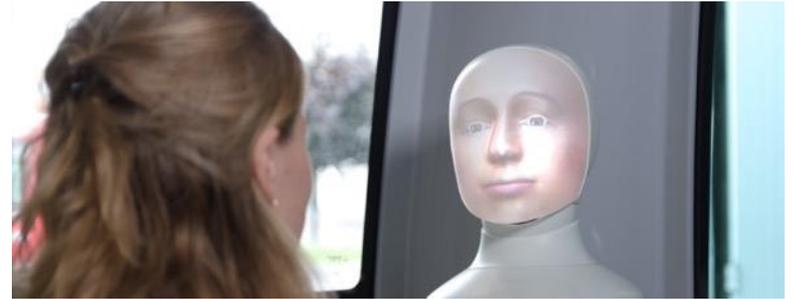


**Spotlight seminar 2022-05-06**  
Stefan Stenbom, [stkn@kth.se](mailto:stkn@kth.se)





# Short background...

- Master of Science in Engineering and of Education from KTH and SU (first cohort).
- Educational developer at KTH Learning Lab (Math coach, Media production, online courses)
- Doctoral student.
- Lecturer working with courses, research, KTH E-learning.
- Operational leader for emergency remote teaching during the Covid-19 pandemic.
- Associate professor.





# Current research portfolio

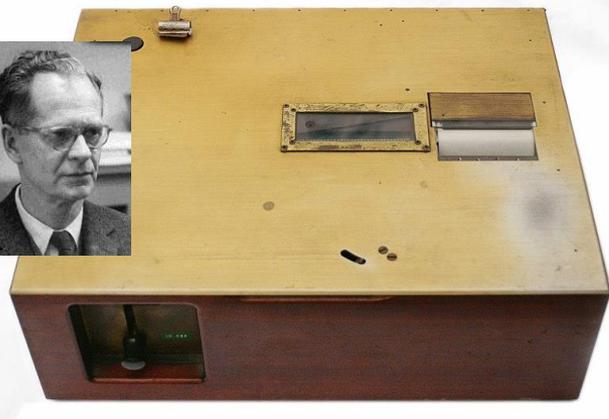
- Establish Research and Development embedded in KTH's digital transformation of education.
  - Strategy for development of culture and organization for the digital distance education area (funded by UHR).
  - Digital development of primary schools in socially underprivileged areas (funded by Wallenberg).
  - Hybrid education and meetings in folk high schools and study associations (funded by Bildningsförbundet).
  - Book: *The Design of Digital Learning Environments: Online and Blended Applications of the Community of Inquiry.*
-



**A brief historical look back... before we talk about the future..**

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# Computers in schools



[https://en.wikipedia.org/wiki/File:Skinner\\_teaching\\_machine\\_01.jpg](https://en.wikipedia.org/wiki/File:Skinner_teaching_machine_01.jpg)



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[https://upload.wikimedia.org/wikipedia/commons/e/e1/Correspondence\\_School\\_-\\_Among\\_the\\_State\\_Correspondence\\_School\\_pers\\_the\\_mailman\\_has\\_brought\\_to\\_Bill%27s\\_country\\_home\\_in\\_NSW%2C\\_is\\_the\\_latest\\_edition\\_of\\_the\\_school\\_magazine\\_-\\_%2814734947399%29.jpg](https://upload.wikimedia.org/wikipedia/commons/e/e1/Correspondence_School_-_Among_the_State_Correspondence_School_pers_the_mailman_has_brought_to_Bill%27s_country_home_in_NSW%2C_is_the_latest_edition_of_the_school_magazine_-_%2814734947399%29.jpg)



# Open/distance education

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[http://commons.wikimedia.org/wiki/File:Queensland\\_State\\_Archives\\_2986\\_A\\_School\\_of\\_the\\_Air\\_primary\\_student\\_in\\_regional\\_Queensland\\_takes\\_class\\_via\\_two\\_way\\_radio\\_c\\_1960.png](http://commons.wikimedia.org/wiki/File:Queensland_State_Archives_2986_A_School_of_the_Air_primary_student_in_regional_Queensland_takes_class_via_two_way_radio_c_1960.png)



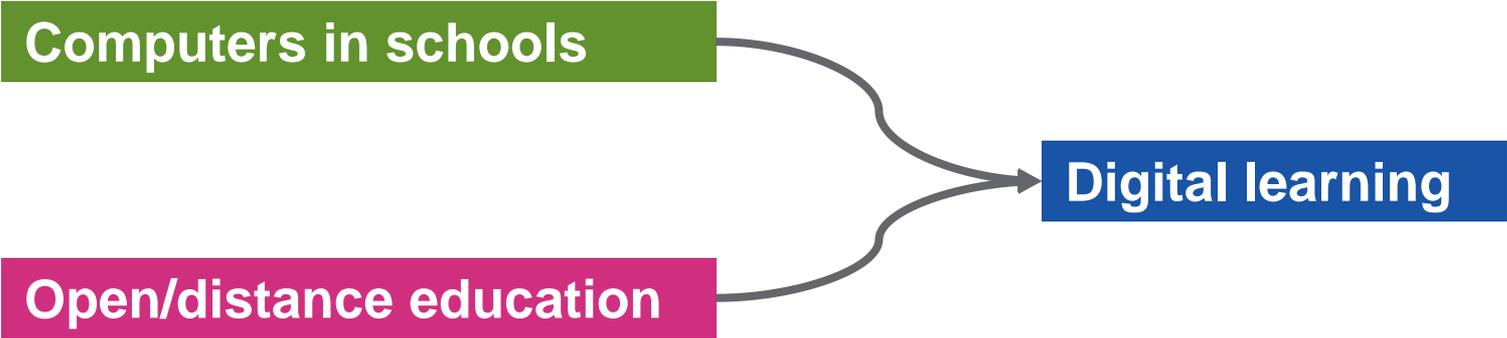
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**Computers in schools**

