions based on new understandings*.	Students analyse information/ data & synthesise to fully integrate components, consistent with parameters set. Fill knowledge gaps that are stated by others.	Students analyse and synthesise abstract knowledge that addresses self-or-group-identified gaps in understanding.
Research	Students communicate with each other and relate their understanding throughout set task. Use prescribed genre to develop and demonstrate understanding to a prescribed audience. Apply to a similar context the knowledge developed. Follow prompts on ECST issues.	Students use prescribed genre to develop & demonstrate understanding to a pre-specified audience. Apply the knowledge developed to a similar context & follow prompts on ECST issues.	Students use some discipline-specific language & prescribed genre to demonstrate understanding from a stated perspective & for a specified audience. Apply to several similar contexts the knowledge developed & specify ECST issues.	Students use discipline-specific language & genres to demonstrate scholarly understanding for a specified audience. They apply the knowledge developed to diverse contexts and specify ECST issues in initiating, conducting & communicating.	Students use appropriate language and genres to evidence the knowledge of a range of audiences. Apply innovatively the knowledge developed to multiple contexts. Probe and specify ECST issues that emerge broadly.

What distinguishes the move from 'assist' to 'research' is gathering more information and responding more flexibly & innovatively to 'gathered' research in what discipline context it all allows for, time and skills.

Research Skill Development (RSD), a conceptual framework for Primary Science in PhD, developed by John Willison and Kerry O'Regan, with much training by Eleanor Peake and Maria Reid. October 2006, revised March 2016. Based on an NZSL (2006) Standards & Bloom et al. (1998) taxonomy. Used at University of Waikato by SOU teachers (Baker, Cook, 1982). Fostering researchable questions that require a high degree of guidance and modeling for students, resulting in their solving that. Done. Having been missing, the research has been added. The sk...
Revised and often used directly with students as a 'learning model' (Baker & Peake 2008). The conceptual framework reflects discipline knowledge research. Framework, resources and references available at www.rsd.edu.au. Information: john.willison@waikato.ac.nz



Fordele (Hansen et al, 2017; Willison & O'Regan, 2007)

For os som forskere/ undervisere

- Får mere tid til andre ting
 - Får lettere adgang til en større mængde data
 - Forøget mulighed for at publicere – forskning såvel som udvikling/ formidling
 - Bliver tvunget til at være eksplicitte
 - Mht. formidling – hvad er det vi ønsker de studerende skal fokusere på?
 - Mht. forventninger – hvad forventer vi?
- Vi bliver bedre til at vejlede



Fordele (Hansen et al, 2017; Willison & O'Regan, 2007)

For dem som studerende

- Noget på CV'et → Deres Ph.D. chancer forsøges og tiden reduceres (Bauer & Bennett, 2003)
- Udvikler færdigheder på et højt kvalificerede niveau
 - Får udviklet både generelle kognitive og personlige egenskaber og færdigheder
 - Udvikling af både proces og produkt-færdigheder
- Forøget engagement
 - 'Joy', 'Wonderful', bedre forståelse, dybere læring, akademisk tilfredsstillelse



Udfordringer

- Krav til **projektet**
 - Autencitet, relevans, bidrag til eksisterende viden
 - Skal have et klart formål/ en klar problemstilling
- For **os som forskere/ undervisere**
 - Det tager tid at kvalificere de studerende
 - At vi vejleder mere end vi underviser
 - Kan være vanskeligt at højne udbyttet
 - Kræver veludviklede færdigheder
 - Deres eller vores forskning? Et spørgsmål om engagement og udbytte af data.
- For **dem som studerende**
 - Mangler 'næsen for nyheder'
 - Er de vidende nok?
 - Nysgerrighed og proces fremfor produkt og slutmål
 - Er de kritiske nok?
 - Arbejder meget instrumentalistisk
 - Er de fleksible nok?
 - Har de tid nok??

