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Innovative Behavior; Raising Awareness for Creative Behavior in Education to Cultivate an Innovative Approach in Vocational Education.

by

Jeanette J. Matser

an Abstract of a Project

In

Creativity and Change Leadership
Submitted in Partial Fulfillment
of the Requirements
for the Degree of
Master of Science
May 2022

Buffalo State

State University of New York

Department of Creativity and Change Leadership

ABSTRACT OF PROJECT

Innovative Behavior; Raising Awareness for Creative Behavior in Education to Cultivate an Innovative Approach in Vocational Education.

The development of a rubric for innovative behavior in teachers is related to encouraging the status of creativity in the innovation process. It is powerful to use feedback to create a more creative approach in schools, it helps teachers to think creatively and how to cultivate a more innovative approach in the classroom. It creates and structures conversations among teachers interested in teaching and assessing creativity.

This project presents a background and the development of a rubric and a complimentary booklet to self-test the innovative behavior of vocational teachers.

The main takeaways after reading this project are a rubric to self-test your innovative behavior, a booklet, a visual of five fundamental skills to accelerate innovative behavior, a list of ideas for managers and educational leaders to promote innovative behavior, a model that explains innovative behavior, and ten ways to spark your innovative superpowers at work.

Keywords: innovative behavior, teachers, vocational education, awareness of innovative behavior, creative confidence, creative pedagogy, creative potential, creativity in the classroom

Jeanette J. Matser

May 2022

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SECTION ONE: BACKGROUND OF THE PROJECT

Purpose and Description of the Project

Creativity has become increasingly important for the labor market and received more attention as an essential skill in education. The Future of Jobs Report (World Economic Forum, 2018, p. 12) presented that next to new technologies, skills "such as creativity, originality and initiative, critical thinking, persuasion, and negotiation will likewise retain or increase their value as will attention to detail, resilience, flexibility and complex problem-solving". The Organisation for Economic Co-operation and Development (OECD) stated that soft skills, like creative thinking, collaboration, and digital skills, are essential to equip students for the changing labor market and the risks of automation (Organisation for Economic Co-operation and Development, 2021, p.3).

There are many challenges and opportunities for education, especially Vocational Education Teaching and Training (VET) Institutes play an essential role in reflecting these skills in VET programs. Teacher training is crucial to preparing and developing training programs for vocational education. New technologies and insights about teaching require innovative behavior to keep up to date with a rapidly changing society. Schools should act as a starting point for more innovative behavior of our citizens so that community can stay competitive.

Teachers need to develop creative skills and get familiar with the creative problem-solving process. Creativity in the classroom is more challenging, but teaching students to think creatively, critically, and collaboratively (soft skills) will prepare them to succeed in future occupations. Soft skills are increasingly essential to high levels of autonomy, planning, teamwork, and communication of current and future employees

(Organisation for Economic Co-operation and Development, 2021, p.122). Vocational Education and Training (VET) institutes should reflect employees who need occupational-specific, technical, digital, and soft skills in today's workplaces. Soft skills refer to the ability to manage thoughts, emotions, and behavior (Organisation for Economic Co-operation and Development, 2017). Soft skills determine how well people adapt to their environment and affect their achievement in life (Organisation for Economic Co-operation and Development, 2017, p.4). VET teachers should develop soft skills among their students. The major problem is that not every teacher knows how effectively teach those skills in a VET setting.

Rapidly advanced technologies have changed the way people value their work. It creates new changes, and students need creativity and imagination to solve future problems. Increasing pressures on limited world resources provide a whole new range of contemporary economic challenges, which unlocked the limitations in creative skills. Teachers need support to explore, recognize and develop creativity in their students and grow their creative confidence (Newton & Newton, 2014).

The current way of working in education does not match the 21st-century learning skills. 21-Century skill is a framework identified by the European Union, and other international policymakers, of eight competencies for lifelong learning (Häkkinen et. el., 2017). Students need to improve skills concerning collaboration, and the use of ICT (Information Communication Technology) in a rapidly changing learning society, and teachers have to focus on collaborative problem solving and strategic thinking (Häkkinen et al., 2017). A new pedagogical approach for education and facing the challenges of disconnecting theory and practice will be helpful.

This project aims to explore and expand my creative competence to equip Vocational Education Training and Training (VET) teachers with knowledge of creativity, grow their creative competence, and raise awareness about the urgency to incorporate a more innovative pedagogy in the classroom. "Great teachers exert positive effects on their students not only by their innovative behavior and creative teaching strategies but also by helping students reveal their creativity in the learning process" (Hosseini et al., para1, 2021). The innovative behaviors of teachers are crucial to promoting school change and improvement, and the creative climate provides the springboard for innovation in schools.

Over the last century, education has not changed much. Teacher-centered approaches in classrooms are still common. Teaching did not fundamentally change. Promoting creative approaches in education suggest a change in the educational system. Schools are complex systems that need to include teachers' perspectives (Cuban, 2012) to support the urgent need for creativity in the creative approach.

"Employees are willing to change when the proposed change makes sense to them" (Heim et al., p. 334, 2021). Change readiness, commitment to change, openness to change, and cynicism about organizational change will influence how teachers embrace their thinking of innovative behavior in the classroom (Zimmerman, 2006).

Different papers, books, and research outcomes about the process of change in an organization informed my thinking. Incorporating creativity in education in order to stimulate innovative behavior in an educational organization needs a systems approach. Innovative behavior will never be a result of one teacher's training. That is why my

Master's Project will include the role of management in a sustainable approach to incorporating innovative behavior in education.

This Master's Project challenges me to make new connections for promoting awareness of teachers' innovative behavior. The development of innovative thinking depends on the willingness of teachers to be innovative. The first step is to develop innovative thinking skills for teachers themselves (Batovrina, 2017). By understanding innovative behavior and cultivating creativity, this project aims to create a rubric to identify VET teachers' training needs. A booklet will complement the rubric to explain creativity, skills, and innovative behavior in a VET setting. It also provides information on how to develop and nurture this behavior.

Upon completion of this project, the rubric and booklet will be used by educators to self-test their abilities and become aware of their learning needs.

Understanding the strengths and weaknesses of innovative behavior will open up new opportunities for professional development.

With regard to my personal goals, first, I like to expand my creative competence; precisely my clarification skills; gather data, keep open, highlight the essence, explore useful tools for this master's project, my diagnostic thinking skills, and defer judgment. Second, I like to expand my network by connecting with alumni working in similar contexts outside the Netherlands. I will raise my network in the Netherlands and connect with different departments in a VET institute. Third, I will look forward and explore new opportunities to share my expertise of creativity and grow my change leadership skills. I like to share my creative competency in consulting, teaching, and

coaching different educational institutes and companies in the Netherlands to expand employees' innovative behavior.

Rationale for Selection

The main reason for selecting my objectives is the desire to cultivate a solid foundation for teachers in Vocational Education to be more creative and confident in their behavior toward innovative approaches to education.

Teachers frequently face barriers to participating in training due to a lack of support or incentives and conflicts with their work schedules (Organisation for Economic Co-operation and Development, 2021). The product I plan to develop will offer information about teachers' creativity needs. After completing this master's project, I will continue to develop an engaging and effective program to develop and strengthen the creative skills of vocational teachers.

Another reason for selection is that I see new training opportunities cultivating innovative behavior in The Netherlands. Although there are many ways to train teachers to get familiar with the Creative Problem Solving model (Puccio et al., 2011), teachers still need support in integrating the mindset, skillset, and toolset in the classroom. Knowing how to cultivate innovative behavior will help me find and expand new opportunities to offer services to primary school, middle school, and university. My working experience as a teacher and team leader in Vocational Education will help me as an educational expert to make new connections with institutes and companies outside my current job.

This project allows me to expand my knowledge of creativity in an educational context. Explaining the difference between creativity and innovative behavior is helpful

to understand why teachers need to incorporate both. This project will explore why innovative behavior is essential for an organization and how innovative behavior depends on teachers' willingness for creative performance. The role of teachers is vital for cultivating the creative thinking of students, understanding their role will lead to more consciousness of one's innovative behavior. This Master's Project will add value to the process of cultivating a deliberate integrating mindset, toolset, and skillset to ensure an innovative actionable outcome.

The opportunity to work on my passion, educating teachers or employees about creativity and the creative problem-solving process is essential for me. This passion is why I started Creativity and Change Leadership Master's Program at SUNY Buffalo State. The journey of this Master's Project helped me start a new beginning.

SECTION TWO: PERTINENT LITERATURE

This section provides an overview of research and resources that were useful and assisted with accomplishing my goals. It deepens my understanding of innovative behavior and the relationship between creative personality traits and abilities. This section informed my thinking about how creativity promotes innovative behavior among teachers. Finally, it improved my thinking about the role of leadership in fostering innovative behavior.

This section includes literature on different topics; creativity, the creative person, creativity and education, creativity and innovation, innovative behavior, team collaboration, and the role of educational leadership. Each topic is written as an annotated bibliography.

Creativity

Rhodes, M. (1961). An analysis of creativity. Phi Delta Kappan, 42(7), 305-310.

There are many ways to explain the construct of creativity. This article introduced the Four P model; person, process, product, and press as a framework to explain the concept of creativity. The 4 P framework explained the next elements; who is creative, how can one be creative and what and how can creativity be nurtured? The person covers personality, intellect, temperament, traits and habits, attitudes and behavior. The term process is applied to motivation, perception, learning, thinking, and communicating. Product refers to a thought expressed to other people in words, paint, clay, metal stone, fabric, or other materials. The term press refers to the relationship between humans and their environment.

The publication helped recognize different factors associated with the creative process. It also helped me to explain the phenomenon of creativity as an educator in different circumstances. The 4P model is useful in education to identify creativity among students and classify creative products by the degree of novelty.