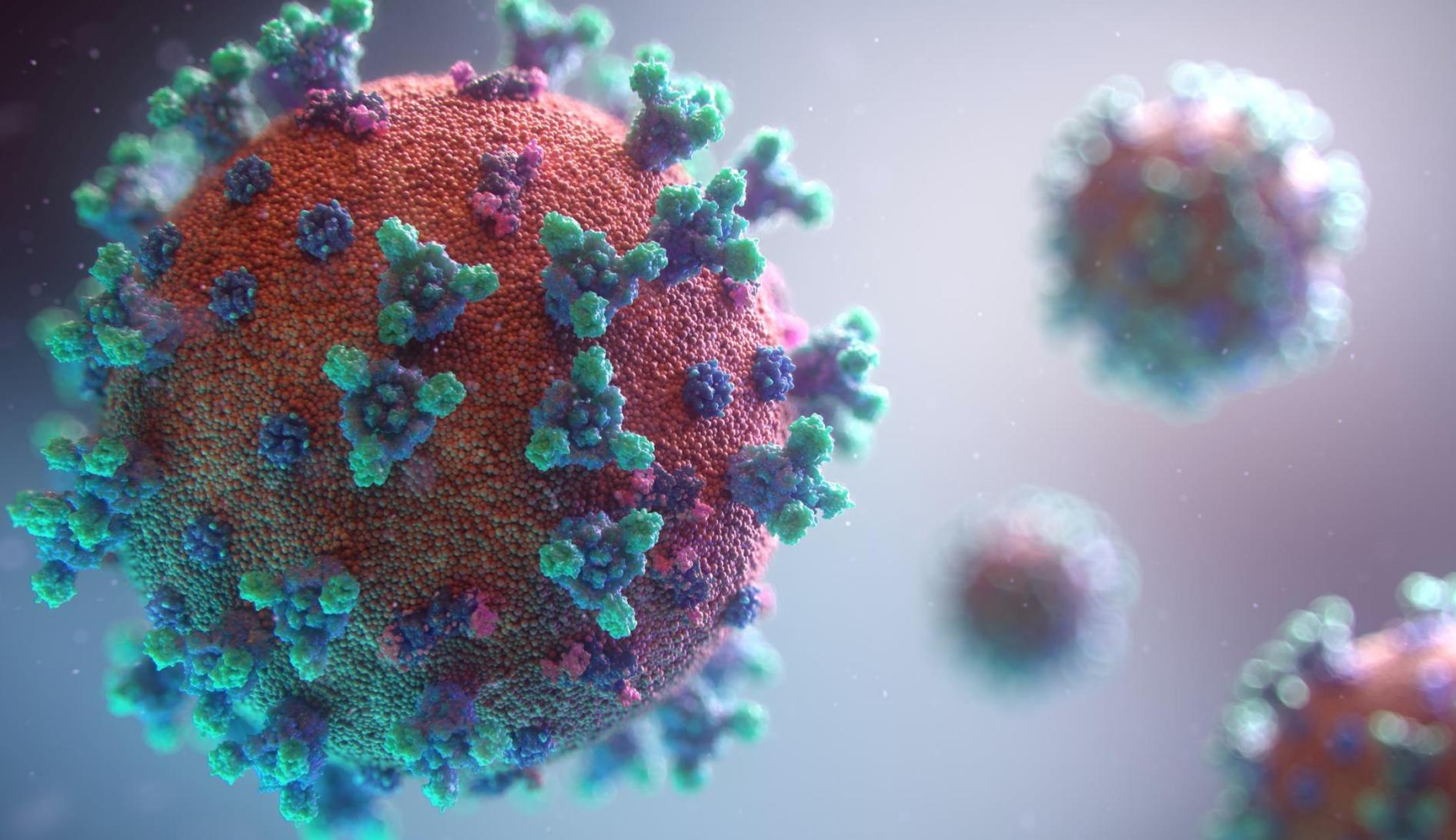
**Open/distance education**

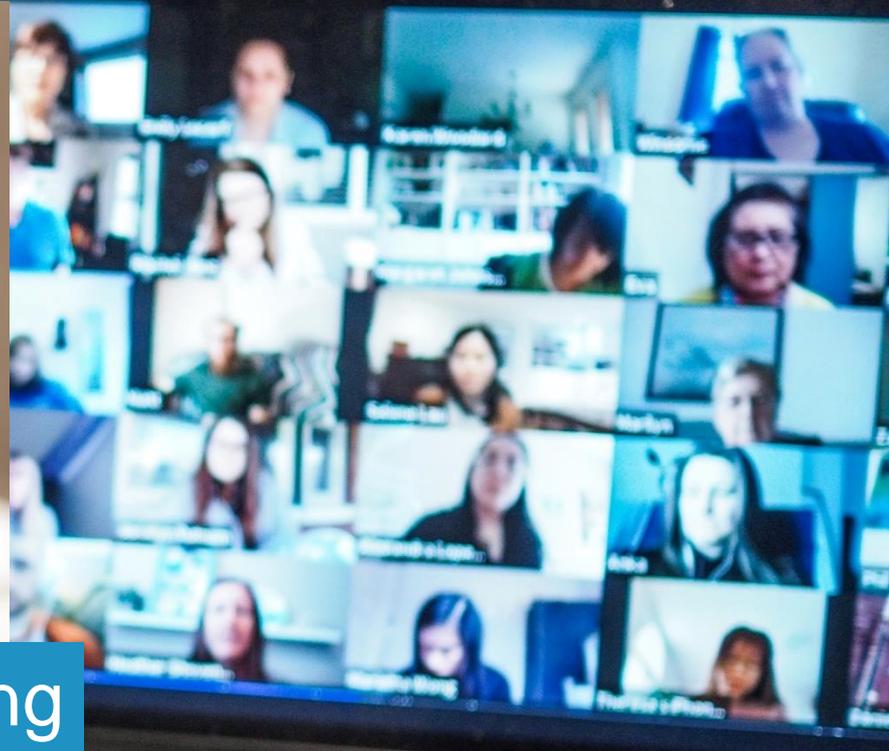


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graph LR; A[Computers in schools] --> C[Digital learning]; B[Open/distance education] --> C;
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**Digital learning**

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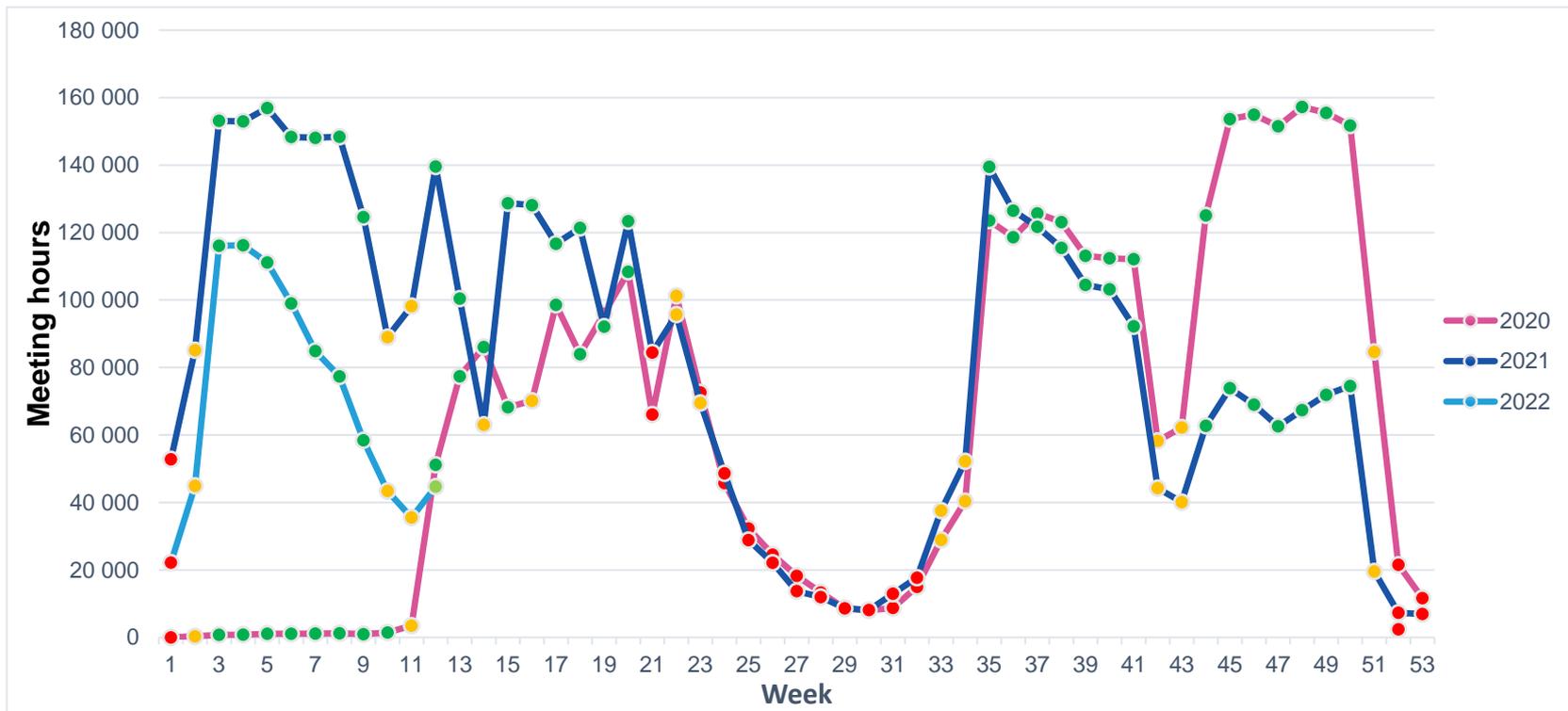
# Emergency remote teaching

