

UNIVERSITETET I OSLO

LA Modellen og MATNAT

Tor Ole Odden
Center for Computing in Science Education

STUT Møte
27 April, 2022



Aktiv læring: Ikke alltid så lett!

UiO har som mål at undervisningen skal være mer **aktiv og studentsentrert**

Dette kan være **vanskelig** å oppnå når man jobber **alene!**



Læringsassistentmodellen

LA modellen: En modell der emner transformeres slik at studentene møter aktiv læring

Læringsassistenter: Studenter som er...

- Erfarne i sitt fag
- Pedagogisk skolert
- Ansatt til å fasilitere aktiv læringsaktiviteter

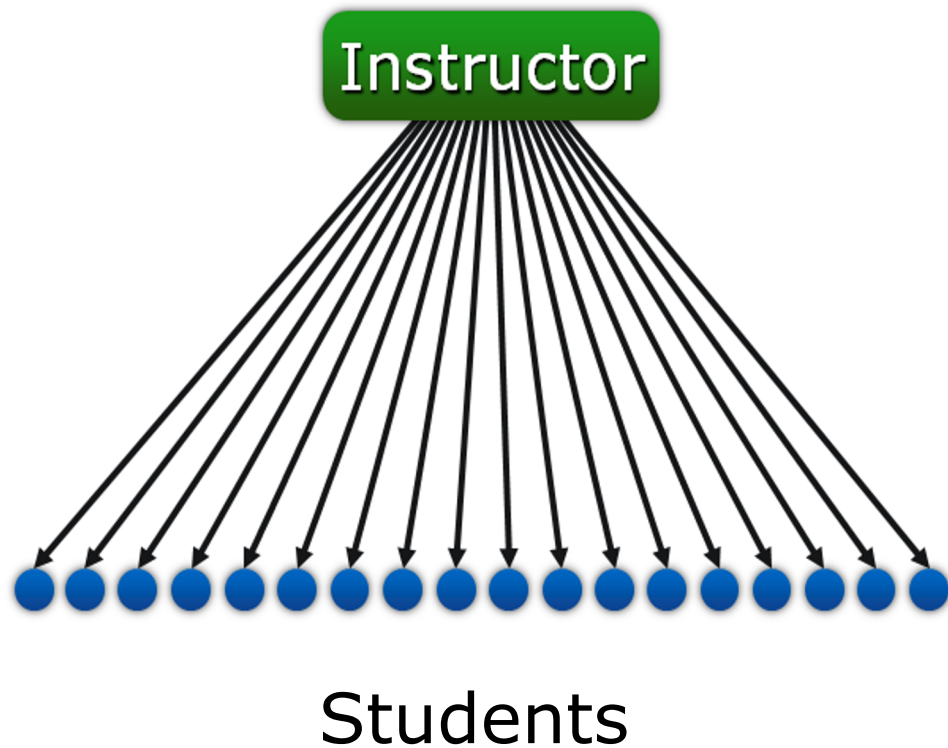


University of Colorado
Boulder

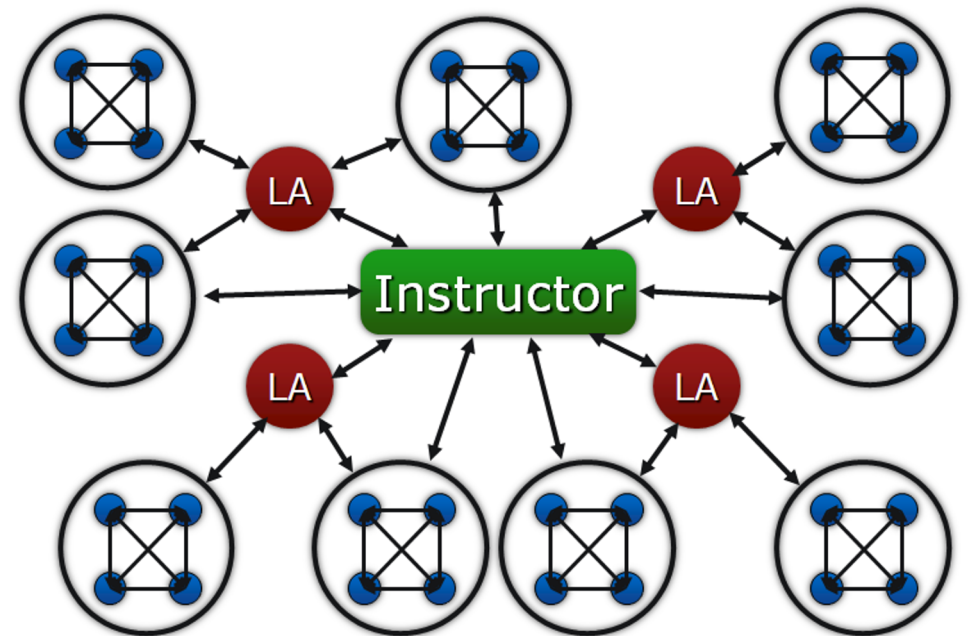


Hvordan "transformeres" emnene?

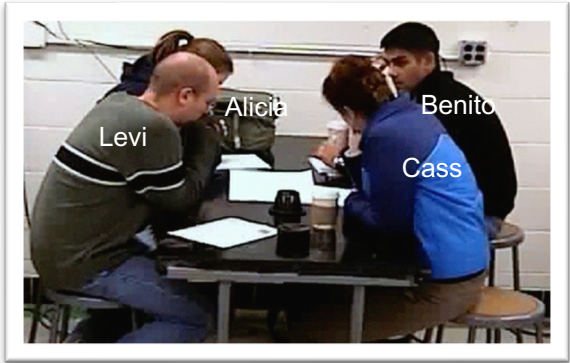
Tradisjonelt



Transformert



Essensielle elementer i LA-modellen



Praksis
Lede aktiviteter i miljøer der aktiv læring skjer



Innhold
Ukentlige møter med emneansvarlig

Pedagogikk
Ukentlige seminarer i pedagogikk



Biology LAs discuss a work packet to be implemented in a future class during their weekly prep meeting
Photo from University of Colorado Boulder

Two Approaches to Learning Physics
"I look at all those formulas..."
"I'm trying to imagine..."
By David Hammer

Efforts to understand student misconceptions and difficulties in learning physics generally involve analysis of how students reason about the material. Usually this involves observing students learning and working on problems in some specific area such as one-dimensional kinematics, the concept of acceleration, or elementary dynamics. Often I mean comparing novice reasoning with that of experts, or with some ideal model of productive reasoning.

Such analysis is indispensable. It helps teachers design courses by providing information about students and directions on what concepts of instruction might be expected or desired. However, novice student reasoning is not how students reason about physics, it is also important to understand how the students reason about physics.

Students have preconceptions, not only about physical phenomena, but also about schools and learning and about the discipline of physics itself. For some, much of the difficulty may arise out of very general misconceptions of what physics is and how to approach it. For example, if some students conceive of physics as a collection of formulas and formulas, it may occur to them to pay attention to memorizing formulas. They may work in a manner we think of as rote learning, not because they are disinterested or unmotivated, but because that is what they think the subject entails. Moreover, it may be that introductory courses inadvertently support such misconceptions. The habit of physics formulas, for example, may be supported by the practice of presenting tables of formulas for use in problem solving.

There are not new ideas. The notion of a "hidden curriculum" of instruction being understood differs on how students learn, has long been an issue in education. Workman¹ was concerned with the danger that a didactic and practice method of instruction "mechanizes the mind and less procedures that change the form and sensible manner of education. Perry attacked the development of college students' approach to learning. He delineated steps that progressed, namely speaking, from those at which students expect teachers to provide absolute truths, to them involving personal contribution to some point of view among many. Perry's work was concerned primarily with liberal arts, but the progression from acceptance of authority to judgment from one's own perspective could also be relevant to physics learning.

More recently, Schwab² involved a high school math class, listing a series of epistemological beliefs about mathematics supported by the style of teaching and evaluation.