Beghetto, R. A., & Kaufman, J. C. (2007). Toward a broader conception of creativity: A case for "mini-c" Creativity. *Psychology of Aesthetics, Creativity, and the Arts, 1*(2), 73–79. https://doi.org/10.1037/1931-3896.1.2.73.

This article described creativity from a different perspective: the relationship between creativity and learning. The two levels of creativity; everyday creativity ("little-c") and genius-level ("Big-C") is referred to an intrapersonal level. The article introduced a Four-C model of creativity (mini-c, little-c, Pro-c, and Big-C). The first level, mini-c, personal creativity, represents the unique insights of the learning process. The second level, little-c, represents everyday creativity. With feedback from other people, something may be recognized as being creative. The third level, Pro-c, an expert level, is trained and has practiced for at least ten years to become a pro. The fourth level, BIG-C, is legendary creativity. Someone who is recognized for their work and is kind of a genius. This research paper is important because it helps educators move students from one to the next level in creativity. It highlighted a different view on creativity and connected everyday creativity to everyday innovative behavior.

Creative Person

Davis, G. A., & Woodward, J. (2020). *Creativity is forever* (6th ed.). Kendall/Hunt Publishing.

This book provided information about the creative person. (p.47-55) the characteristics extracted from different sources (p. 47) resulted in 16 categories (p. 48) listed below in Table 1. The categories of creative personality traits are interrelated because they are all part of a creative personality. The degree of a creative character is explained by the fact that innovative behavior begins with the personality.

This list is essential for my project. Different categories will provide the foundation for mapping the creative personality, necessary for the development of the rubric.

Table 1
Sixteen Categories of Creative Personality

1.	Aware of creativeness	9.	Attracted to complexity, ambiguity
2.	Original	10.	Artistic
3.	Independent	11.	Open-minded
4.	Risk-taking	12.	Thorough
5.	High-energy	13.	Needs alone time
6.	Curious	14.	Perceptive
7.	Sense of humor	15.	Emotional
8.	The capacity of fantasy	16.	Ethical

(Adapted from Davis & Woodward, 2020, p. 48)

Barron, F. (1988). Putting creativity to work. In R. J. Sternberg. (Ed.). *The Nature of creativity* (pp. 76-98). Cambridge University Press.

The cognitive abilities important to creative thinking are partly genetic and partly learned. Barron listed six traits, cognitive abilities, that blend affective and creative traits seen in highly creative people in Table 2. The characteristics are essential building blocks for cultivating innovative behavior. Innovative behavior is interconnected with seeing patterns, making new connections, and taking risks.

To improve the collaboration among teachers, I see opportunities for questioning assumptions and taking advantage of change, and seeing things in new ways. It can function as the foundation for innovative behavior.

Table 2

Cognitive Abilities for Creativity

- 1. Recognizing patterns
- 2. Making connections
- 3. Taking risks
- 4. Challenging assumptions
- 5. Taking advantage of change
- 6. Seeing in new ways.

(Adapted from Davis & Woodward, 2020, p. 62)

Bandura, A. (1977). Self-efficacy: Toward a unifying theory of behavioral change. *Psychological Review, 84*(2), 191-215. http://dx.doi.org/10.1037/0033-295X.84.2.191.

The article explained the theoretical framework to predict psychological change.

The theory stated that self-efficacy determines whether coping behavior will be initiated, how much effect will be expended, and how long this will sustain in the face of obstacles and experiences.

The strengths of people's convictions in their effectiveness are likely to affect whether they will even cope with given situations. Self-efficacy influences the choice of activities, expectations, and success. Self-efficacy plays a vital role in creative confidence and enhancing teachers' innovative behavior.

Karwowski, M., & Beghetto, R. A. (2019). Creative behavior as agentic action. *Psychology of Aesthetics, Creativity, and the Arts, 13*(4), 402-415. http://dx.doi.org/10.1037/aca0000190.

According to this model, Creative Behavior as Agentic Action (CBAA), transforming creative potential into creative behavior results from a decision informed by creative confidence and the perceived value of creativity. That creative potential works through creative confidence to influence creative behavior. Moreover, valuing creativity is posited as moderating the potential.

The model connected creative confidence and valuing creativity as crucial roles in moving from creative potential to creative behavior. Creative behavior requires a decision to behave creatively, which is influenced by whether someone values creativity. For me, the model was essential to understand that innovative behavior starts

with creative potential, grows through creative confidence, and results in creative behavior.

Creativity and Education

Cropley, A. J. (1997). Fostering creativity in the classroom: General principles. In M. A. Runco (Ed.), *Creativity research handbook (Vol. 1,* pp. 83–114). Hampton Press.

Cropley examined how teachers can promote creativity in the classroom as a teacher. He listed nine conditions necessary for teachers to promote student creativity; encourage students to learn independently, have a cooperative, socially-integrative style of teaching, motivate students to master factual knowledge so that they have a solid foundation for divergent thinking, defer judging students ideas until they are thoroughly developed and clearly articulated, encourage flexible thinking, encourage self-evaluation in students, take student suggestions and questions seriously, provide students with opportunities to work with a wide variety of materials and under many different circumstances and help students learn to deal with frustration and failure so that they dare to try the new and unusual.

The nine conditions; independence, integration, motivation, judgment, flexibility, evaluation, questioning, possibilities, and frustration are still relevant in education. A creative approach can lead to different strategies for vocational education.

Lucas, B., Spencer, E., & Claxton, C. (2012) How to teach vocational education: a theory of vocational pedagogy. *City & Guilds*.

This article described the following practical strategies for stimulating creativity: learning by imitation, watching, practicing, through feedback, real-world problem solving, researching, drafting and sketching, reflecting, through virtual environments, simulation, role-play and games. (pp. 61-85) Teachers need to integrate both conditions and strategies to foster their innovative behavior and a starting point for guidance to innovative behavior.

My project focuses on the innovative behavior of vocational education teachers.

Teachers who combine creativity in their curriculum will flourish their abilities in an environment that supports creativity in vocational pedagogy. There are special capabilities argued to be central to vocational education in the 21st century.

The set of capabilities required in working are routine expertise (being skillful), resourcefulness (stopping to think to deal with the non-routine), Functional literacy (communication and functional skills of literacy, numeracy, and ICT), craftsmanship (vocational sensibility; aspiration to do a good job; pride in a well-done job), business-like attitude (commercial or entrepreneurial sense- financial or social), wider skills for growth (for employability and lifelong learning). This list helped create context around the challenges teachers have to deal with in vocational education.

Organization for Economic Cooperation and Development. (2021). *Teachers and Leaders in Vocational Education and Training, OECD Reviews of Vocational Education and Training*. https://www.oecd-ilibrary.org/education/teachers-and-leaders-in-vocational-education-and-training_59d4fbb1-en.

The Organization for Economic Cooperation and Development described the evolving landscape of teaching and learning in VET. (85-188) The changing demands of the job market affect pedagogical approaches, classroom technology, and the changing needs of teachers themselves and how they teach students. The diversity and everchanging demands pose new challenges for the sector. To survive, teachers must be trained and retrained. Education leaders are responsible for instilling complex skills and providing access to relevant training activities. The key recommended actions for effective teacher and leader policies are to ensure a proportionate supply of well-trained teachers in VET, effectively prepare and develop VET (Vocational Education Training and Teaching) teachers, promote innovative pedagogical approaches to VET, and strengthen leadership in VET.

Creative skills are essential for developing and reinforcing VET teachers pedagogical skills and their fundamental, digital, and soft skills. Inquiry-based teaching, project-based instruction, and collaboration-based learning can assist in the development of essential soft skills like critical thinking, creativity, teamwork, and communication. (pp. 120-121).

Organization for Economic Cooperation and Development (2017), Social and Emotional Skills: Well-being, Connectedness and Success, OECD Publishing, https://doi.org/10.1787/59d4fbb1-en.

http://www.oecd.org/education/ceri/socialemotional-skills-study.

Soft skills; being conscientious, being emotionally stable, being adaptable, being open to the experience, being involved in other people's lives, thinking critically, using metacognition and self-efficacy are foundational to preparing individuals for adult life and allow workers to be more flexible in their response to labor market requirements.

(p.8) Simultaneously, as existing professions change and create new jobs, employees will be expected to be flexible enough to adjust to frequent changes in their careers.

To promote the capacity of VET teachers to adopt and use innovative teaching approaches, soft skills are vital. For soft skills (as well as digital and vocational) to successfully promote creativity, teachers need coaching in selecting suitable pedagogies. Therefore, I believe in the value for this of using creativity in vocational education, and the development of a rubric structure this process.

Creativity and Innovation

Puccio, G.J., Mance, M., & Murdock, M. C. (2011). *Creative leadership: Skills that drive change* (2nd ed.). SAGE.

This book was a great resource and informed my thinking about creativity, the creative problem-solving process, innovation, leadership, and tools that helped me understand the complexity. The book supported the value of educating educational leaders about how to support creative behavior.

Understanding leadership skills and creating a climate for change deepened my

knowledge of creativity. The basic principles were integrated into this Master's project: creativity is an essential workplace skill for innovative behavior.

The question: to what extension did your educational preparation focus specifically on your creative thinking so that you would be prepared to join the modern workforce? (p. 22), is still vital and valuable for my project. Puccio et al. defined innovation as demonstrating originality and inventiveness in work, communicating new ideas to others, and integrating knowledge across different disciplines. (p.22) This definition informed the explanation of the difference between creativity and innovation.

Serdyukov, P. (2017), Innovation in education: What works, what doesn't, and what to do about it? *Journal of Research in Innovative Teaching & Learning, Vol.* 10 (1), pp. 4-33. https://doi.org/10.1108/JRIT-10-2016-0007.