Bozkurt, A. S., Ramesh C. . (2020). Emergency remote teaching in a time of global crisis due to CoronaVirus pandemic. *Asian Journal of Distance Education*, 15(1), i-iv. <https://doi.org/10.5281/zenodo.3778083>

Hodges, C., Moore, S., Lockee, B., Trust, T., & Bond, A. (2020). The Difference Between Emergency Remote Teaching and Online Learning.

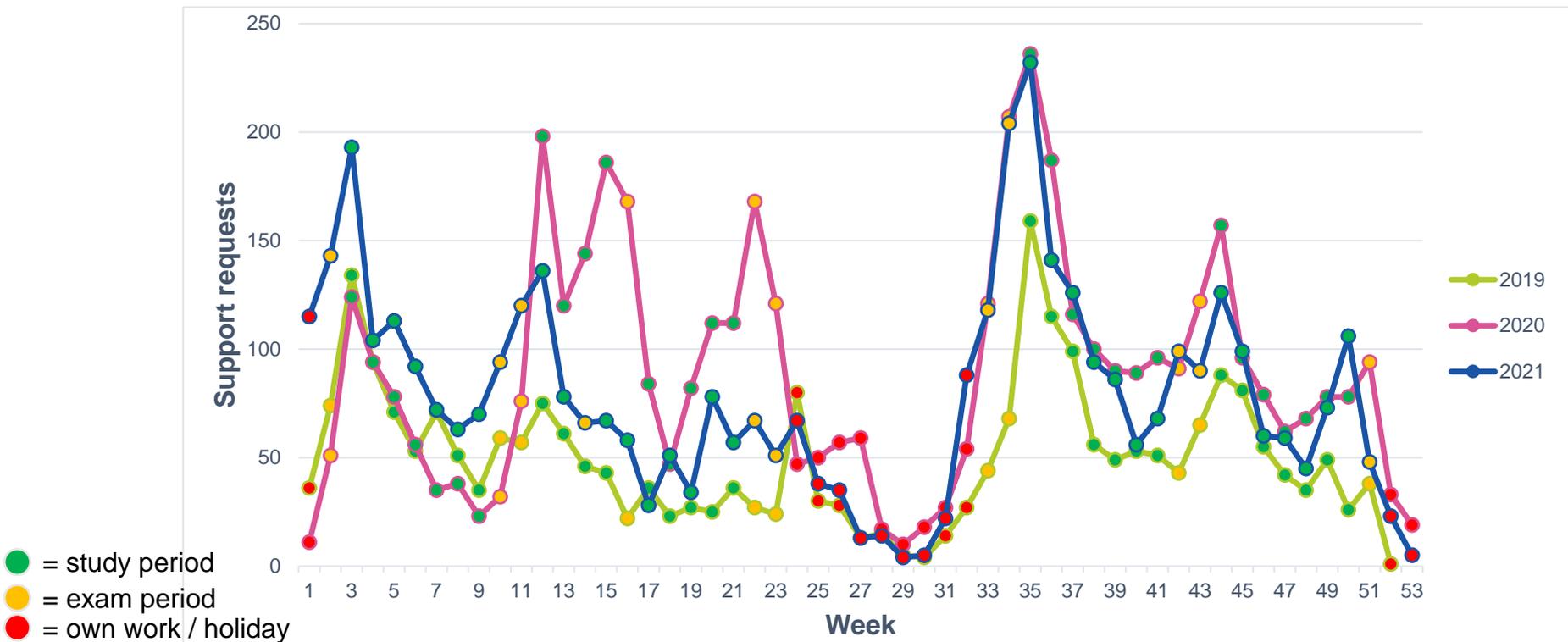
Adedoyin, O. B., & Soykan, E. (2020). Covid-19 pandemic and online learning: the challenges and opportunities. *Interactive Learning Environments*, 1-13. <https://doi.org/10.1080/10494820.2020.1813180>