Open-ended Researching	Unbounded Researching
Students initiate research and this is guided by the educator...	Students determined guidelines for researching that are in accord with discipline or context...
<i>Students generate questions /aims/ hypotheses framed within structured guidelines".</i> Anticipate & prepare for ECST issues.	<i>"Students generate questions/aims/ hypotheses based on experience, expertise and literature".</i> Delve into and prepare for ECST issues.
Students collect & record self-determined information/ data choosing an appropriate methodology based on parameters set.	Students collect and record information/ data from self-selected sources, choosing or devising an appropriate methodology with self-structured guidelines.
Students evaluate information/data & the inquiry process using self-determined criteria developed within parameters given. Reflects to refine others' processes.	Students evaluate information/data and inquiry process rigorously using self-generated criteria based on experience, expertise and the literature. Reflect insightfully to others' processes.
Students organise information/data using self-determined structures (management of processes team function) within parameters set.	Students organise information/data from self-determined structures (management of processes team function).
Students analyse information/data & synthesise to full components, considering parameters set. Fill knowledge gaps through by others.	Students analyse information/data and synthesise to full components that generalise or addresses gaps in



➔ Det er hårdt arbejde BÅDE for de studerende og for vejleder

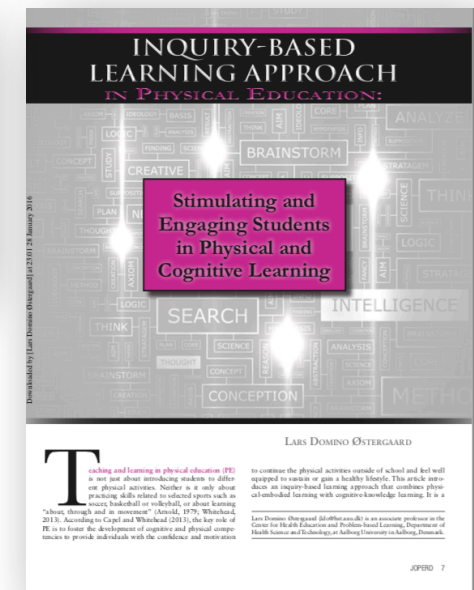


TO EKSEMPLER PÅ INVOLVERING AF STUDERENDE



Eks på involvering #1

Eksisterende forskning i nye rammer



- Undersøgelserbaseret idrætsundervisning
 - Udført på UCN i samarbejde med Poul Ravn Stidsen
 - Et af slutspørgsmålene er, om det kan lade sig gøre at gennemføre et forløb i folkeskolen.
- 4. semesterprojektmodul, idrætsuddannelsen, AAU:
 - ”Formidling, læring og didaktik i idræt” → seks ugers intervention på en folkeskole
 - Overtalelse → Ejerskab
 - Indblik i UBL og Fælles Mål i 6. klasse
 - Min rolle: *MEGET* engageret vejleder
 - **Dataindsamling:**
 - Videoptagelser
 - Interview
 - **Udfordring:**
 - 40+ elever i to sale
 - informanter på 11-12 år
 - Observationer og interview udført af 4. sem stud/ manglende erfaring
 - Billeder
 - Feltnoter



Eks på involvering #1

Eksisterende forskning i nye rammer

Billeder fjernet pga. pladsmangel



Eks på involvering #2

Supplerende data til igangværende forskningsprojekt

- Hvilke former for fysisk aktivitet forekommer i eleveres skoletid?
- Indtil videre:
 - Skole 1/ Aalborg Øst
 - Skole 2/ Aalborg Vest
- Fokus på eleveres aktivitet i den almindelige skolehverdag
 - To bachelorprojekter, et specialeprojekt
- Interventionsprojekter: Anvendes af de forskellige former for aktiviteter
 - 8. semester projekt, et specialeprojekt



RESEARCH PROGRAM

2017 SHAPE America National Convention and Expo, Boston, MA

An ^F denotes Fellow status in SHAPE America as of December 2016.

Tuesday, March 14, 2017

8:00 a.m. – 10:00 a.m.

Oral Session: Teaching and Learning—Training Opportunities

Research abstracts related to teaching and learning. Each abstract will be delivered by the presenting author for 12–15 minutes with a Q&A to follow.