Innovation means looking beyond the current work and developing an idea in a new and useful way. In education, innovations are designed to increase the effectiveness and efficiency of learning and improve learning quality.

Educational innovations can come about in a variety of ways: through the organization and management of systems, through instructional techniques or delivery systems, through teacher recruitment and preparation, through the curriculum, teaching and learning, policies, technologies, administrative procedures, the culture of educational institutions, and teacher training.

Innovation can be applied in any aspect of education that ultimately positively impacts students. One of the most interesting viewpoints in this research is the student's view of educational change. In addition to educational innovations, it is necessary to

simultaneously innovate students' learning; their minds, behaviors, character, work ethic, and metacognition. Nothing will work if you don't include students' attitudes toward learning to develop their learning skills.

To be more cost-effective and time-efficient, colleges and universities must focus on increasing the value of education. The integration of new technology should reinvigorate the education system to encourage autonomy, self-efficacy, critical thinking, creativity, and a supportive culture for innovation.

Innovative Behavior

Hosseini, S., & Haghighi Shirazi, Z. R. (2021). Towards teacher innovative work behavior: A conceptual model. *Cogent Education*, 8(1).

This research highlighted the importance of schools as a learning organization. It implicates the school as a learning environment, process, and professional leadership to foster teachers' work engagement and innovative behavior. Stakeholders and policymakers should be continuously involved in quality improvement. School leaders should provide teachers with a nurturing environment, constantly learning through teamwork, shared decision-making, continuous inquiry, and strategic leadership.

A dynamic learning climate fosters teacher work engagement and encourages embracing change, adaptation, and novel practices. Schools should be aware of teachers' passion and energy to work. It is essential for teachers to feel more attached to the workplace and innovate. This positive energy should concern policymakers to develop effective interventions to sustain positive work behavior.

Runhaar, P., Bednall, T., Sanders, K., & Yang, H. (2016) Promoting VET teachers' innovative behaviour: exploring the roles of task interdependence, learning goal orientation and occupational self-efficacy, *Journal of Vocational Education & Training*, 68 (4), 436-452. DOI: 10.1080/13636820.2016.1231215.

This research was conducted in Dutch VET (Vocational Education for Teaching and Training) institutes, exploring the role of interdependence, learning goal orientation, and occupational self-efficacy. Task interdependence may act as an activating force for teachers to engage in innovative behavior. Learning goal orientation is a personal source (intrinsic motivation) that transfers the effect of task interdependence (as a situational source to stay engaged). Occupational self-efficacy is like a self-assessment for teachers.

The practical implication of the research is to encourage teachers to work together with subject matter experts in the different fields on collaborative projects, stimulate positive feedback to create opportunities to learn, create a culture to learn from colleagues and celebrate successes, professional development can be seen as an opportunity to learn from colleagues and implement collegial consultation or mentor program, consider transformational leadership and frame complex teamwork as a learning opportunity. The implications will stimulate teachers' innovative behavior in an environment with high task interdependency.

Thurlings, M., Evers, A., & Vermeulen, M. (2015). Toward a model of explaining teachers' innovative behavior: A literature review. *Review of Educational Research*, *85*(3), 430–471. https://doi.org/10.3102/0034654314557949.

In a knowledge-based environment, where innovation is critical for success, innovation depends on people's behavior. A literature review used 396 publications, including journal articles and dissertations to define innovative behavior as a self-initiated, three-stage process: (a) intentional idea generation, (b) idea promotion, and (c) idea realization. Innovation is viewed as the interaction between the person and the situation. (p. 442) Reflection is part of idea generation and teacher change.

Data analysis distinguished individual and organizational factors that influenced innovative behavior. The individual factors of personality, trait, and competence explained people's orientation toward work. The organizational factors; actors and relations with other people, facilities and resources, culture, task factors, and physical characteristics of the organization, show how to influence teachers' innovative behavior.

The effects of innovative behavior are not only positive. Teachers with an innovative approach may have to pay the price for this behavior. Conflict with coworkers is a potential adverse effect of innovative behavior. It can disrupt the teacher culture and the status quo, and the managers or school leaders may not support new approaches. Teachers should acknowledge they need each other and ask for their support. Conflicts are necessary and beneficial for innovation.

Teachers need help by giving each other feedback, developing a learning culture, and promoting autonomy and task interdependency. A leadership style that supports instead of controls the behavior of teachers can promote innovative behavior.

Team Collaboration

Edmondson, A. C. (2012). *Teaming: How organizations learn, innovate, and compete in the knowledge economy* (1st ed.). Jossey-Bass.

The book explained how increasingly complex challenges in the business environment depend on teams. Team formation, by its very nature, is a learning process. Not every event happens the same way twice. It takes the interaction between people to align ideas or actions.

The key role of learning in this process is essential to understanding how team formation takes off and catches on in situations where interdependent action is required. A successful team integrates different perspectives, consults, and deals with conflict when people work together. Developing interpersonal skills related to learning (inquiry, curiosity, listening) and teaching (communicating, connecting, and clarifying) is vital.

Edmondson discovered a set of recommended behaviors that promote collaboration and team success. (pp. 52-148) Four specific behaviors that promote team success are speaking up, collaborating, experimenting, and reflecting. (p.52)

Collaboration can lead to conflict. Leaders can reduce conflict by identifying the nature of the conflict, modeling good communication, identifying shared goals, and encouraging difficult conversations. (p. 71)

In a psychologically safe environment, people can offer ideas, questions, and concerns. Because uncertainty clouds thoughts and perceptions, teaming depends on learning, failure, and collaboration. Edmondson revealed seven specific benefits of psychological safety in the workplace: encourages expression, enables clarity of

thought, supports productive conflict, mitigates failure, promotes innovation, removes barriers to pursuing archival performance goals, and increases accountability.

Innovation in education depends on team behavior. (p. 126) Edmondson pondered how a team depends on learning, communication, and coordination. In professional education, teacher teams are not used to working together; they function independently in their classrooms. To encourage the effective use of innovative approaches and behave more innovatively, teachers need support in training and learning to work together.

The Role Of Educational Leadership

Amabile, T., & Kramer, S. (2011). The progress principle: Using small wins to ignite joy, engagement, and creativity at work. Harvard Business Review Press.

Amabile and Kramer found significant evidence that leaders can positively influence employees' inner work life. The inner work life, emotions, perceptions, and motivation, affect people's performance, such as creativity, productivity, work engagement, and collegiality. (pp.51-57) The progress principle describes three categories of events that influence inner work life; small victories, breakthroughs, forward movement, and completion of goals. (p.58) Catalysts are events that support working on a project: setting clear goals, allowing autonomy, providing resources and sufficient time, helping with the work, learning from problems and successes, and keeping ideas flowing. (pp.101-108) Nourisher factors; are the events that support the person; respect, encouragement, emotional support affiliation. (pp. 131-133)

This book has inspired me to explain teacher behavior. Teachers work independently in the classroom, and new insights argued for more collaboration

between them. Not every teacher endorses this unique insight, educational leaders can inform themselves to create a fertile ground for innovations. It helps me in substantiating recommendations for leaders.

Zimmerman, J. (2006). Why some teachers resist change and what principals can do about it. *NASSP Bulletin*, *90*(3), 238–249.

Zimmerman highlighted actions that educational leaders must take to overcome their resistance to changing the way they lead. Next, to examine the leadership skills and required changes in leadership practices, facing teacher resistance to change. The first ability to overcome resistance to change is to discover who is resistant to change and why. Teacher resistance can be fear of the unknown or seen as a threat to recognized expertise.

The mental models can promote or hinder change, and educational leaders must recognize underlying feelings of loss for what is asked to give up. Educational leaders can encourage change readiness by improving their skills in analyzing alignment to identify areas for improvement.

There are two types of change needed in schools, first-order change (classroom change, represented by teaching development of something you are already doing) and second-order change (changing something fundamental, rewriting a system).

Educational leaders support change by including both teachers and stakeholders in developing a shared vision and providing opportunities for collaboration and participation in the decision-making process. Teachers' self-efficacy is related to

students' motivation, achievement, and self-efficacy, and they face obstacles as challenges to overcome.

Leadership support and professional development can improve teachers' sense of efficacy. A critical step for leaders is to create a sense of urgency and provide evidence as an opportunity for improvement. Developing the vision is vital to operationalizing goals and strategies at the classroom level. New methods can be internalized when change initiatives and new behavior are rewarded for implementing and sharing information or potential problems. From this point of view, leaders can focus their attention on monitoring progress and initiating changes.

SECTION THREE: PROCESS PLAN

Goals and Outcomes

My initial plan for this Master's Project was to identify the training needs of teachers for providing relevant and customized professional development. During this process, new information changed the direction for finding a way to increase awareness of innovative behavior. This opportunity to influence teachers' readiness to be innovative begins with cultivating an understanding of creativity and of creative self-confidence. The realization that many teachers are adaptive in teaching, and are facing constant changes in education, inspired me to focus on raising awareness of innovative behavior and how teachers and managers can contribute to this.

Introducing creativity-based pedagogy within professional education does not necessarily lead to creative people. To transform teacher and student behavior, teachers must become aware of their creative potential and develop a level of self-confidence sufficient to stimulate creativity in the classroom. This transformation requires collaboration and the application of creative pedagogy.

The first step of this project was a literature review about creative behavior on the one hand and expert interviews on the other hand. Teachers, educational experts, alumni as well as fellow students have contributed to informing my ideas by asking questions and offering new perspectives, or work experience stories.

I interviewed various experts as part of this process. Defining innovative behavior, crucial for teachers and educational leaders, has been a step towards a shared understanding of innovative behavior. The first step was a conceptual list of

elements and creativity skills essential for defining innovative behavior and a definition of innovative behavior.

