

The Use of Artificial Intelligence for Personalized Learning: Teacher Perspective

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Personalized learning

Norwegian Context

- Inclusive Education:
 - All students, regardless of their abilities, are included in regular classes in Norwegian schools.
- Special Education and Teacher Responsibilities
 - Special education is triggered when regular adaptations are insufficient, granting access to additional resources.
 - Outside of special education, teachers are responsible for adapting learning situation to meet the needs of all other students.
 - Tailor lessons to suit diverse needs, ensuring inclusivity and effective learning for all [1].

Introduction - Personalized Learning

- Challenging Period for Norwegian Teachers
 - Fewer applicants [2]
 - Many (44%) consider changing profession [3]
 - Various tasks hindering their primary objective [3].

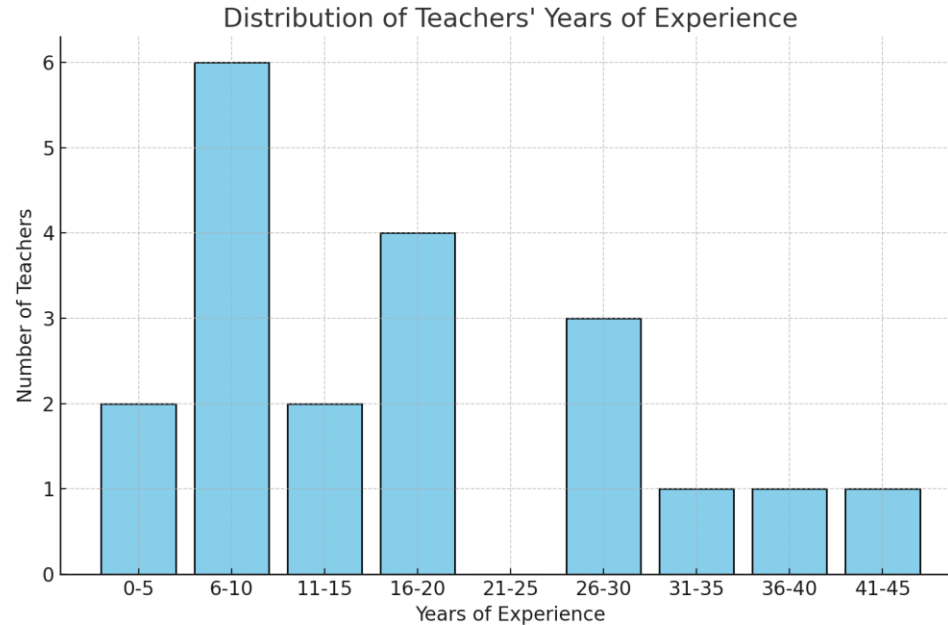
Introduction - AI

- Worth exploring
- Equalize education [4]
- Enhance education quality [5]
 - Data recording
 - Pattern detection
 - Adaptation
- Text simplification [6]
- Effective for personalized learning [7]