Enhancing Sporting Behavior in Sport Education Through an Intervention Program
Benjamin M. Schwamberger and Matthew D. Curtner-Smith, Minnesota State University-Mankato (schwamy_32@yahoo.com)

The Influence of Pedagogical Content Knowledge on the Throwing Performance
Seung Ho Chang, San Jose State University; Phillip Ward, and John P. Schary, The Ohio State University (seungho.chang@sjsu.edu)

A Taxonomy of Physical Activities in School
Lars Domino Oestergaard, Aalborg University (ldo@st.aau.dk)

El-Sherif, Salem State University; and Neutzling, Bridgewater State University (aqallo@salemstat.edu)

Changes of State Physical Education Teacher Professional Development Requirements 2006–2016
Jeffrey Allan Colburn, Rulan Shangquan, Xiaofen Keating, University of Texas (Austin) (jcolburn@gmail.com)

A Comparison of Content Trained and Experienced Teachers' Teaching Practices
Insook Kim, Kent State University; and B. Ko, East Carolina University (ikim2@kent.edu)

Designing Badminton Course to Improve Content Knowledge of Preservice Teachers
Erhan Devrilmez and Mustafa Levent Ince, Eastern Technical University (erhandevrilmez@gmail.com)

Demographic Characteristics of Physical Education Teacher Education Faculty
Kim C. Graber and Chad M. Killian, University of Illinois at Urbana-Champaign; Jesse B. Woods, University of North Dakota; and Amelia Kyraber, University of Illinois at Urbana-Champaign (kgraber@illinois.edu)

Physical Knowledge With Physical Education High

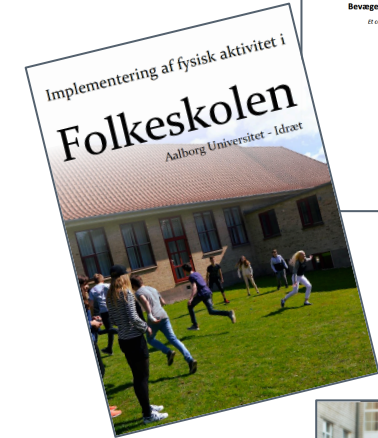
Mandatory teacher-organized physical activity	Physical education	Counts/min > 3200 MVPA MET 3-6+
	Other mandatory physical activity	Counts/min > 3200 MVPA MET 3-6+
Mandatory teacher-organized movement-orientated activity in lessons	Relevant to the taught subject	Counts/ min 100-5500 LMPA MET 0-6
	Supportive for the taught subject	Counts/ min 100-5500 LMPA MET 0-6
	No relevance for the taught subject	Counts/ min 100-5500 LMPA MET 0-6
Voluntarily organized physical activity	Recess	Counts/ min 0→ Sedentary to vigorous PA MET 0-6+



Eks på involvering #2

Supplerende data til igangværende forskningsprojekt

- Min rolle
 - Mit oplæg → deres projekt; med eller uden intervention
 - Disk af former for fysisk aktivitet
 - Min 'gevinst'
 - Supplerende optagelser til det jeg allerede havde *måske endog mere autentiske*
 - Elevkommentarer til de forskellige former for fysisk aktivitet, jeg har identificeret
- Udfordringer
 - Optager, redigere, klipper ...
 - Periodevise optagelser
 - Inadækvate interviews
 - Pålidelighed og gyldighed som parameter??



Spørgsmål

- Erfaringer fra andre?
- Hvordan sikre vi os at data er pålidelige og troværdige?
- Etik i at bruge ikke-forskeruddannede til selvstændigt at indsamle data!
- Hvad med videnskabelig redelighed?
- Hvor meget styring kan/ skal de studerende have i processen?
- Tjener vi det ind på gyngerne som vi har mistet på karrusellerne?
... eller er det skønt spildt arbejde??

???

???

???

???

???

???

???



Referencer

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- The Boyer Commission on Educating Undergraduates in the Research University. (1998). *Reinventing undergraduate education: A blueprint for America's research universities*. Stony Brook: New York. Retrieved September 29, 2005, from <http://niles.cc.sunysb.edu/Pres/boyer.nsf/>
- Willison, J., & O'Regan, K. (2007). Commonly known, commonly not known, totally unknown: a framework for students becoming researchers. *Higher Education Research & Development*, 26(4), 393-409.

Tak for jeres
deltagelse