The second step of this project was to deliver a conceptual rubric for developing innovative behavior in the Dutch language because the target audience is Dutch teachers. The rubric will function to self-test and raise awareness around innovative behavior.

Teachers can use the rubric to prioritize individual training needs. The results can add value to developing professional training for creativity. It also provides input for developing a combination of highly contextualized formal and informal support for teachers, increasing responsibility for self-motivation, and actively tapping their knowledge and experience.

The third step of this project was to further develop the rubric and the development of a booklet. It was necessary to gather support from teachers, educational leaders, and fellow students about creativity and innovative behavior in education. This group of experts was willing to provide feedback and feed-forward to fine-tune the rubric and booklet. I pilot tested the rubric with teachers of my department and used LEGO to collect new insights for improving the rubric.

During this step, I interviewed an alumnus, Janice Francisco, a successful businesswoman in the consulting industry of creativity. We talked about the value of selecting a target audience when starting up a business.

This step resulted in an exploration of the target audience that might be interested in the results of this project. The initial target audience was educators, as a result of this interview I also arranged to review the rubric and booklet by a consulting

engineer and a health care business owner. The first response is promising. Both the rubric and the booklet have the potential to be used outside of education.

The last step in completing this project was to identify recommendations for educational leaders to stimulate innovative behavior. This list of recommendations was essential for empowering leadership skills that supported creativity and innovation and highlighted a core responsibility of educational leaders; supporting, evaluating, and developing teacher quality (Organisation for Economic Co-operation and Development, 2021, p. 168). Unfamiliarity with the conditions for cultivating innovative behavior affects adapting to the demands and constraints of learning.

Project Timeline

Project Timeline and Action Plan					
Activity	Deadline	ours to complete Support			
Proposal development	February 8, 2022	10 Dr. Keller-Mathers			
Proposal approval	February 14, 2022	12 Dr. Keller-Mathers			
Conduct research and collect information Write section 1-3	March 14, 2022	45 Dr. Keller-Mathers			
Contact teacher for feedback	February 25, 2022	4			

Select definitions and	March 11, 2022	15			
questions innovative behavior, creativity,					
critical thinking, and collaboration					
Identify gaps in existing knowledge,					
skills, and resources					
Identify the essential	March 25, 2022	10	Hanneke Hovels		
elements necessary					
to develop a rubric					
Define innovative	March 11, 2022	2			
behavior					
Develop a booklet	April 8, 2022	20	Hanneke Hovels		
about innovative behavior					
Contact with alumni	March 27, 2022	3			
Make a list of 10 ideas					
that supports a customized					
training approach					
Get feedback on	April 8, 2022	3			
the booklet/ rubric					
Develop	April 1, 2022	20			

an English version of the booklet				
Compose a model for				
Innovative behavior.				
Write sections 4-6	April 18, 2022	40	Dr. Keller-Mathers	
CRS 690 project	May 2, 2022	10	Dr. Keller-	
Mathers				
completion and presentation				
Beyond the scope of my project:				
Develop training			ongoing	
activities and workshops for VET teachers				
Activities to stimulate			ongoing	
innovative behavior in education and other companies				

A visual of the scope of this project can be found in Appendix A.

Evaluation Plan

Evaluation of this project included the formation of goals and measurable deliverables. Table 3 below lists the main goals and the corresponding measure for its completion and success.

Table 3:	
Goals and Completion for Success	
Goal	Success criteria
Identify the needs of teachers Professional Development	Talk to minimal six teachers about my project and select valuable data to develop a guide and rubric
Identify best-practice ideas of training adults, customized training and workshops	Conduct a list of 10 ideas that support a personalized training approach
Find best practices of teacher-friendly rubrics	An approved validated rubric example to develop the rubric for this Master's Project
Develop a teacher-friendly rubric to identify innovative behavior of teachers	A conceptual rubric in Dutch that captures innovative behavior at different levels, which is useful for different types of teachers
Develop a booklet for teachers to clarify innovative behavior.	A booklet in Dutch and English language that clarifies and simplifies innovative behavior in a vocational education setting
Identify the role of leadership promoting a climate for learning	A list of 5 ideas for leaders to promote innovative behavior

SECTION FOUR: OUTCOMES

Introduction

The development of the rubric, booklet, and list of ideas to promote innovative behavior was the main focus of this project. Besides a more in-depth literature review to understand innovative behavior, I enjoyed working on the list of ideas for educational leaders to promote innovative behavior. Talking to the teachers of my support group, helped me realize that there is a gap in knowledge and skills about the innovation process and the role of leadership. Information that highlighted elements to support innovative behavior will inform educational leaders to create a sustainable working environment. For teachers, it is very hard to think and develop new ideas in a working environment where field knowledge changes rapidly and time for development is limited.

This section provides an overview of the development of the rubric, the additional booklet, tips for educational leaders, and the input I received from experts. During the in-depth literature review, I created a summary of important directions for managers and educational leaders to support teachers innovative behavior. This resulted in a list of ideas for managers and educational leaders to support the innovative behavior of teachers in the workplace.

I underestimated the time schedule of working on this project. Although my feedback partners were very helpful in this process, the development of the products is a process that takes time and I realized that I am not finished yet. Developing a customized training program and understanding what elements create customized and engaging training is something I am still interested in, but I was not able to do this in time. This is something that I will continue to develop beyond this master's project.

Process Development of the Rubric

The development of a rubric to create awareness of innovative behavior in education (Messmann & Mulder, 2012) was on my mind during this process. I realized that information about teachers own performance or progress is to identify strengths and weaknesses in their innovative behavior in order to make improvements and promote learning that is necessary for the process of innovation. I developed a rubric that reflected the quality of teachers innovative work by self-test their level to the rubric criteria. The rubric is aimed to raise awareness of teachers value in the innovation process or to check their progress. By asking for examples of personal actions in innovative work, I hope to prevent the employee's bias to present themselves in the most favorable light. The outcomes of the rubric can be used to offer opportunities to improve their performance. The result of the rubric is intended to contribute to the vision of the educational organization.

The first step was identifying what innovative behavior means and finding definitions of innovative work behavior that are useful to investigate individual actions directed at the generation, introduction, or application of novelty at any level of the organization.

This resulted in the following definition of innovative work behavior in vocational education (Kleysen & Street, 2001):

Innovative workplace behavior is an individual action directed at the generation, introduction, or application of beneficial novelty at any organizational level. This might include new product ideas, technologies, changes in administrative procedures aimed at improving work relations, or the application of new ideas or

technologies to work processes intended to significantly enhance their efficiency and effectiveness. (p. 285)

Carmeli, Meitar and Weisberg (2006) highlighted innovative work behavior as a process that needs support:

Innovative work behavior is a process in which an individual recognizes a problem for which she or he generates new (novel or adopted) ideas and solutions works to promote, and build support for them, and produces an applicable prototype or model for the use and benefit of the organization or parts in it. (p.78)

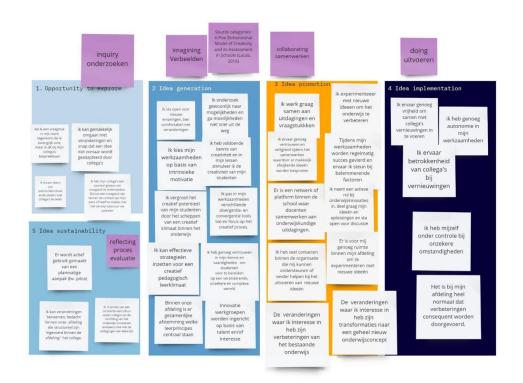
To understand what innovative work behavior looks like in the work environment and how to apply this as a teacher, there must be a clear understanding of what the difference between creativity and innovation is to understand what it means to be creative and what the difference is when you work on innovation projects. Anderson et al. (2004) described the difference between creativity and workplace innovation.

Creativity focuses on the generation of new ideas (e.g., Innovation in work organizations refers to the generation of potential alternatives, a selection from these alternatives, and an implementation of the chosen options). Innovation in the workplace can be viewed as a wider process that includes the generation of ideas (creativity) as well as the implementation of ideas within the work setting. Creativity typically characterizes the creation of something new. Innovation may also include the application of a product, procedure, or process that is already in use somewhere along the way, providing the new application is made within a particular role, workgroup, or organizational context.

A review of diverse research papers on innovative work behavior resulted in different behavior associated with each phase of the five-stage process. A synthesis of different behavior in the five-stage process in Dutch can be found in Figure 1, a larger visual can be found in Appendix C.

Figure 1

Innovative Behavior in the Five-Stage Process

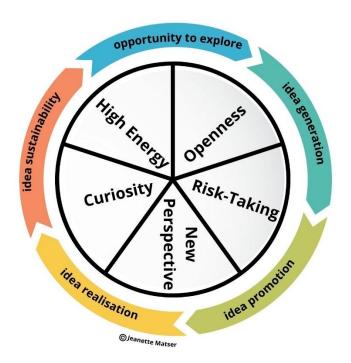


Messmann and Mulder (2012) developed a measurement for innovative behavior and explained (2010b) the five-stage process. The first stage is opportunity exploration, this requires keeping up with the latest development and information at one's school. This stage includes sharing one's thoughts about recent developments. The second stage is idea generation where one expresses ideas necessary for change or

improvement. The third stage is idea promotion, which is focused on sharing and promoting ideas with colleagues, and this stage is about creating momentum for potential change. The fourth stage is idea realization, where testing of solutions drives the practical application in the work context. The fifth stage is idea sustainability, this stage is about assessing the progress of the innovation and improving the action strategy. A visual of the five-stage process is displayed in Figure 2, a larger visual can be found in Appendix J.

Figure 2

Five-Stage Process Model of Innovative Behavior



Note. The five-stage process model of innovative behavior (Messman & Mulder (2010b): opportunity to explore, idea generation, idea promotion, idea realization, idea sustainability includes five foundational skills that accelerate innovative behavior; curiosity, high-energy, openness, risk-taking, and new perspectives. Model design: Jeanette Matser.