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64 THE PHYSICS TEACHER DECEMBER 1999

UiO MATNAT LA Team



UiO MATNAT LA Program Implementation

Fall 2018	Spring 2019	Fall 2019	Spring 2020	Fall 2020
Physics Math	Physics	Physics Math	Physics Math	Physics Math Chemistry
Spring 2021	Fall 2021	Spring 2022		
Physics Math Chemistry	Physics Math Chemistry	Physics Math Chemistry Biosciences		

1. Weekly pedagogy seminars
2. Weekly course meetings
3. Development of active learning materials (KURT)

Veien videre...

Spring 2022	...	??? 202X
Physics Math Chemistry Biosciences	...	Physics Math Chemistry Biosciences Astrophysics Informatics Geosciences Pharmacy ...more?



+



UiO LA Workshop, 9-10 juni



Sign up now!

Nordic Regional Learning Assistant Workshop

Do you want to learn how to partner with students to bring active learning methods into your teaching? Join us for the Nordic Regional Learning Assistant (LA) Workshop!

Tid og sted: 9. juni 2022 09:00–10. juni 2022 15:00, Location at Blindern to be decided

[Legg til i kalender](#)

Background

Learning assistants (LAs) are students trained to facilitate learning activities to support less experienced students in their learning. LAs work closely with faculty as part of the instructional team, providing faculty with important insights about their students' learning.

Since 2018 the Center for Computing in Science Education (CCSE) and LINK - Centre for Learning, Innovation and Academic Development have worked to integrate Learning Assistants into courses and programs across UiO.



Forskning på LA Modellen



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A scoping review of literature assessing the impact of the learning assistant model



Anthony P. Barrasso* and Kathryn E. Spilios

Abstract

Much of modern education reform is focused on implementation of evidenced-based teaching, but these techniques are sometimes met with trepidation from faculty, due to inexperience or lack of necessary resources. One near-peer teaching model designed to facilitate evidenced-based teaching in Science, Technology, Engineering, and Mathematics classrooms is the Learning Assistant (LA) model. Here, we describe the details of the LA model, present a scoping review of literature using the four original goals of the LA model as a framework, and suggest future areas of research that would deepen our understanding of the impact that the LA model may have on education. We summarize how the LA model improves student outcomes and teacher preparation and identify a relative deficiency of literature that addresses how the LA model impacts faculty and departmental/institutional change. Additionally, of the 39 papers reviewed, 11 are strictly pre-experimental study designs, 28 use quasi-experimental design or a combination of quasi and pre-experimental, and none of them included a true experimental design. Thus, we conclude that current studies suggest that LA model positively impacts education, but more refined assessment would improve our understanding of the model. Furthermore, despite the encouraging research on the impact of the LA model and the proliferation of LA programs at institutions across the world, the study of the LA model has been, for the most part, limited to a small group of education researchers. Therefore, a major objective of this review is to introduce the LA model to a new group of instructors and researchers who can further our understanding of this promising model.

Keywords: Learning assistant, Near-peer, Curriculum reform, Institutional change, Peer instruction

Near-peer instruction and the Learning Assistant model

For decades, near-peer teaching has been implemented to supplement education from faculty instructors (Whitman & Fife, 1988). In the literature, there are many examples of near-peer teaching including peer-assisted learning, team-based learning, peer tutoring, education through student interaction, peer mentoring, supplemental instruction, and peer-led team learning (Evans & Cuffe, 2009; Lockspeiser, O'Sullivan, Teherani, & Muller, 2008; ten Cate & Durning, 2007; Williams & Fowler, 2014). However, the central concept of near-peer teaching is consistent: students helping other students learn. Often the near-peer instructor is a student who has

recently passed the course and they interact with students during regular class time, which distinguishes near-peer instruction from small group learning and remedial tutoring models. Importantly, the role of a near-peer instructor is distinct from that of a Teaching Assistant (TA), who may aid instructors in their responsibilities as teachers (i.e., grading, evaluation, preparing assignments). In contrast, near-peer instructors work as aides to students in their responsibilities as learners.

The benefits of near-peer teaching in general have been demonstrated among medical and nursing students, where near-peer instructors create supportive learning environments and improve grades (Evans & Cuffe, 2009; Irvine, Williams, & McKenna, 2018; ten Cate, van de Vorst, & van den Broek, 2012; Williams & Fowler, 2014). Two specific models of near-peer

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Takk for meg!