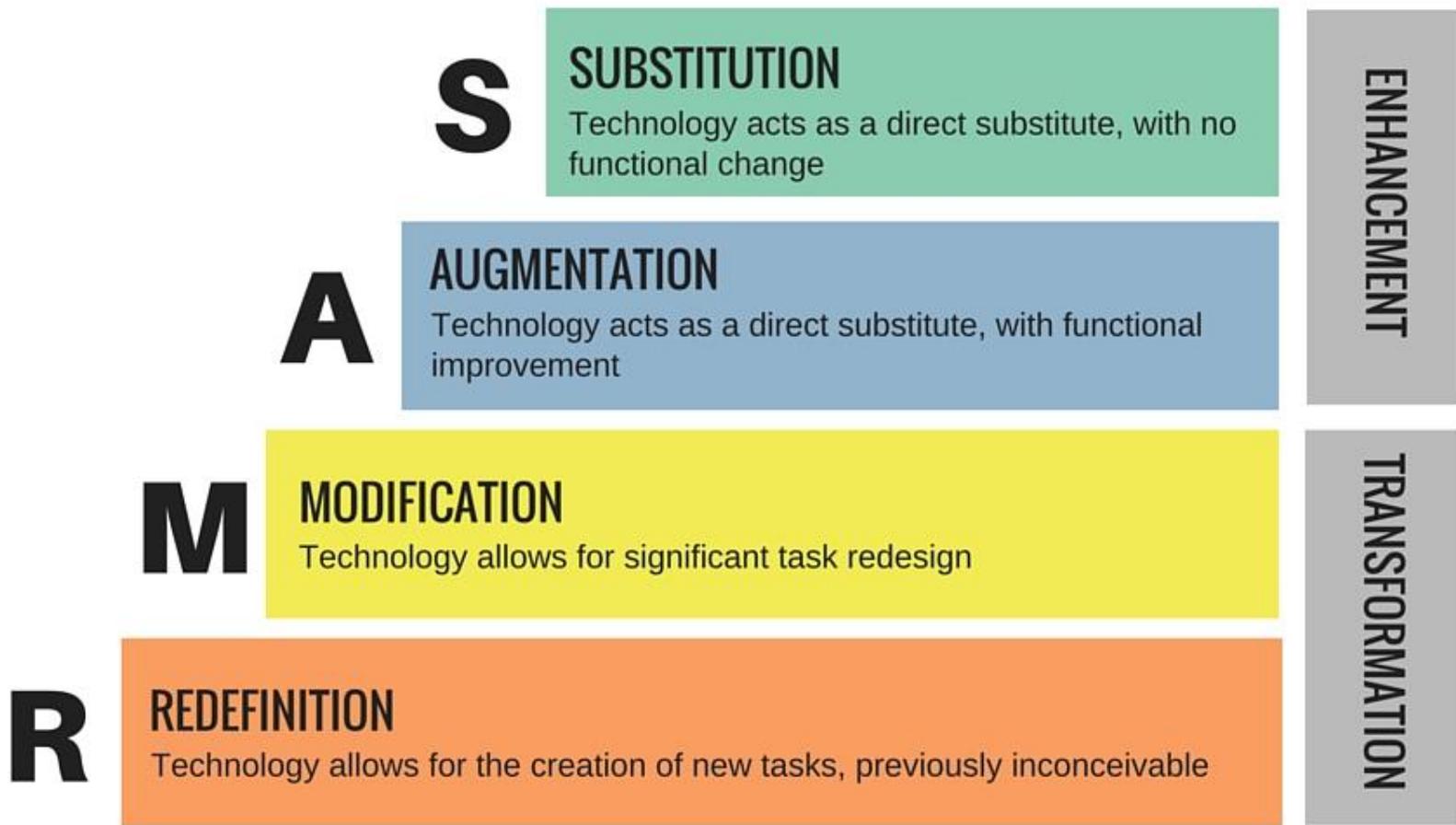
# Zoom meeting hours



- = study period
- = exam period
- = own work / holiday

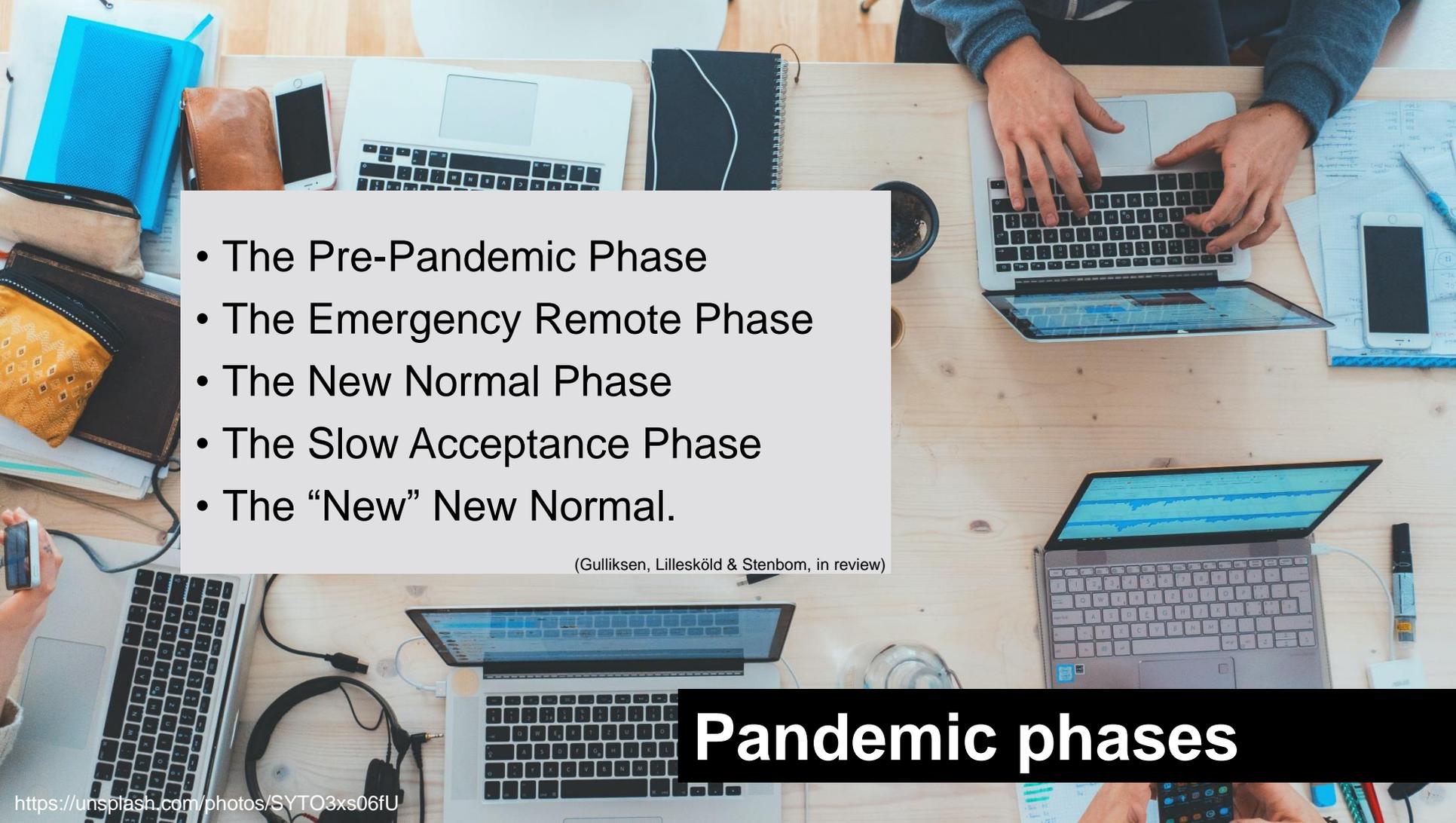
# Support requests





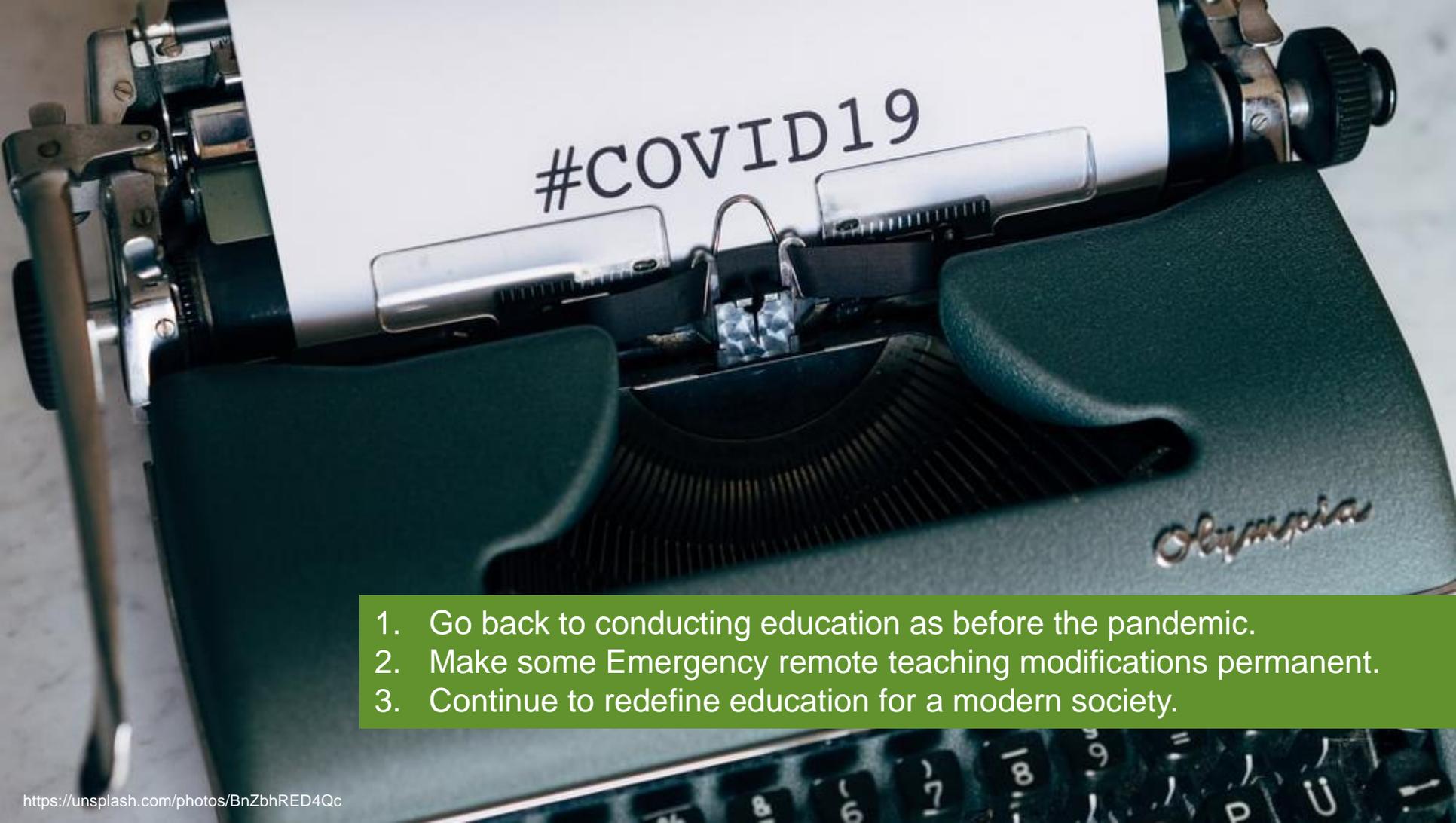


- Large scale
- Using substitution or augmentation

- 
- The Pre-Pandemic Phase
  - The Emergency Remote Phase
  - The New Normal Phase
  - The Slow Acceptance Phase
  - The “New” New Normal.

(Gulliksen, Lillesköld & Stenbom, in review)

# Pandemic phases



#COVID19

1. Go back to conducting education as before the pandemic.
2. Make some Emergency remote teaching modifications permanent.
3. Continue to redefine education for a modern society.

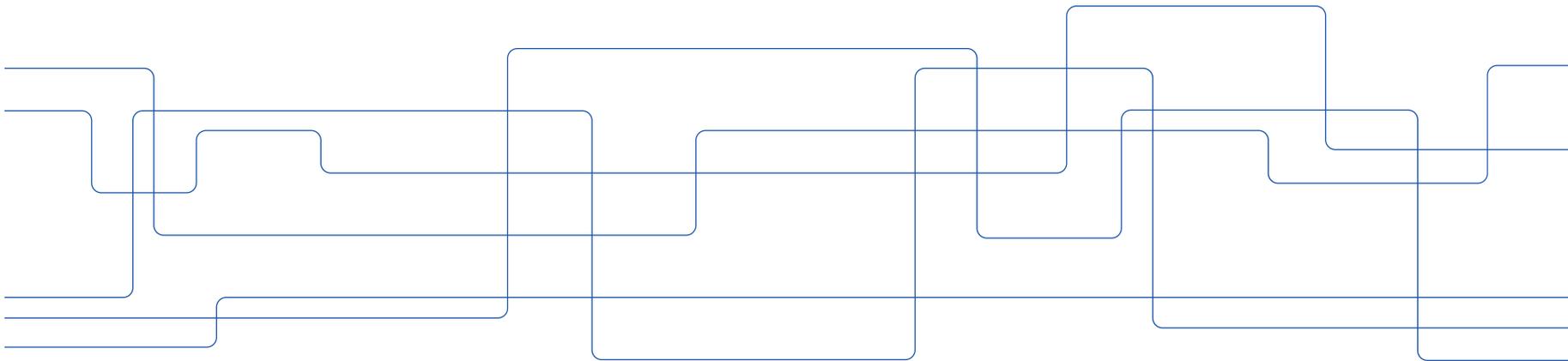






# Introduction to the Community of Inquiry (CoI) framework

Stefan Stenbom, Ph.D., [stkn@kth.se](mailto:stkn@kth.se)





# My personal rationale for interest in Col

- Easy to get a feeling for at first glance.
- Very complex underneath.
- The framework is very popular.
- There is still much room for improvement (this is not a perfect framework).
- The opportunity to work or engage with most of the influential scholars in the field.





## Critical Inquiry in a Text-Based Environment: Computer Conferencing in Higher Education

D. RANDY GARRISON  
TERRY ANDERSON  
WALTER ARCHER  
University of Alberta, Edmonton, Alberta, Canada

The purpose of this study is to provide conceptual order and a tool for the use of computer-mediated communication (CMC) and computer conferencing in supporting an educational experience. Central to the study introduced here is a model of community inquiry that conditions three elements essential to an educational transaction—cognitive processes, social presence, and teaching presence. Indicators (keys) would present for each of the three elements emerged from the analysis of computer-conferencing transcripts. The indicators described represent a template or tool for researchers to analyze written transcripts, as well as a guide to educators for the optimal use of computer conferencing as a medium to facilitate an educational transaction. This research would suggest that computer conferencing has considerable potential to create a community of inquiry for educational purposes.

The use of computer-mediated communication (CMC) is becoming increasingly common in higher education. Many higher education institutions are looking to CMC, particularly computer conferencing, as a versatile medium for the delivery of educational programs "anytime, anywhere." While those who are leading the development of this new medium are convinced of its potential, its effects on the quality of the learning process and its outcomes have not been well studied. The authors are engaged in a multi-faceted study that will help to remedy this gap in our knowledge base. The present article is the keystone of a series of publications reporting the results of this ongoing research project.