As I completed my literature review, I searched for an example of a valid rubric to use for the development of my innovative behavior rubric. I found a good rubric example (Vincent-Lancrin et al., 2021) which the Organisation for Economic Co-operation and Development (OECD) developed for teachers to develop students' creativity and critical thinking skills. The categories proposed by Lucas, Claxton and Spencer (2013) were used for the development of the innovative behavior rubric in the OECD publication. There is a sequence of actions that lead to creativity and this rubric contains the following headings; inquiry, imagining, doing, and reflecting. My rubric is built upon those headings, and I personally added collaboration to the concept rubric. I have selected this option in order to ensure consistency with the OECD's Rubric.

The headings for the innovative behavior rubric are inquiry, imagining, doing, and reflecting. Inquiring highlights the importance of identifying problems, gaps in information, and analyzing different perspectives. This corresponds to three steps of the Creative Problem Solving model (Puccio et al., 2007); assessing the situation and exploring the vision and formulation challenges. Doing connects to the first step of the five-phase model of innovative behavior; the opportunity to explore (Messmann & Mulder, 2012).

Imagining refers to the ability to generate ideas, theories, and assumptions. This corresponds with exploring ideas in the CPS framework (Osborn, 1953) and the idea generation phase of Messmann and Mulder (2012).

Doing is the convergence or implementation of generated ideas. This is about the selection of ideas that have been inquired about and imagined. Doing is also about exploring and experimentation and it connects with the formulation of solutions,

exploring acceptance, and formulating a plan in the CPS model (Osborn, 1953).

Although doing can be seen as an implementing phase, doing in the five-phase model of innovative behavior refers to idea promotion and idea realization.

I personally added collaboration to the rubric, because idea promotion and idea realization typically includes deliberate collaborative behavior which is important for sustainable innovation. Innovation depends on good working teams; teams that are adaptive, self-regulative, include feedback loops, and optimize their potential are important when working together on solving problems (Edmondson, 2012).

Reflecting occurs at different stages in the process which leads to selecting the best ideas and moving back or forward in the process. Reflecting also includes a level of intentionality, it implies self-reflecting on perspectives, openness to other ideas, or suspending judgment and leads to actions that support the development of ideas (OECD, 2021).

A synthesis of the rubric question format can be found in Figure 3, a larger visual can be found in Appendix G. The rubric is intended for a Dutch audience, therefore the questions are in the Dutch language. Figure 4 showed an image of the Rubric of One Version 1. An example of the questions used for the Rubric of One can be found in Appendix D and an English version of the questions in Appendix E.

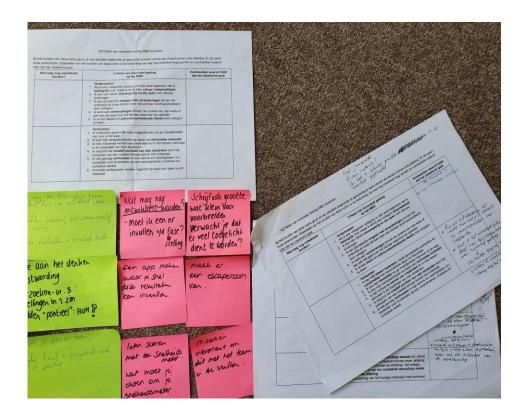
Figure 3

Synthesis Dutch Rubric Questions



Figure 4

Example Rubric of One: Version One



Note: The Rubric of One is mainly focused on providing feedback. There is only one guideline per section that must be met. If this is met, it is all good. The difference is most obvious when improvements are needed or when the result is positive. This rubric raises awareness of innovative behavior and delivers better insights into the learning process.

The development of an innovative behavior rubric for teachers is related to boosting the status of creativity in the innovation process. It is powerful to use the feedback to create a more creative approach in schools, it helps teachers to think creatively and how they can cultivate a more innovative approach in the classroom. It creates and structures conversations between teachers who are interested in teaching

and assessing creativity. Creativity might be a vague construct for some teachers, but it is more important nowadays and a rubric can help identify training needs that are useful for professional development (Lucas, 2016).

To identify typical work activities that were carried out to generate or support other teachers' creativity in each different phase in the innovative work behavior I reviewed the work of Davis and Woodward (2020), Chernyshenko et al. (2018) and created a visual (Appendix B and C) that helped synthesize the essential elements for the development of the rubric. Different creativity skills in each phase of the five-stage process is displayed in Figure 5, a larger visual can be found in Appendix B.

Figure 5

Creativity Skills in the Five-Stage Process

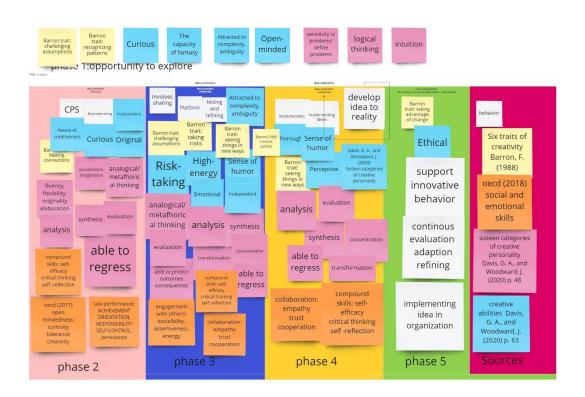


Figure 6

Visual Prototyped Rubric





In Figure 6 above, can you see a prototyped version of the rubric intended for a Dutch audience. You can find a larger visual in Appendix F.

Key Learnings and Improvement Rubric

To summarize the key learning and improvements of version one of the rubrics, I used the POINt tool for converging the main issues that need to be addressed in version two. POINt is a four-stage process that gives new ideas a chance and helps you track all the ideas in the development process (Miller et al, 2011). A prototype of the

Dutch version of the rubric can be found in Appendix D and a prototyped example can be found in Appendix F. The rubric is in the Dutch language because my target audience is Dutch education.

Table 4Outcome on POINT Evaluation of Rubric Version 1

POINT rubric

Plusses

It is a helpful rubric for my work.

The heading explains different stages of innovative behavior.

The title clarifies what you do in every step.

The rubric gives an insight into what to expect when you innovate.

I see the importance of raising awareness of one's behavior, building trust, persuading, collaborating fantasy, and showing your talents.

It shows that innovation is a process that needs guidance.

The rubric is clear and positive.

Reading the rubric made me realize I had never worked in a team that stimulated innovation.

Opportunities

It might be a valuable document for a development conversation at work.

It might be interesting to create an app to quickly test your behavior.

It might be helpful as guidance in innovation projects.

It might spark interest when you develop an escape room to learn about innovative behavior.

It might be valuable to use the rubric as an evaluation tool for the team's success.

Issues

H2 make this reader-friendly?

H2 that professional development is a free choice?

How might you work on a challenge that you feel engaged in?

H2 make the sentences less interpretable?

H2 connect this rubric to Belbin team roles?

How might the work context influence the level of your innovative behavior?

H2 develop a team rubric?

H2 know different levels of innovative behavior?

H2 change the rubric into a self-assessment test?

H2 the reader understand what creativity is?

H2 make more visual and fun to use?

How might this be useful to assess a team leader?

H2 explain what support a teacher need in the process?

H2 share this document with every teacher in the department?

H2 know that the rubric presents the results you want?

New thinking

Better balance between text and playfulness.

Add value to create a Dutch and English version of the rubric.

Make the rubric reader-friendly.

Share the third, more playful concept version with a new teacher group and ask for their feedback.

Use a clear voice in the text.

Booklet for Teachers

How do teachers know what innovative work behavior looks like in their everyday work environment? This question leads to the development of a booklet. I used different papers and books (Anderson et al., 2004; Beghetto, 2018; Beghetto, 2019; Greenberg et al., 2021; Hammond et al., 2011; Kleysen et al., 2001; Messmann et al., 2010b; Messman et al., 2012; Mumford et al., 2000) that informed my thinking. The synthesized key learnings from this Master's Project are used to inform teachers about innovative behavior in education. The booklet is a summarized version of all the important and useful information. Starting with the general and fundamental goal in mind, the main focus of synthesizing why teachers must fuel their innovation skills was the urgency to prepare students to function in an unknown future (Lucas, Spencer & Claxton, 2012).

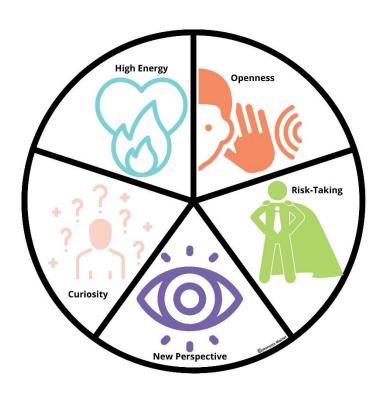
In the booklet, you can find a self-composed model to connect the five-stage process of innovative behavior and the five foundational skills I selected, to stimulate the ability to use one's creativity to innovate. The five-stage process of performing innovative behavior (Messmann, & Mulder, 2012) is an iterative process (Carmeli et al.,

2006; Lambriex et al., 2020a, 2020b) and you can move back and forward in this process. In order to get a better view of what the process looked like, you can find an example of this model in Figure 2 (and Appendix I) to clarify which creativity skills are important in each of the five-stage processes. It is helpful to understand what typical skills lie underneath each stage to understand what potential skills are needed to be developed to perform well.

I selected five foundational skills that accelerated innovative behavior in the booklet: curiosity, openness, high energy, taking perspectives, and risk-taking. You can find the five foundational skills in the visual below in Figure 7, a larger visual can you find in Appendix I.

