ENHANCING INCLUSIVITY IN HIGHER EDUCATION:

The Case of TEMI Semi-Autonomous Robot for Special Needs Students in Technical Courses

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PRESENTATION AGENDA

- Introduction
- Case Description
- Background of the Course
- TEMI Robot
- Impact and Implications
- Conclusion
- Future Possibilities
- Acknowledgments
- References

INTRODUCTION

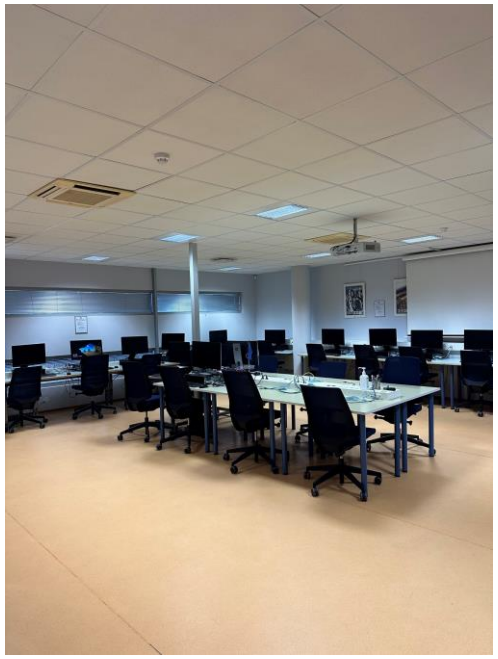
- Impact of COVID-19 on higher education
- Challenges in delivering technical courses remotely
- The need for innovative approaches to bridge the physical-virtual classroom gap
- Emphasis on remote participation and adaptability
- Addressing challenges faced by special needs students
- Introduction of telepresence robots (TPRs) as a solution
- Focus on the research project involving TEMI semi-autonomous TPRs
- Investigation of TEMI's applicability in enabling special needs students in technical courses
- Broader utility of robotic assistants in enhancing the learning experience

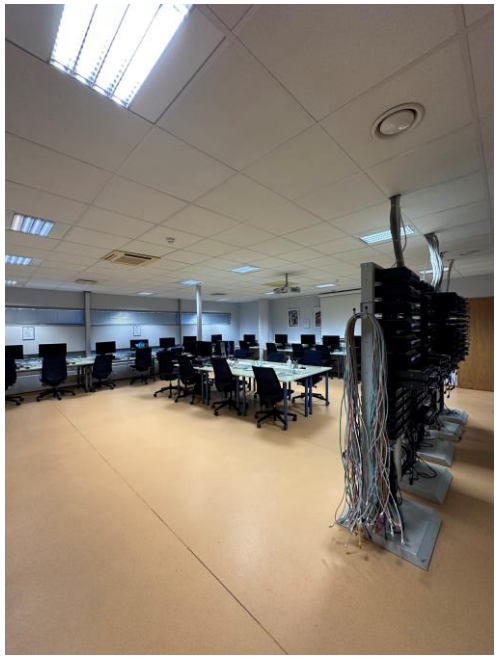
CASE DESCRIPTION: TEMI ROBOT IN THE FUNDAMENTALS OF NETWORKING COURSE

- Data collection occurred during the spring semester of 2023 over 16 weeks.
- Methods used included interviews, observations, and questionnaires.
- Data processing involved qualitative content analysis.
- Consent was obtained, data was anonymized, and no sensitive information was recorded.

BACKGROUND OF THE FUNDAMENTALS OF NETWORKING COURSE

- The course is a 6 ECTS course at IT College, Tallinn University of Technology, spanning 16 weeks.
- It comprises theoretical and practical components.
- Objectives include foundational understanding, theoretical knowledge, and practical skills in networking.





ASPECTS OF USING TEMI BY THE SPECIAL NEEDS STUDENT

- A student with a walking disability faced challenges in practical sessions.
- TEMI robot was introduced as a solution.
- The student used simulator software for practical engagement.
- Key aspects included simulator software, skill development, real-time interaction, and enhanced inclusivity.

USE OF TEMI ROBOT

- TEMI robot facilitated remote participation.
- Features included battery life, mobility, communication, mapping, and language capabilities.
- Student training ensured comfort in using the robot.

TEMI ROBOT IN ACTION

- The student remotely participated through the TEMI robot.
- The robot's autonomy and capabilities ensured seamless participation.
- An image shows the telepresence student in class.

IMPACT AND IMPLICATIONS

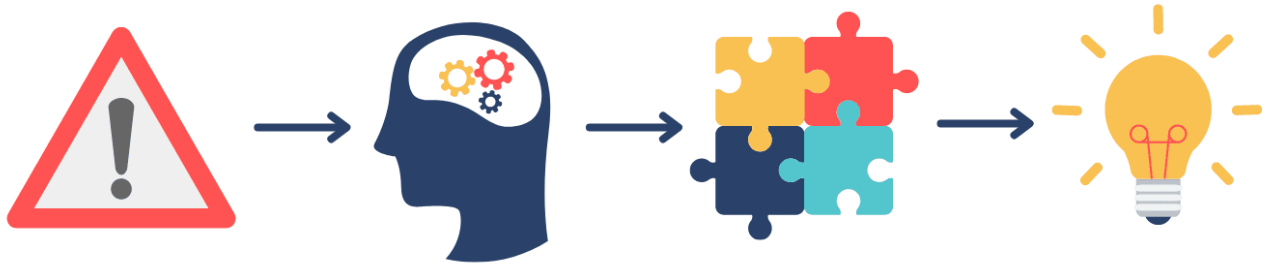
- TEMI robot created an interactive and inclusive learning environment.
- It allowed the student to engage, ask questions, and participate in group activities.
- Real-time demonstrations and support were enabled.
- Inclusivity extended to discussions and group work for all students.

ENHANCED INCLUSIVITY

- The robot helped the special needs student overcome physical limitations.
- It created a more equitable learning environment.
- Characteristics included increased participation and reduced physical barriers.

IMPROVED LEARNING EXPERIENCE

- The interactive nature enriched learning outcomes.
- The robot sparked curiosity and active learning.
- Collaboration and critical thinking were encouraged.



PEDAGOGICAL CONSIDERATIONS

- The case underscores the importance of pedagogical strategies.
- Innovative technologies can address challenges and bridge physical and virtual spaces.
- Pedagogical considerations should include diverse learning styles and technology-driven collaboration.

CONCLUSION

- Integration of TEMI enhances inclusivity in higher education.
- The case aligns with findings on the transformative power of technology.
- Institutions must adapt and use technology to cater to diverse needs.

FUTURE POSSIBILITIES

- Technology continues to evolve for inclusive learning.
- This case study exemplifies technology's role in equitable access and enriched learning.
- It points to the potential for creating inclusive learning environments.

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