This article lays out a conceptual framework that identifies the elements that are crucial prerequisites for a successful higher educational experience. These elements and their interrelationships are outlined briefly in this article. Other articles in this series will

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Garrison, D. R., Anderson, T., & Archer, W. (2000). Critical Inquiry in a Text-Based Environment: Computer Conferencing in Higher Education. *The Internet and Higher Education*, 2(2-3), 87-105. [https://doi.org/10.1016/s1096-7516\(00\)00016-6](https://doi.org/10.1016/s1096-7516(00)00016-6)



### A systematic review of the Community of Inquiry survey

Stefan Stenbom

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#### ARTICLE INFO

Keywords:  
Community of inquiry  
Col survey  
Systematic review

#### ABSTRACT

The purpose of this paper is to gain knowledge about the implementation and development of the Community of Inquiry survey. The paper describes a systematic review of peer-reviewed journal papers where the survey has been used to collect and analyze empirical data about a learning experience. A total of 103 journal papers published between 2004 and 2017 were reviewed to reveal the content, research design, and results obtained using the survey. These results specify that the Community of Inquiry survey provides results that are valid and reliable. The instrument has been used effectively to measure learning experiences and to compare different premises in many contexts. It is, however, necessary to expand the settings in order to make more general claims about the nature of online and blended learning.

#### 1. Introduction

The Community of Inquiry (CoI) introduced by Garrison, Anderson, and Archer (2000, 2001) is a theoretical framework developed to assess the process of learning in an online environment. The framework, which stems from the theoretical perspectives of Dewey (1916), Piaget (1951), and Lurida (2003) can be described as a "genre and coherent structure of a transactional educational experience where core functions in a complex and dynamic for thinking and learning collaboratively" (Garrison, 2017, p. 24). In the present, the CoI framework consists of three unique, interrelated elements: cognitive, teaching, and social presence. Cognitive presence outlines the process of learning, teaching presence the motivation and guidance of the inquiry, and social presence the human experience of learning. The three elements are often illustrated with the Venn diagram displayed in Fig. 1. For each element, several competencies are also identified to represent different aspects of the specified presence. For example, cognitive presence consists of a triggering event, exploration, negotiation, and resolution; teaching presence involves design and organization, facilitating discourse, and direct instruction; and social presence comprises affective communication, open communication, and community cohesion. This framework has been heavily used, discussed, and examined since its introduction (Garrison, 2017). The CoI framework has, in addition to the online learning environment, also been established for blended learning environments (Garrison & Ruzika, 2004; Vanhatalo, Cleveland-Innes, & Garrison, 2013).

Two main approaches have been regularly applied to collect and analyze empirical data based on the CoI framework, transcript coding,

and a survey procedure. The transcript method is guided by a coding scheme in which a unit of analysis (such as a message) is coded as belonging to one or several of the categories and their corresponding elements in the CoI framework. This is then followed by quantitative calculations, where the generated data is used to identify statistical insights of the discourse. The second method of collecting and analyzing data, the survey procedure, is the basis for the current study. The founding paper for the CoI survey (developing a community of inquiry instrument: Testing a measure of the Community of Inquiry framework using a multi-instrument sample, was published by Garrison et al. (2001) in this journal. This paper reports the development of an instrument consisting of 24 items where each item was developed to reflect a category and an element. The instrument's ability to provide valid and reliable results was tested in the establishing paper and in the follow-up study by Swan et al. (2006) using factor analysis. The instrument is reproduced in Appendix A.

Since the introduction of the CoI survey, the tool has been used in many contexts. According to Garrison (2017), the survey instrument has made "a significant enhancement and proliferation of CoI research through more efficient data analysis and by enabling possible large-scale studies across institutions, disciplines, demographic groups, and technologies" (p. 146). However, despite a large body of literature on systematic review of the CoI survey has so far been published. It is therefore argued that a systematic review is needed in order to establish a current state of knowledge, formulate targeted questions about the professional research and outline possible directions for the future research about the CoI survey.

The purpose of this paper is to gain knowledge about the

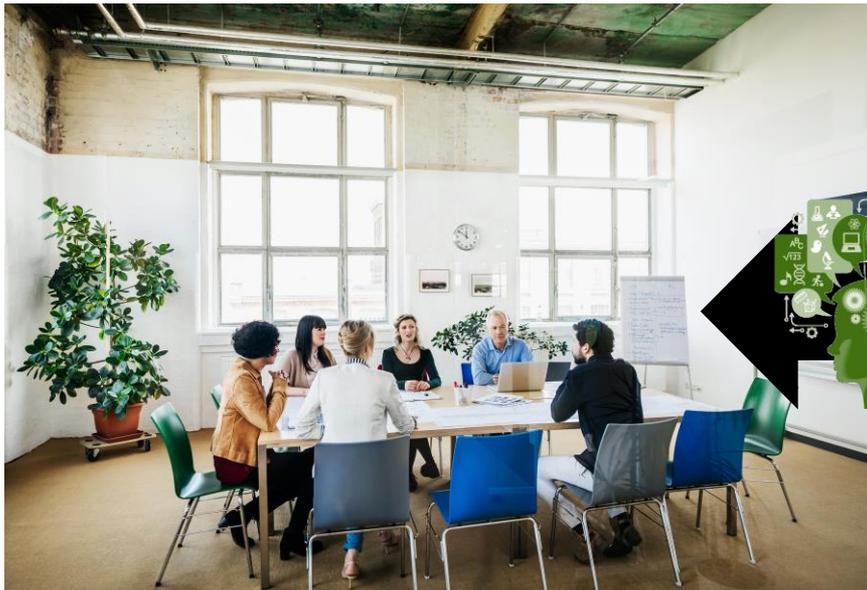
\* and address: stenbom@kth.se

Received 18 May 2017; Accepted 16 April 2018; Available online 20 May 2018; Accepted 12 June 2018  
Available online 13 June 2018  
1096-7516/© 2018 Elsevier Inc. All rights reserved.

Stenbom, S. (2018). A systematic review of the Community of Inquiry survey. *Internet and Higher Education*, 39, 22-32. <https://doi.org/10.1016/j.iheduc.2018.06.001>



# Social collaborative discourse and critical/reflective thinking



Social collaborative discourse

Critical thinking, reflection, individual analysis. ...

