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Agile Management and Leadership in Education

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Abstract: Agile Management is a project and team management method that promotes flexibility and adaptability. In the education system, Agile Management can be applied in developing and implementing educational programs, research projects, or the Management of educational organizations. Agile Leadership, on the other hand, involves creating a culture of collaboration and trust within an organization, where individuals are empowered to take on their work and contribute to the organization's success. This involves developing a shared vision and purpose and promoting transparency, openness, and continuous learning. Agile Management and Leadership enable organizations to respond more to changing customer needs and market conditions while fostering innovation, collaboration, and continuous improvement.

Keywords: agile management; leadership; self-organization; responsibility; results

Introduction

Agile management is a management approach that emphasizes flexibility, collaboration, and continuous improvement. It is based on the Agile Manifesto, created by a group of software developers in 2001. The Agile Manifesto values individuals and interactions, working software, customer collaboration, and responding to change.

Agile management is often used in software development but can be applied to any project or team.

Fundamental principles of agile management include:

Iterative approach. Agile management breaks down projects into smaller, more manageable chunks that can be completed in short time frames, usually called sprints or iterations.

Collaboration. Agile management promotes cooperation and communication among team members, stakeholders, and customers.

Flexibility. Agile management allows for changes and adaptations to project scope and priorities as the project progresses.

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Customer Orientation. Agile management emphasizes providing value to customers and meeting their needs.

Continuous improvement. Agile management encourages teams to continuously learn from their experiences and improve their processes and products.

Some popular agile management methods include *Scrum, Kanban, and Lean*. These frameworks provide specific methodologies and tools for implementing agile management practices.

In general, agile management is a modern approach that can help teams be more flexible, responsive, and efficient in their work.

In today's dynamic business environments, managers and teams need to adopt new management methods that enable them to create and deliver high-performing products or services. And Agile, through the changes it proposes, simplifies and brings back to their attention what is most important – constantly adapting and providing value to customers.

Agile, as the name suggests, is a management approach that favors change rather than systematic planning and operates according to several principles that indicate how to approach projects for maximum efficiency and speed. For those tired of outdated management systems and methods, Agile may be the answer they've been looking for.

Agile management creates a culture where change is expected and accepted as a normal part of the development and continuous improvement process. In the Agile approach, teams are encouraged to be open to change and respond quickly to customer feedback or environmental changes.

This culture of adaptation and continuous improvement is one of the defining characteristics of agile management. It encourages teams to learn from their experiences and continuously improve their processes and products. This agile approach can be used successfully across a wide range of industries and business areas to significantly improve productivity, quality, and customer satisfaction.

Principles behind the Agile Manifesto

”Our highest priority is to satisfy the customer through early and continuous delivery of valuable software.

Welcome changing requirements, even late in development. Agile processes harness change for the customer's competitive advantage.

Deliver working software frequently, from a couple of weeks to a couple of months, with a preference to the shorter timescale.

Business people and developers must work together daily throughout the project.

Build projects around motivated individuals. Give them the environment and support they need, and trust them to get the job done.

The most efficient and effective method of conveying information to and within a development team is face-to-face conversation.

Working software is the primary measure of progress.

Agile processes promote sustainable development. The sponsors, developers, and users should be able to maintain a constant pace indefinitely.

Continuous attention to technical excellence and good design enhances agility.

Simplicity--the art of maximizing the amount of work not done--is essential.

The best architectures, requirements, and designs emerge from self-organizing teams.

At regular intervals, the team reflects on how to become more effective, then tunes and adjusts its behavior accordingly.”

At the heart of the Agile method is greater involvement of the client and a better reactivity of the teams; this approach has four fundamental values:

The team is more important than processes and tools;

The application, i.e., the operational functionalities, are prioritized over the exhaustive documentation;

Collaboration with the client, rather than contracting relationships;

Accepting change rather than sticking to a plan.



Figura 1.