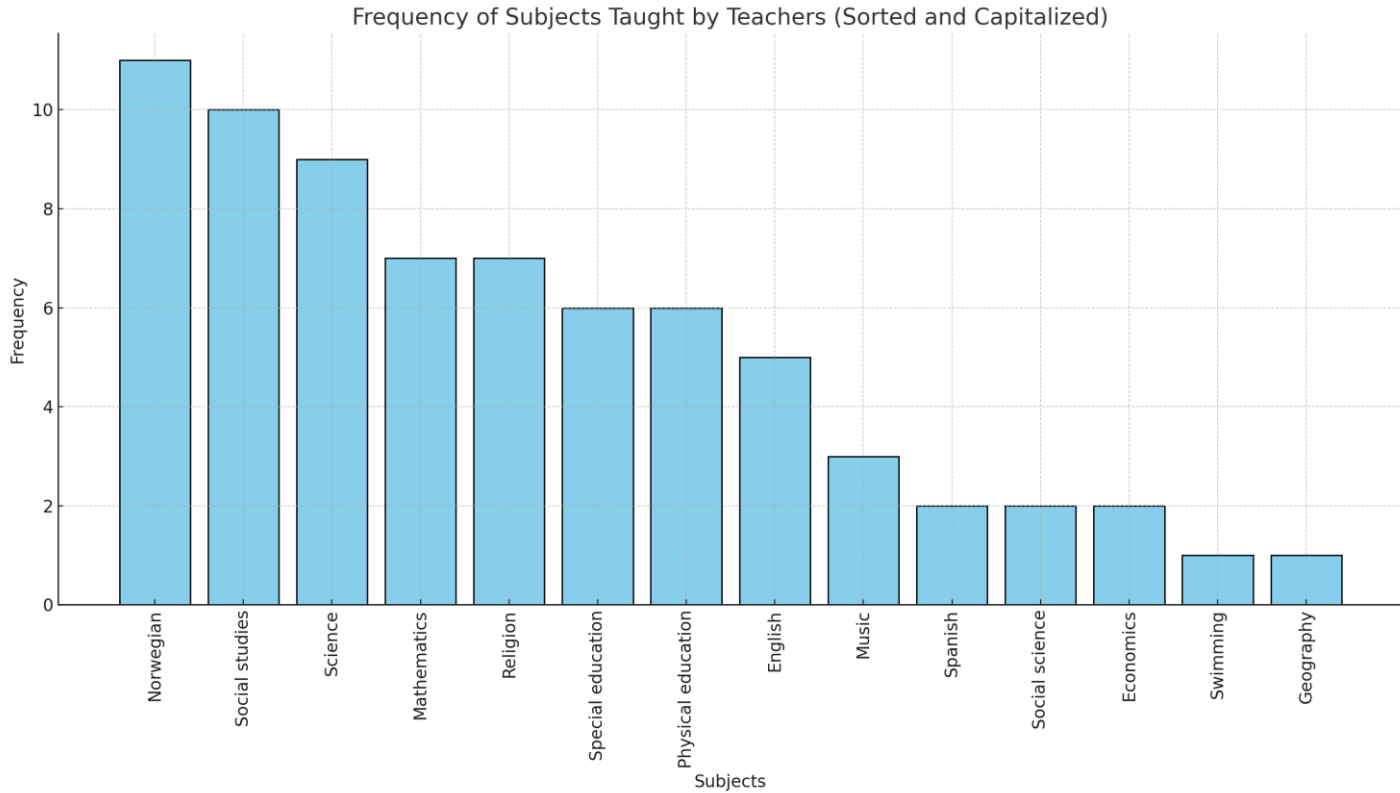
Method - Participants

- 20 Teachers
- 15 Schools
- All school levels
 - At least 5 from each level
- At least one text-based subject

Demographics - Experience



Demographics - Subjects



Method – Interview Guidelines

- Section 1: Demographics
- Section 2: Teachers and Personalized education
- Section 3: Usage and Perspectives on AI

Results – Personalized Education

Current situation

- Time deficiency (n=16, 80%)
 - Those with time: 2 smaller classes, 2 at high school.
- Many reading levels in each class
- Significant time used adapting for reading levels
 - Among the surveyed teachers (n=16, 80%) who reported the time spent on text adaptations, 56% (n=9) spend 3.5 or more hours weekly.

Results – Personalized Education

Challenges

- Many reasons for differences in reading levels:
 - Prerequisites, parental support, support through school, societal changes.
- Challenges when adapting
 - Many levels
 - Students require differentiating beyond reading levels

Results – Personalized Education Solutions

- Methods for adaptation

“We always read and listen at the same time; for those with reading difficulties, it often helps to have the text read out loud.”

“I try to make good PowerPoints that both simplify what is written in the textbook, as well as drawing out the essence.”

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Results – Personalized Education Solutions

- Adapting texts
 - Some have access to differentiated texts (level)
 - Supporting tools
 - 2 (10%) had used AI to adapt

Results – Artificial Intelligence

Teachers opinions

- All teachers familiar with AI
- Most had used ChatGPT (n=14, 70%)
- Almost half in an educational setting (n=9, 45%)
- Most are positive (n=15, 75%)
- Some fear misuse (n=15, 75%)

“I think it could be a positive thing, but it depends on how it is used”

“It could be useful if it is used as a tool to supplement but not take over”

Results – Artificial Intelligence

Opportunities and negative aspects

- Most mentioned opportunities:
 - Personalized education, (n=8, 40)
 - Saving time, (n=5, 25%)
 - Make tasks, (25%, n=5)
- Critiques
 - Lack of trust in its answers, (n=7, 35%)
 - Lack of education leads to negative effects, (n=6, 30%)
 - Students may use it to cheat, (n=5, 25%)

Results – Artificial Intelligence

AI integration

- AI for adaptation:
 - Strengthen weaker students
 - Generate tailored texts
 - Incorporate interests
 - Text to speech
 - AI based assesment tool

“Assessment of students takes up much time. If an AI could continuously assess the students, it would have a better foundation for accurate evaluation.”

Discussion

- Homogenous distribution of opinions
 - Increasingly challenging [2]
 - Automation
 - Chatbot
- Teachers are not ready
 - Despite surge
- Weak students are prioritised

Conclusion

- Teachers' opinions on AI is of importance
- Teachers lack time to provide the personalized education
- Teachers believe AI can mitigate their challenges

Future work

- The «student» aspect of personalized education
- Effective prompt design
- Test effectiveness on actual students

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