How cooperative learning can contribute to the learning process of digitalized accounting?

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The digitalization of business is one of the most important trends that currently influence the development of accounting work (Dimitriu and Matei 2014).

The work of accountants will be automated to a great extent and certain tasks may disappear (Frey & Osborne 2017).

Digital accounting does not have a standard definition but refers to the changes in accounting caused by IT and networking technologies (Deshmukh 2006).

Digital accounting is complete when all of its material and data flow electronically throughout the value chain (Lahti & Salminen 2014).

Changes concerning digitalizing, accounting work and knowledge needs influence the work of accountants and education (Guthrie & Parker 2016; Galarza 2017).

Requirements for accounting education are growing all the time. The world is becoming increasingly complicated and there is a need for effective teaching methods.
Cooperative learning has been widely used in many disciplines and many levels of education (Johnson & Johnson 2009).

Cooperative learning means that students work in small groups and help each other in studying the subject under examination (Slavin 1991).

Cooperative learning is a structured way of working in a small group where students are more involved and engaged in learning compared to traditional lectures (Strand Norman 2004).

In small groups, students may, for an example, complete tasks, solve problems and complete projects (Opdecam, Everaert, Van Keer & Buysschaert 2014).

Key elements of cooperative learning are positive interdependence, individual accountability, promotive interaction, social skills and group processing (Johnson, Johnson & Smith 2007; Johnson & Johnson 2009).
Research question

How cooperative learning can contribute to the learning of digitalizing accounting?
Digital Accounting 2025

• The data for this study was collected in Digital Accounting 2025 project, which aim is to develop digital accounting and analytics expertise in the South Karelian region, Finland.

• A joint project of Lappeenranta University of Technology (LUT) and Saimaa University of Applied Sciences (Saimaa UAS) during 1.9.2016 - 31.8.2018.
Cooperating companies and partners

- Nine accounting firms
- Their fifteen client companies
- Local and national trade unions
- Business development companies
- The local Chamber of Commerce
- Students and accounting teachers from both educational institutions
The project was divided into five phases

I. the start of the project and the opening seminar in September 2016,

II. **case-working phase in the development teams from October 2016 until April 2017,**

III. the development and implementation of new online digital accounting study modules in the area of digital business and service processes and analytics from March 2017 until August 2018,

IV. promotion of the regional expert network in the field of accounting with local partners throughout the project period,

V. seminar as a closing event in May 2018.
Creation of development teams

- Students as team leader
- Teams had external experts as needed
- 95 people participated in the casework
Caseworks included sixteen themes

1. digitalizing sales and travel expense processes,
2. data transfer between financial management systems,
3. a tool for acquiring new customers,
4. an efficient process for managing staff leasing,
5. digitalizing the financial administration of a micro enterprise,
6. solutions to facilitate the financial administration of a micro enterprise,
7. small business digital financial management - threat or opportunity,
8. from a paper format client to a digital customer,
9. growth business cash flow management,
10. accounting strategy and productization in a digital change,
11. modeling of order process and cost comparison of development alternatives,
12. diagnostic performance measurement system for tracking occupancy rates,
13. clearing cash accounting,
14. plan for an electronic cargo book,
15. dashboard for management reporting, and
16. cost-per-route calculation.
Data and methodology

Blog posts
• What did you learn during the development work?
• What was the most important thing that you learned?
• How would you describe the working in cross-organizational teams?
• How did you like working in a work-oriented project?
• How would you develop the working method?

Feedback survey
• 51/93 responses, yielding response rate 55 %
• 23 questions
• Quantitative and qualitative data
Five distinct themes in content analysis

1. Positive interdependence and individual accountability
2. Promotive interaction and social skills
3. Group processing
4. Learning motivation and usefulness
5. Heterogeneity of the group
Findings 1/3

• Cooperative learning is helpful when difficult tasks without an exact goal in the beginning have to be learned.
  
  ✓ I immediately found out in the first meeting that the case is going to be really challenging... But the amount of learning that came with this project really opened my eyes… it was good to note that this project was not very easy even for professionals. (Blog 3)

• When a group is self-directed and positively interdependent, the group learns and achieves its goals.
  
  ✓ After some confusion in the beginning, we got to work and assigned the team members each with their own tasks according to their strengths and interests. (Blog 14)

• The common goals and practices contribute to the work of the group and learning.
  
  ✓ The coordination of time and schedules with many people is challenging, but setting the schedule right at the start of the project helped alleviate this problem. (Blog 5)
Findings 2/3

- Good interaction and social skills promote learning in groups.
  ✓ *The case taught us a lot about project work and certainly improved our interpersonal skills...* (Blog 11)

- Students did not maintain sufficient contact with the companies.
  ✓ *The client company could have been better informed about the objectives and tasks.* (Blog 2)

- The group itself identifies the problem and decides the actions.
  ✓ *The project is shaped by its creators.* (Blog 1)

- If a student considers a topic useful, it helps in learning it.
  ✓ *working with a real company and a real problem gives us completely new energy to carry out the projects.* (Blog 6)
The practicality of the cases motivates students to learn.
The project is certainly the most memorable event for the whole polytechnic. We noticed how things worked in practice in real life. (Blog 5)

Heterogeneous groups have positive impact on learning.
Working in a multidisciplinary team was a new experience for all group members, but one could say that this was definitely a strength rather than a weakness. (Blog 6)

Development suggestions:
The initial information could have been more illustrative and informative so that the steps, requirements, and progress of the project could have been better understood from the outset. (Blog 13)
It would have been useful to keep a lecture from project management at the beginning and emphasize the special features of this type of project. (Blog 9)
It was also surprisingly difficult to combine regular weekly schoolwork with this kind of project-based case. (Blog 10)
I would suggest that future casework be sought and selected better from companies with a clear problem and an idea of what the goals of the project are. (Blog 7)
Conclusions: Cooperative learning ecosystem

Higher education accounting students will benefit from cooperative learning and the method promotes their learning in digitalizing accounting.
Conclusions: Cooperative learning clusters

An interesting topic for further research would be that these clusters could be formed from larger quantitative data by statistical methods.
Looking for international partners for future research project:

*Increasing the digital accounting and analytics expertise together with students, teachers and companies*

More info: [https://tt.eduuni.fi/sites/lut-digitalous/digitalous2025/SitePages/Home.aspx](https://tt.eduuni.fi/sites/lut-digitalous/digitalous2025/SitePages/Home.aspx)
Thank you for your attention!

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