# A community of inquiry



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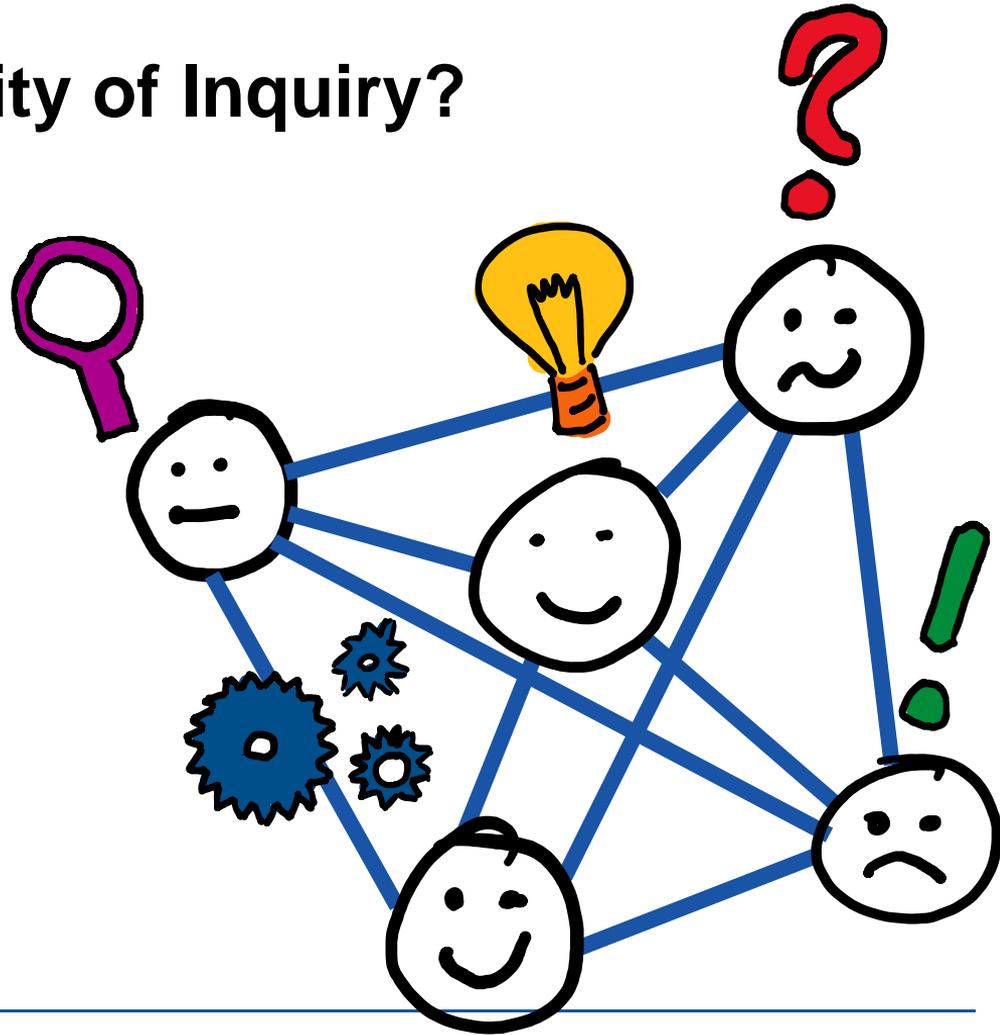
“.. students and teachers form a **community**, a group of people who have in common that they aim to learn something together. The community engage in **inquiry**, a process to augment new knowledge by employing deep meaningful individual and collaborative approaches.” (Stenbom & Cleveland-Innes, forthcoming)

# What is a Community of Inquiry?

## Community of inquiry

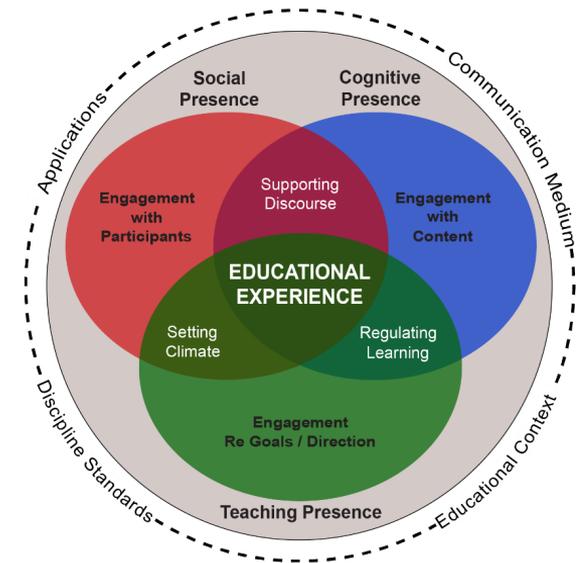
a group of individuals involved in a collaborative-constructivist process of learning.

- Involves critical thinking and discourse.
- Problem or question driven.
- Typically has a small-group feature.
- Incorporates research methods such as information gathering and synthesis of ideas.



# What is the Community of Inquiry framework?

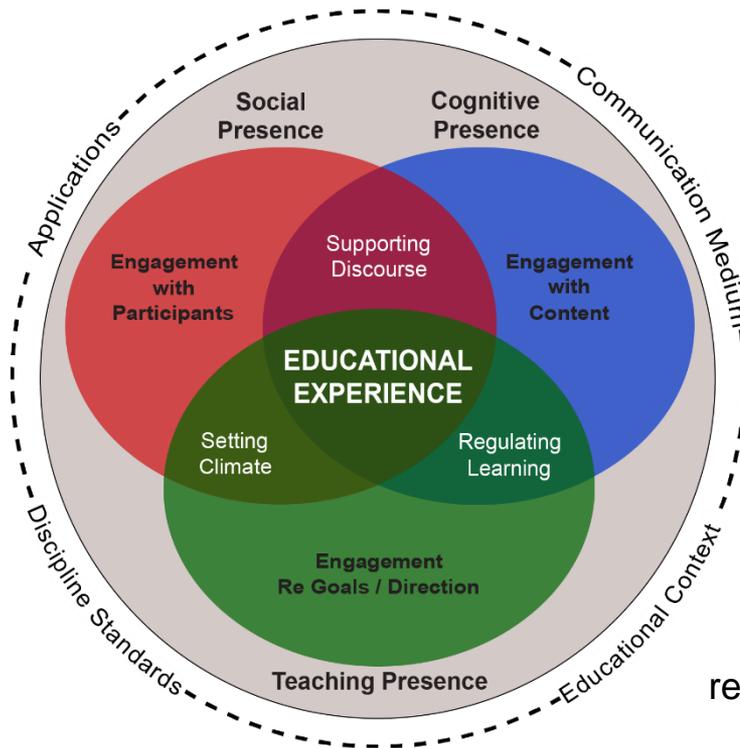
- A research framework for analyzing the processes of learning in online and blended learning.
- The framework is developed for online and blended learning contexts but has its roots in face-to-face education.



# The Community of Inquiry framework

## Social Presence

The ability of participants in a community of inquiry to project themselves socially and emotionally as ‘real’ people (i.e., their full personality), through the medium of communication being used.



## Cognitive Presence

The extent to which learners are able to construct and confirm meaning through sustained reflection and discourse in a critical community of inquiry.

## Teaching Presence

The design, facilitation, and direction of cognitive and social processes for the purpose of realizing personally meaningful and educationally worthwhile learning outcomes.