Source: <https://hygger.io/guides/agile/manifesto/>)

2. Agile Leadership

Agile leadership refers to a leadership approach that embraces the principles and values of agile management and applies them in a leadership context. This type of leadership focuses on adaptability, collaboration, continuous learning, and team engagement to achieve better results and manage change effectively.

Key characteristics of agile leadership include:

- Clear vision;
- Flexibility;
- Empowering the team;
- Collaboration;
- Continuous learning;
- Orientation towards results;
- Responsibility.

Agile leadership can be applied in various fields and contexts and is useful in organizations that want to be more flexible, competitive, and results-oriented. By adopting an agile leadership style, leaders can inspire and motivate the team, facilitating innovation and adapting to changes in the business environment.

3. Agile Management in Education

Agile management has significantly contributed to education, especially in higher education. The most important contributions of agile management in education are the following:

Collaboration and communication. Agile management promotes effective collaboration and communication between team members by involving them directly in the development process. This approach can also be applied in education, encouraging students to work together and communicate openly and transparently during the learning process.

Flexibility. Agile management focuses on continuously adapting to changes in the business environment and customer needs. In education, this approach can be applied by offering academic programs and courses that adapt to changes in the field of activity and the needs of students.

Innovation. Agile management encourages innovation and experimentation, allowing the team to try new approaches and solutions. This approach can be applied in education by developing new academic programs or implementing new teaching and assessment methods.

Quality improvement. Agile management focuses on continuously improving processes and products by collecting and analysing feedback and applying continuous improvements. In education, this approach can be used through constant evaluation and improvement of academic programs, teaching, and assessment methods to ensure a quality educational experience for students.

The Agile approach can help create a culture where change is expected and accepted in education. This can be applied at the level of educational institutions but also in classrooms and project-based learning.

Using agile management in education can encourage students to take more initiative and actively participate in learning. This can be achieved by developing agile projects involving students in planning, executing, and evaluating their learning projects.

Through the agile approach to education, students can learn to be more flexible and adapt more easily to changes in their learning environment.

It can also encourage the development of collaboration and communication skills, which are essential for success in professional life.

Agile schools refer to educational institutions that incorporate agile methodologies, which are used in software development, into their teaching and learning processes. This approach emphasizes flexibility, collaboration, and adaptability and aims to create an environment where students can learn and grow in a supportive and engaging way.

Technology plays a crucial role in agile schools, but in a different way than we traditionally thought it would. While many educators and policymakers have focused on automating and digitizing traditional teaching methods, agile schools are using technology to create more personalized and collaborative learning experiences.

For example, agile schools use digital tools to facilitate communication and collaboration between students and teachers, allowing them to work together on projects and assignments in real-time. They

also use data analytics and learning management systems to track student progress and provide personalized feedback and support.

Another key aspect of agile schools is the emphasis on experiential learning, which allows students to apply their knowledge and skills in real-world environments. This often involves using virtual and augmented reality technologies, enabling students to simulate real-world scenarios and gain hands-on experience.

In general, agile schools use technology to create more dynamic, collaborative, and engaging learning experiences that better meet the needs of today's students. At the same time, there are certainly challenges associated with this approach, such as the need for teachers to be trained in agile methodologies and the potential for technology to exacerbate existing inequalities. It represents a promising path for education in the 21st century.

Agile schools are educational institutions that have embraced technology to improve teaching and learning. However, the use of technology in these schools goes beyond the traditional approach of simply replacing textbooks with digital resources or providing students with laptops.

Instead, agile schools use technology to create a more flexible and personalized student learning experience. This involves using data to inform instruction, allowing students to work independently, and providing various resources and tools to support their learning.

One of the key benefits of agile schools is that they enable more individualized learning. Students can work at their own pace and receive feedback and support that is tailored to their needs. This can help close achievement gaps and ensure that all students have a chance to succeed.

Another benefit of agile schools is that they allow teachers to collect and analyze data about student performance. This will enable them to identify areas where students are struggling and adjust their instruction accordingly. It also allows teachers to track student progress over time and provide targeted feedback that can help improve learning outcomes.