Figure 7

Five Foundational Skills to Accelerate Innovative Behavior



Curiosity is an important driver to becoming active "in innovation development and in overcoming difficulties arising in innovation processes" (Thurlings et al., 2015, p. 444). Messmann and Mulder (2010b) stated that curious teachers were more innovative in their work. Openness is important for being sensitive to exploring opportunities and for allowing conditions and procedures to change. Both curiosity and openness affect teachers behavior and the creative approach in the classroom. High energy is a driver for working on exciting projects (Davis & Woodward, 2020). High energy is activated by feelings towards a goal or project a teacher is confronted with. If a teacher's occupational self-efficacy is activated, they are likely to believe that the innovative ideas they bring in will be valued by others (Runhaar et al., 2016; Lambriex et al., 2020).

Innovative behavior is affected by engagement, motivation, and working with an individual level of autonomy (Thurlings et al., 2015; Messmann et al., 2010b; Elo et al., 2020). Engagement is about bringing one's energy and passion to work. Engaged teachers feel more attached to their work, this is necessary to be innovative (Hosseini et al. 2021). High energy is composed of these different elements and therefore in my booklet.

Perspective-taking is important to recognize and evaluate opportunities (Davis & Woodward, 2020). Perspective-taking is about empathy; innovation in education is also about paying attention as a teacher and caring about what students need. Risk-taking is the last foundational skill in my model to fuel innovative behavior. Although the global trend in education is decreasing teacher autonomy and increasing teacher accountability through standardized national tests, vocational education is influenced by

automation, the green transition, and population aging. These changes impact changes in skills needed by students (Organisation for Economic Co-operation and Development, 2021). I think students need proper preparation for this unknown future, there is a lot of uncertainty, ambiguity, and complexity to include in their skills-building. I think taking risks is dealing with uncertainty, which may be identified in ill-defined and complex issues. Risk-taking is dealing with ambiguity.

Finding the right tone in the booklet to activate teachers ability, willingness, or readiness to experiment with uncertainty, complexity and ambiguity, I decided to incorporated those abilities into the larger concept of risk-taking. Teachers need risk-taking in the five-stage process of innovative behavior and they need risk-taking in their innovative approaches in the classroom to foster students' innovative behavior. Risk-taking means attempting to accept an uncertain and unknown outcome. Complexity means that something is not clear and many components interact with each other.

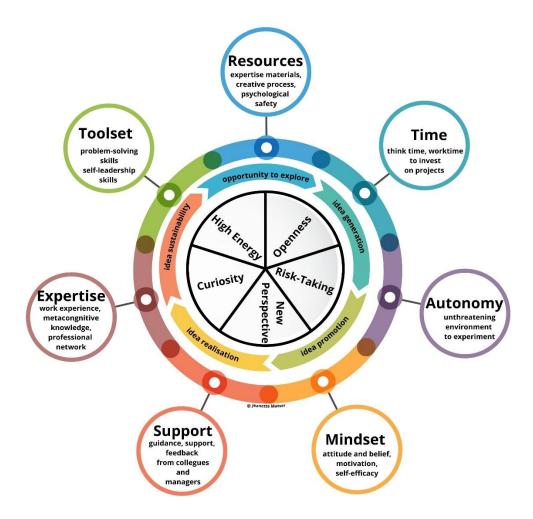
Decisions made in a complex system have positive and negative consequences and require risk-taking.

Innovative behavior is all individual actions to improve your work. This is the result of integrating a skillset, toolset, and mindset (Horth & Vehar, 2012) when people work on passioned projects or challenges.

Figure 8 on the next page presents the model to explain the integration of all the elements mentioned above; a larger visualization is in Appendix H.

Figure 8

Innovative Behavior Model

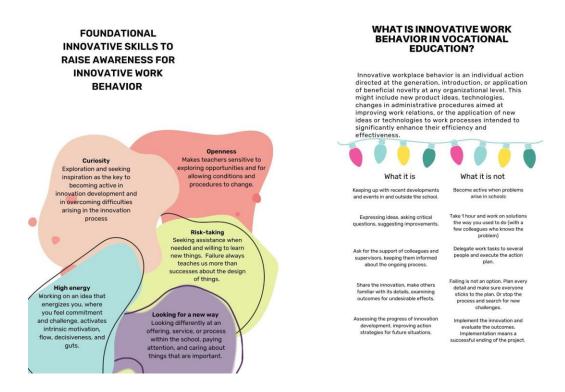


Note. The Innovative Behavior Model is a five-stage process, the process is demonstrated in the opportunity to explore, idea generation, idea promotion, idea realization, and idea sustainability. Five foundational skills accelerate this behavior; curiosity, openness, high energy, new perspective, and risk-taking. Four elements that support the individual approach are resources, time, autonomy, the collaborative approaches are supported by mindset, support, expertise, and toolset (Hosseini et al, 2021; Mulder & Messmann, 2010b; Thurlings et al., 2015). Model design: Jeanette Matser

I found interesting details in my literature review that could help teachers to be more effective in their behavior. This resulted in a description of what innovative behavior could be like in the work environment and examples of old thinking that must be let go (see Figure 9, and for a larger visual Appendix K).

Figure 9

Example of What Innovative Behavior Is and Old Thinking That Must Let Go.



To be more specific on how you can accelerate innovative behavior, I created ten ways to spark innovative behavior. This might function as a work mindset. I used the selected foundational five skills to integrate this into ten useful tips to accelerate innovation in the workplace (Figure 10, a larger visual can be found in Appendix K). The tips can be found in the chapter: How to spark your innovative superpowers?

Figure 10

Example Booklet: How to Spark Your Superpowers?

CREATIVITY AND INNOVATION IN VOCATIONAL EDUCATION

General goal in vocational education is the development of work competence that includes routine expertise, resourcefulness, functional literacy, craftsmanship, and a businesslike attitude. The fundamental goal of a school is to prepare students for the unknown future. It makes sense for students to learn to respond to uncertainty. Providing students with opportunities to learn to respond productively to uncertainty will help prepare them for the real challenges they face now and in the future.

Students should learn actual complex problem-solving, which involves different levels of uncertainty. This can be achieved by providing a work environment where students move between expert instruction, collaborative investigation, and practicing a skill using specialist equipment. An environment where basic (theoretical and practical knowledge of subjects and expertise), digital, problem-solving, and soft skills are included. This practical guide acompanies the rubric for innovative work behavior for teachers in vocational education.



Innovative behavior is a process that consists of five phases; opportunity exploration, idea peneration, idea promotion, idea realization, and sustainable embedding of an innovation initiative. The first two phases of the process are of individual character and arise out of intrinsic motivation. The sequential phases; idea promotion, idea realization, and sustainable embedding of an innovation opportunity require explicit teamwork and collaboration within the organization and are partially determined by the mindset in the organization.

HOW TO SPARK INNOVATIVE SUPERPOWERS?

- 1. Enter the workplace with openness and curiosity,
- 2. Be more active in developing innovation and overcoming difficulties,
- Shape your attitudes and beliefs for professional change.
 (e.g., towards incorporating creativity skills into the curriculum or preferred traditional teaching priorities).
- 4. Seek out exciting projects and activities that spark up your motivation
- Master your creative thinking skills to implement these skills in the classroom,
- 6. Collaborate with your colleagues and create a safe learning environment together,
- 7. Ask for support, mentorship, guidance, and feedback when working on challenges or when taking risks,
- 8. Together with your colleagues, create a relaxed environment where you can share and evaluate new ideas, opportunities, gut feelings, and risk-taking,
- 9. Raise the sense of playfulness in the classroom by generation and experimenting with new ideas,
- 10. Work together on projects and communicate the procedures that should be used to complete a task.

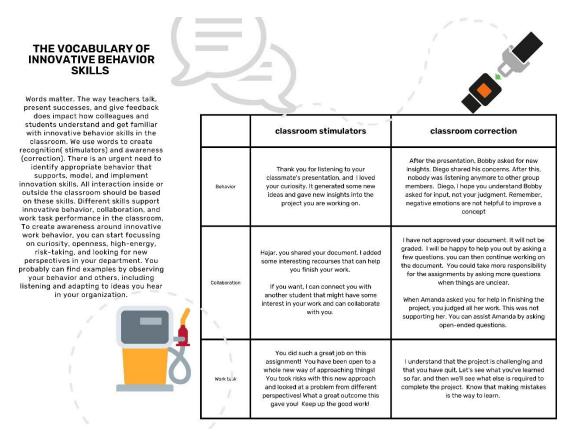
In the creativity and change leadership class with Dr. Puccio and Dr. Yudess, I learned about the Fritz Creative Tension Model (Fritz, 1986). Fritz (1986) stated how the mind is motivated to relieve that cognitive dissonance by closing the gap between your current reality and your vision, and so you can release more energy, resources, and creativity to find ways to close that gap.

My vision is to help teachers be more innovative in their work and the tension is the difficulty a teacher experiences working in a standardized environment where learning from failures is not common in an isolated classroom setting. This meant breaking boundaries in a standardized environment into creating space for experimentation. I think this gap can be bridged by using the right words to encourage the performance of innovative behavior of teachers.

It inspired me to incorporate some examples of sentences in the booklet that people can say that help or hinders innovative achievement. In the booklet is this process described in the heading: the vocabulary of innovative behavior. There you can find examples of stimulators and correction. (Figure 11, for a larger visual Appendix K).

Figure 11

Example Booklet: Stimulators and Correction

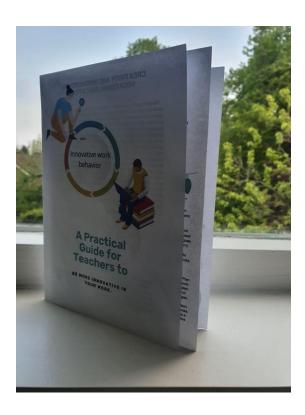


Key Learnings And Improvement Booklet

To summarize the key learning and improvements of version one of the booklets, I used the POINt tool (Miller et al, 2011) for converging on the main issues that need to be addressed in version two. The prototyped version has to be double-side copied and folded into a booklet (Figure 12).