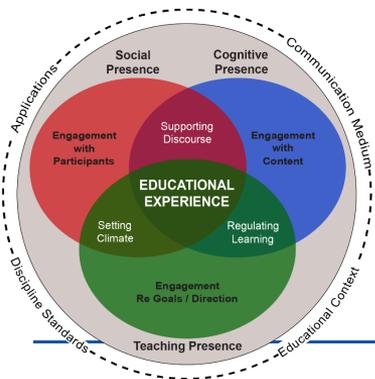
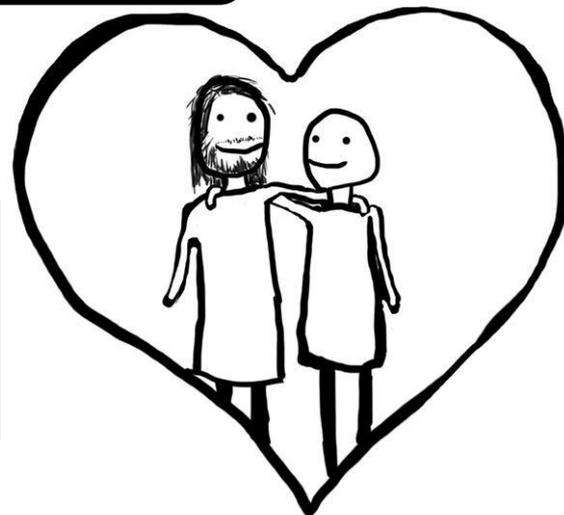


# Social Presence

Open  
Communication

Affective /  
Personal

Group cohesion





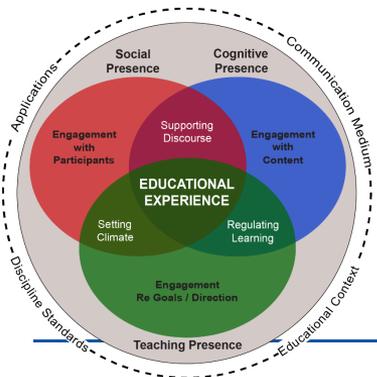
# Teaching Presence



Design & Organization

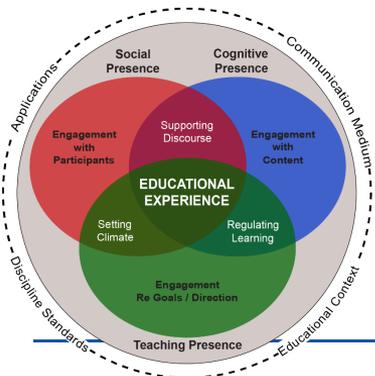
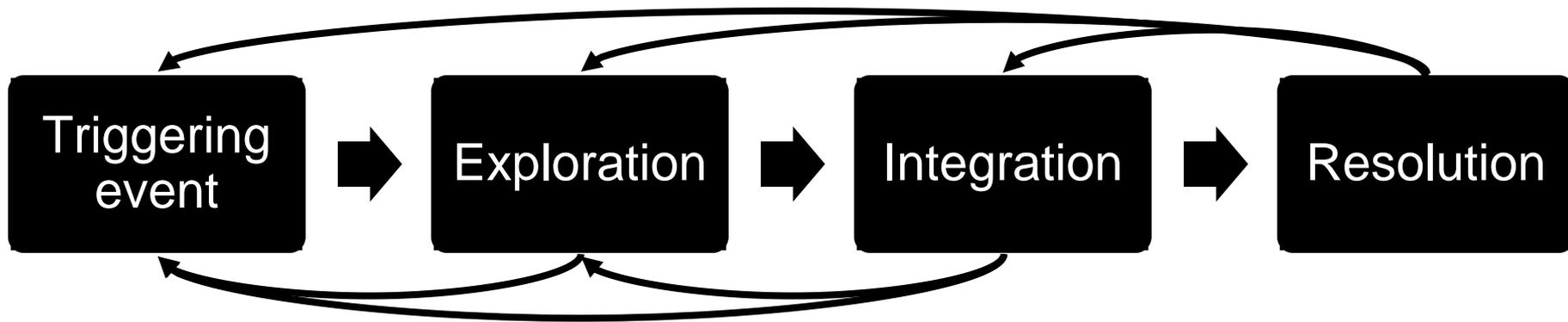
Facilitating Discourse

Direct Instruction





# Cognitive presence





# Transcript analysis

Coding scheme used to analyze the different aspects of a community of inquiry in transcripts (conferencing, forum discussions, chats etc.)

Elements	Categories	Indicators (examples only)
<b>Cognitive presence</b>	Triggering event	Sense of puzzlement
	Exploration	Information exchange
	Integration	Connecting ideas
	Resolution	Apply new ideas
<b>Social presence</b>	Affective	Expressing emotions
	Open communication	Risk-free expression
	Group cohesion	Encouraging collaboration
<b>Teaching presence</b>	Design and organization	Setting curriculum and methods
	Facilitating discourse	Sharing personal meaning
	Direct instruction	Focusing discussion



# The Community of Inquiry survey

Survey instrument with 34 items that relate to an element and a category.

The participant responds using a Likert scale.

The instrument can be used to examine learning experiences (i.e., course review) and to compare different learning designs.

1. The instructor clearly communicated important course topics.
2. The instructor clearly communicated important course goals.
3. The instructor provided clear instructions on how to participate in course learning activities.
4. The instructor clearly communicated important due dates/time frames for learning activities.
5. The instructor was helpful in identifying areas of agreement and disagreement on course topics that helped me to learn.
6. The instructor was helpful in guiding the class towards understanding course topics in a way that helped me clarify my thinking.
7. The instructor helped to keep course participants engaged and participating in productive dialogue.
8. The instructor helped keep the course participants on task in a way that helped me to learn.
9. The instructor encouraged course participants to explore new concepts in this course.
10. Instructor actions reinforced the development of a sense of community among course participants.
11. The instructor helped to focus discussion on relevant issues in a way that helped me to learn.
12. The instructor provided feedback that helped me understand my strengths and weaknesses relative to the course's goals and objectives.
13. The instructor provided feedback in a timely fashion.
14. Getting to know other course participants gave me a sense of belonging in the course.
15. I was able to form distinct impressions of some course participants.
16. Online or web-based communication is an excellent medium for social interaction.
17. I felt comfortable conversing through the online medium.
18. I felt comfortable participating in the course discussions.
19. I felt comfortable interacting with other course participants.
20. I felt comfortable disagreeing with other course participants while still maintaining a sense of trust.
21. I felt that my point of view was acknowledged by other course participants.
22. Online discussions help me to develop a sense of collaboration.
23. Problems posed increased my interest in course issues.
24. Course activities piqued my curiosity.
25. I felt motivated to explore content related questions.
26. I utilized a variety of information sources to explore problems posed in this course.
27. Brainstorming and finding relevant information helped me resolve content related questions.
28. Online discussions were valuable in helping me appreciate different perspectives.
29. Combining new information helped me answer questions raised in course activities.
30. Learning activities helped me construct explanations/solutions.
31. Reflection on course content and discussions helped me understand fundamental concepts in this class.
32. I can describe ways to test and apply the knowledge created in this course.
33. I have developed solutions to course problems that can be applied in practice.
34. I can apply the knowledge created in this course to my work or other non-class related activities.