However, it is essential to remember that technology alone cannot improve education. To truly create agile schools, educators must be willing to embrace new teaching strategies and approaches that prioritize student-centered learning and personalized instruction. This requires changing traditional classroom structures and a willingness to experiment and iterate as new technologies and techniques are developed.

In short, agile schools demonstrate that technology has the potential to revolutionize education, but only if it is used thoughtfully and strategically. By combining technology with innovative teaching strategies, educators can create a more flexible, personalized, and practical learning experience for all students.

Agile management principles can be applied in various contexts, including universities. Agile management can increase efficiency, flexibility, and collaboration between staff and faculty in a university setting.

4. Agile Teaching Methods

Agile management principles can also be applied to teaching and learning. This could involve using agile techniques to create and deliver courses that respond to student needs and feedback.

There are several agile teaching methods you can use to encourage active student participation and promote interactive learning:

The Scrum methodology inspired of the Scrum method in software development; this approach involves organizing matter into short iterations called "sprints." Students form teams and work collaboratively to achieve goals set in each sprint. Short daily synchronization meetings are held, and progress is tracked transparently.

The Kanban method focuses on managing workflow and visualizing activities in a Kanban board. Students can use Kanban boards to organize their tasks and view their progress. This method promotes transparency and flexibility in managing learning projects.

Project-based learning. The project-based learning method involves the active involvement of students in practical and relevant projects, where they apply knowledge and skills in an authentic context. This approach allows students to learn through experience and develop valuable teamwork, problem-solving, and decision-making skills.

Games and simulations. Games and simulations can be an engaging way to introduce agile concepts and experiential learning. For example, role plays, team games, or planning and prioritization simulations can help students understand agile principles and apply them in a controlled and fun environment.

Feedback and reflection. It encourages constant feedback and thinking in the learning process. Students should be encouraged to express their thoughts, share ideas and provide feedback to each other. In addition, regular reflection sessions help students to analyze their progress, identify areas for improvement and adjust their approach accordingly.

Extreme Programming (XP) is a software development process focusing on high software quality and rapid feedback. XP involves a multidisciplinary team of developers working closely together and focusing on practices such as automated testing, continuous integration, and test-driven development.

Design Thinking is an innovative approach to addressing problems and developing solutions based on a deep understanding of the needs and perspective of the end user. Design Thinking involves using tools such as user research, rapid prototyping, and testing to identify and validate solutions.

Lean Startup is a business development approach focusing on rapidly testing business hypotheses and products before investing significant resources. Lean Startup involves:

- Rapidly developing prototypes.
- Trying them in the market.
- Quickly adapting to user feedback.

These are just a few examples of agile teaching methods, but there are others. Choosing a method or combination of methods best suits the specific needs and objectives of projects or courses is essential to ensure an interactive and motivating learning environment.

Overall, agile management can help universities become more adaptable and responsive to changing circumstances and better respond to the needs of their students, faculty, and staff.

5. Conclusions

Agile management and leadership in education complement each other to create a dynamic learning environment where flexibility, adaptability, and continuous improvement combine to deliver quality, relevant and inspiring education.

Thus, Agile Management applied in education focuses on creating a flexible environment, responsive to change and adaptable to the needs and demands of pupils and students through iterative planning, prioritization of needs and pupils, building multidisciplinary teams, feedback, and continuous improvement.

On the other hand, education leadership refers to the role and actions of educational leaders, who assume the responsibility to guide and influence the direction of the educational institution in crucial aspects such as vision and strategy, inspiration and motivation, team empowerment, collaboration, and communication, professional development by supporting a culture of continuous learning.

In conclusion, agile management can be successfully applied in higher education to improve educational processes and improve the quality of teaching and adapt to the demands and needs of students and the business environment, and together, agile management and leadership enable organizations to be more responsive to changing customer needs and market conditions while encouraging a culture of innovation, collaboration, and continuous improvement.

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