Figure 12

A Prototyped Booklet



Visuals of the Dutch prototyped booklet can be found in Appendix L.

Table 5Outcome on POINT Evaluation Booklet

POINT Booklet Dutch version

Plusses

You can easily recognize the five-stage process in your own work, after reading this booklet.

You can understand why you get stuck in an innovative process. (for yourself or at team level)

The information in the booklet is useful for different professions.

It's very interesting for every employee w

Opportunities

It might be valuable for a bigger audience It might be useful for the introduction of training

It might be interesting starting with the booklet and then introducing the rubric when you inform the audience.

Issues

H2 add more value to the booklet?

H2 make sure words reappear more often in the text?

How might color highlight the 5 foundational skills?

How might you balance the text and a playful layout?

H2 target a bigger audience?

New thinking

Use the same color to highlight each skill

Translate the booklet into an English version

Find someone who can provide feedback for staging the right voice

Use the booklet to inform educational leaders

Develop a booklet for managers and include the rubric

Develop a workshop to inform employees and/ or managers about innovative behavior

Recommendations for Managers and Educational Leaders

To explain what behavior of educational leaders leads to more innovative behavior of employees, I used the model of Thurlings et al. (2015) that described the relation between three factors; demographic, individual, and organizational factors. The demographic factor described the upbringing years of education, years of teaching experience, and the function within the teacher job.

The individual factor described the personality, traits, and competencies. The organizational factors described the relations with other people, the facilities and resources, the culture, task factors, physical characteristics of the organization, and external factors like rules and regulations.

I used this model to organize the key findings I like to share in this section. For managerial advice, I selected different sources that informed my thinking about what managers should do to foster innovative behavior in education.

Demographic Factor

Age-related to more work experience influences innovations in the classroom (Messmann et al., 2010a). This means that aged teachers have experienced reflection on their work, and have more insights into students interests, understanding of future job characteristics, and adaptive abilities to cope with ongoing changing circumstances in their job.

Experienced teachers, who have more metacognitive knowledge, and work experience tend to be more engaged outside the classroom innovations. Their network is useful to elaborate on resources for development.

Lambriex et al. (2020b) described that managers should pay attention to the composition of innovation teams. Every stage in the innovation process should include different profiles; "more mature teachers are essential in the creativity phases, whereas teachers with more experience in teaching and a considerable number of working hours are crucial for the implementation phases". (p.131)

These insights resulted in the following statement: To select the best employees for an innovation project, consider a diverse group of people, including those with agerelated experience, who know what has happened in the past and know how to build on experience to explore the future.

Individual Factor

Like Badura (1977) described in his research, self-efficacy is an excellent predictor of behavior. It influences performance accomplishments, experiences, persuasion, and emotional arousal. Self-efficacy is a trait that influences motivation and activates resources to meet situational demands. Self-efficacy will help teachers to dare and take risks that accompany innovative behavior (Runhaar et al., 2016).

Another factor that activates behavior is curiosity (Messmann et al., 2010a; 2012). This resulted in the following statements;

Identify which colleagues have personal qualities that accelerate innovative behavior. For instance, select a human resource instrument to measure those qualities or use the innovative work behavior rubric for teachers to self-assess their qualities.

Organizational Factor

Lambriex et al. (2020a) described that the implementation of innovative work is more successful when teachers have meetings where ideas are discussed, questioned, or elaborated. This includes creative competence training. Teacher involvement before and after the implementation leads to fewer fallbacks in old behaviors and is a well-spent investment of time.

Thurlings et al. (2015) described that support and guidance affected the stage of idea generation and idea promotion. Support and guidance from educational leaders involve recognition and appreciation of the efforts made, which are articulated in the manager's feedback to teachers.

Another positive influence of managers on teachers working under time pressure had an effect on the implementation of more ideas. The more innovative behavior the manager expects, the more teachers contribute to innovative work (Lambriex et al., 2020b).

This leads to a new piece of advice: managers have to create a supportive work environment. Teachers require the guidance and support of a manager and colleagues to be successful in innovative work.

Lambriex et al. (2020b) explained that managers should provide the right preconditions, such as time and resources, to work on innovations. By providing the necessary time and resources to work on innovations, managers "are expressing the belief that innovation is important, which in turn lead to a more innovative climate".

(p.131) Hosseini et al. (2021) highlighted the importance of a learning organization where working engagement influences the innovative behavior of teachers. A nurturing

environment will feed teamwork, participation, shared decision making, inquiry learning, and strategic leadership. Such a learning climate will enhance the tolerance for change, adaption, and practicing of new learning pedagogies.

Working in an environment where you feel engaged in the workplace or work task will boost the energy and resilience of the workplace. Bringing passion and energy to work fuels engagement. That positive feeling makes teachers open to novel ideas and therefore it is important to foster work engagement by providing the right conditions to work on innovations.

Amabile and Kramer (2011) explained why managers should pay attention to teachers inner work life and their actions to support the teacher including respect, encouragement, and emotional support, the outcomes of being supportive do impact innovative behavior in the workplace.

This leads to the following statement: Develop a school culture that supports continuous improvement and takes concrete action to bring improvement ideas to completion, then shares any successes.

Lambriex et al. (2020b) and Runhaar et al. (2016) implicated that teachers self-efficacy, involvement, and a learning environment are predictors of innovative behavior. Positive feedback received from colleagues, and a culture where you can learn from others influences the innovative climate.

When successes are celebrated and recognized by others, it will influence self-efficacy. Incorporating collegial consultation or mentor programs is an opportunity to expand learning opportunities (Runhaar et al., 2016).

This leads to my next advice: Promote intensive and ongoing professional development to improve teachers perceptions of their abilities by offering engaging training in creative skills.

Messmann et al., (2017) advised investing in a supportive climate, where teachers feel autonomous, competent, and involved in the innovation processes. As a result, teachers will feel more involved with innovations and will recognize innovations more quickly in their environment, thereby increasing their exposure to innovation.

Teachers autonomy can be described as teachers capacity to influence and control what action or constraints they operate (Elo et al., 2020). It can work against each other or support each other. Autonomy is a working condition that can be seen in the classroom and at the collegial level to influence and decide what necessary innovations need attention.

Teachers are involved in deciding which innovation opportunities need attention, which is nurtured in an experimental environment where it is acceptable to break boundaries. Teachers who work in an unthreatening climate where both teachers and students challenge themselves and try new things, without the risk of reputational damage or criticism from colleagues, will actively try different things.

Creely et al. (2021) explained that tensions between leadership and pressuring demands in education make it difficult to enact creative risk-taking and try novel approaches. Leadership determines the climate for taking risks and therefore influences support and allows for an innovative learning environment.

This leads to the following advice: Create accessible management that operates from a solid ethic base and supports appropriate risk-taking; use a contextual decision-making process that is fair to all.

El-Kassar et al. (2022) pointed out that perceived organizational support for creativity is important for employees to feel supported in their creativity and connect this to knowledge hiding. Rewarding creative approaches lead to more innovative behavior and better performance. When an organization rewards individuals for their support it will lead to knowledge sharing, but when the reward only highlights the benefit of the organization, it will lead to sharing hiding.

An HR organization should implement in their system a policy to empower employees by recognizing and supporting their problem-solving achievements so that employees feel protected and knowledge sharing is encouraged.

This leads to my next proposition: Build teams on trust and continuously encourage and promote collegial collaboration.

Because employees naturally tend to maintain the status quo, leadership style is a critical factor in overcoming difficulties and taking innovative action to address the complex challenges in education. I believe inclusive leadership provides a leadership style that promotes more innovative behavior in education. Inclusive leadership is critical because of its inclusiveness, openness, uniqueness, and supportive characteristics, which all contribute to change (Qi et al., 2019).

When an organization needs to stay competitive, it is important to identify how leadership can foster innovative behavior. Although a manager is mandated to minimize

risks, with ongoing change in education, a leadership style that focuses on leading change, can help cross the structured constraint boundaries.

This leads to my next statement: Find leaders who believe in human connection and are skilled in innovating, motivating, and encouraging colleagues and employees.

Find leaders who provide the foundation for ongoing organizational development.

My last topic is about the impact of well-being on innovative behavior. Teachers who are creative and contribute and produce new ideas for education influence the teacher's work situation and job satisfaction. Positive well-being positively influences thinking creatively and productively (Abdullah et al., 2021).

The increasing job demands for teachers influence their well-being. Teachers have to be adaptable and manage their emotions in unpredictable circumstances. Well-being can flourish in five domains; Positive emotions, Engagement, Relationships, Meaning, and Accomplishment. This is also known as the PERMA model (Seligman, 2011).

Positive emotions are important to raise awareness, develop an open mind, generate ideas, and be flexible. Engagement stimulates to be creative, productive, and feel happy. This hopefully, leads to a positive state of engagement, known as flow (Csikszentmihalyi, 2009). Strong relationships and social connections are critical for understanding conflicts and uncertainty and influence teacher's stress levels (Mukosolu et al., 2015). Zeng et al. (2019) pointed out that a sense of meaning will strengthen the performance achievement by increasing the teacher's attention, engagement, and motivation in the job.

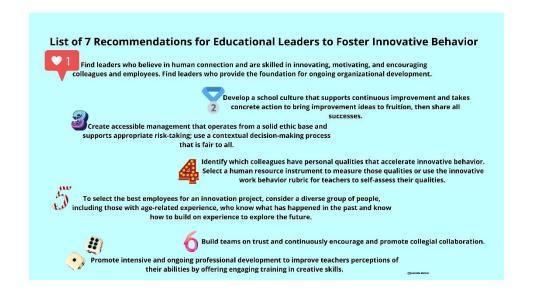
Having ambitions, realistic goals, self-confidence, and pride in personal achievements is an essential component of overall wellbeing (Seligman, 2011). Personal positive feelings are helpful to flourish in innovative work.

The reason I am including well-being in this Master's project is that support and guidance affect well-being, as I wrote earlier. The relationship between teachers and their organization influences a sustainable and healthy working relationship that can be beneficial to both.

Although this topic piqued my interest, further investigation needs to be done beyond this project. The information that I found about well-being, for now, supports the impact of an educational leader in the process, therefore I include this topic in my recommendations for educational leaders. In Figure 13, or Appendix M can you find a larger visual for educational leaders with recommendations on how to foster innovative behavior.

Figure 13

Recommendations for Educational Leaders



SECTION FIVE: KEY LEARNINGS

During this project, I selected five foundational skills that accelerate innovative behavior.

To reflect on my work I used those five skills as a framework.

Curiosity

This skill has helped me improve my research skills. There is a huge list of references that I used for this project. With my FourSight Thinking profile in mind, I am a driver, I improved my clarification skills. My focus was not on getting things done, but to understand why innovative behavior is important for every employee, how to behave more innovatively, and what skills or tools you need to accelerate someone's action in the innovation process. For innovative behavior, you need an integrative mindset, skillset, and toolset to succeed in a collaborative project. To understand the bigger picture, I developed a model (Appendix H) to clarify how all the elements were connected.

The various data sets helped me understand the concept of creativity and the interconnectedness of creative thinking skills, tools, and processes. Although innovative behavior is goal-oriented, the role of self-efficacy is key to taking action. Therefore, innovative behavior and self-efficacy are close friends and interchangeable.

Curiosity helped me notice various examples of innovative behavior in my work environment; these could be, for example, good practices of ICT use or small steps of risk-taking. I saw teachers exploring ideas and trying to do things differently.

I also saw many examples of constraints on innovative behavior in the workplace, where teachers did not feel seen or recognized for their actions. I saw that innovations lacked a well-prepared process and could not overcome difficulties against the status quo. In my opinion, there is a gap in the recognition of skills and processes needed to spur innovation in education. Especially since education is an environment where teachers are used to behave more adaptively than innovatively.

Openness

Having an open mind helped me during the project. Although it was sometimes very hard. Selecting information was challenging, messy, and sometimes difficult. Defer my judgment when I liked to speed up the fact-finding process, helped to realize how important a relaxed environment is for creativity. For stress release, I introduced and separated think time, time for writing, and playtime. For think-time was walking in nature, listening to music or sitting in a silent environment very important. For writing time my creative workspace, a messy place with postits, papers, books, a fantastic view of the garden, and my computer. Playtime meant playing with my Rubics cube-snake, toying with LEGOS, trying things on the MIRO platform or the CANVA app. This helped me be more creative or more open to new insights or ideas for this project.

Another important topic during this master's project was my vision of the future after finishing my master's. I still have not decided what I will do but it will be a place somewhere, that needs creativity and a place where I can incorporate all my knowledge and learnings from the past two years. I will work on this big question after finishing this master's project. Working on my vision for the future needs an open-minded space and a stress-free zone, which can be accomplished after writing this project.

High Energy

My energy level these past two years was endless. Reading, writing, and talking about creativity. Meeting a community that loves and does the same things I like was refreshing after working for so many years. Learning in a creative community tightened connections in so many ways. For this project, I made new connections and talked with different people inside and outside my current job. It felt really good to communicate in a language that is recognized by this community.

The topic of this project motivated me to work beyond my expectations. Selecting skills for the rubric, and finding interesting objectives for the booklet was more than I expected at the beginning of my project. After finishing the literature review, I found myself in a word world that needed to be more creative in a tangible way. The process of changing words in a new exciting format was refreshing my perspective on the outcome of this project. It still needs revision to prevent the outcome of this project ends up in the bottom drawer of a desk. I like to use my rubric and booklet for designing a MIRO board so that people can work on a document. I like to use the outcome of this project to energize and motivate people to learn more about their role in an innovative process so that people feel more empowered for taking action.

My creative confidence expanded during this project, by making new connections with models and tools used for creativity. Especially the integration of the mindset, toolset, and skillset to apply this to personal actions piqued my interest. Knowing how to apply creativity is not enough, as an organization you support innovative behavior by offering a safe creative environment, empowering employees' potential (personality, traits, and competencies), and selecting the best people for the job to take action.

Taking Perspectives

Having an open mind towards all that I learned during this project, and recognizing that I am biased as a senior educator, helped me to work from an anthropologist perspective during this project. Walking through the world and asking questions was very energizing. It gave new insights into how innovative behavior was applied in my work environment. In vocational education, you have to deal with stakeholders, challenges, and opportunities that push or raise a barrier to innovation. Knowing and having this phrase in mind: if you cannot change the system, you can change yourself, every employee does have the power to behave innovatively.

I have grown in my role as an educator. Taking different perspectives increased my empathic ability and made me realize how much I do not know. Mindfulness supported me in this journey to avoid premature closure. Although my ambitions at the start of the project were

much higher, I learned that going slow in order to go fast is, so true. Slowing down the process was fruitful for ideation and developing solutions. At this moment the project needs more development of the products, and this will continue after finishing this project.

Risk-Taking

Taking risks does not have a positive connotation. Who wants to fail or talk about their failures? Working on ill-defined problems, and introducing uncertainty and ambiguity will encourage will students' risk-taking. But before focusing on the students, the education organization had to challenge themselves. Teachers must be role models for showing what risk-taking looks like in the classroom. The school structure has to adopt appropriate risk-taking in its process structure. And lastly, embrace the power of learning from failure. Working in a learning organization will stimulate tolerance for uncertainty and coping with change by talking about the outcomes of different experiments and experiences.

The topic of this project helped me realize that innovative behavior is about changing behavior. Even when teachers work in an effective creative climate, in the end, innovative behavior is, besides having a creative mindset, skillset and toolset, integrating all this and adapting to appropriate behavior is really important. Learning from the process also requires changing behavior. To behave innovative changes the role of the teacher, I think this deserves more attention in order to act in a sustainable way.

Risk-taking in my own process was hard because it feels vulnerable, and it meant I have to show courage. Getting feedback for the project has two sites; it is exciting to hear what others think about your project and share their ideas for improvement, the other side is that you have to decide when it is finished and you show up to present the outcomes. The feedback on the outcomes I received, made me feel proud. I experienced some nice conversations about the value of this project. This was a good experience for me to take risks, and help to overcome my fears in the next steps.

During this master's project, I experienced important things about the creative process; it is effective and productive and can be messy in the beginning. Having feedback partners that I trust to have the best intentions of finishing this project, helped me go beyond my expectations. This made this project an amazing learning experience with an interesting outcome.

SECTION SIX: CONCLUSIONS

New Thinking about Creativity and Change Leadership

Knowledge of creativity combined with the environment of the organization has a great impact on applying creativity in education. This conclusion is my synthesis after finishing this project. The original plan for this Masters Project was to develop a rubric to self-test innovative behavior in order to gain information on teachers training needs. The development of my rubric is ready for self-testing and needs some further development. New insights about the training needs of educators grew during this project. Knowing what to know about creativity and innovative behavior and knowing how to apply this knowledge helped me grow as a teacher and a teacher trainer.

Applying creativity in vocational education is complex. This conclusion leads to the role of change leadership in sustainable development for creativity in education. Adopting creativity in the vision of an educational institute, and recognizing the complexity of integrating a creative approach for both teachers and students will impact the creative performance of an organization.

This project helped me find solutions by looking at things differently. It grew my creative competence and it created great potential for future work. My creative confidence strengthened my abilities to teach, demonstrate, or provide experiences to educators and (educational) organizations to spark the innovative behavior of employees. And this is what I will continue to do next, after finishing this master's project.

Now this project has ended, I am excited to start this new beginning with an open mind and curious about what the future will bring.

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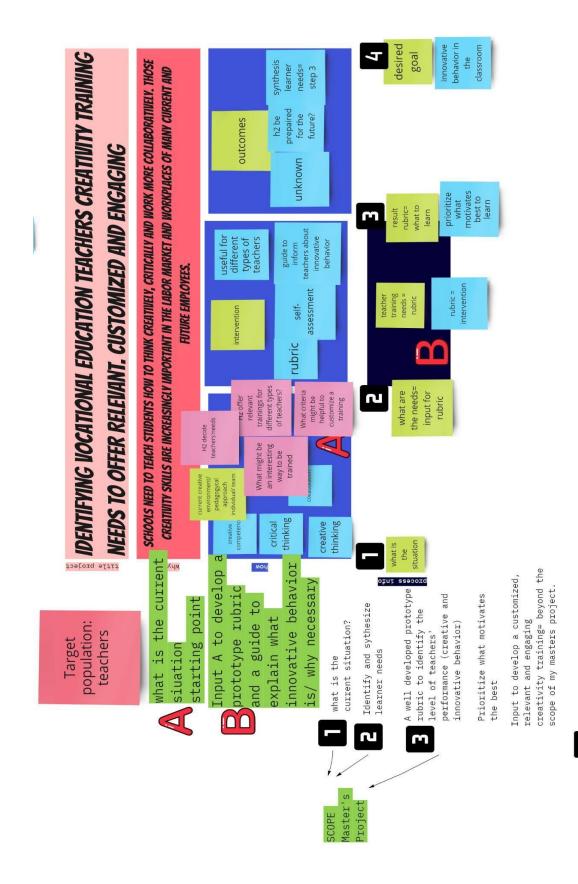
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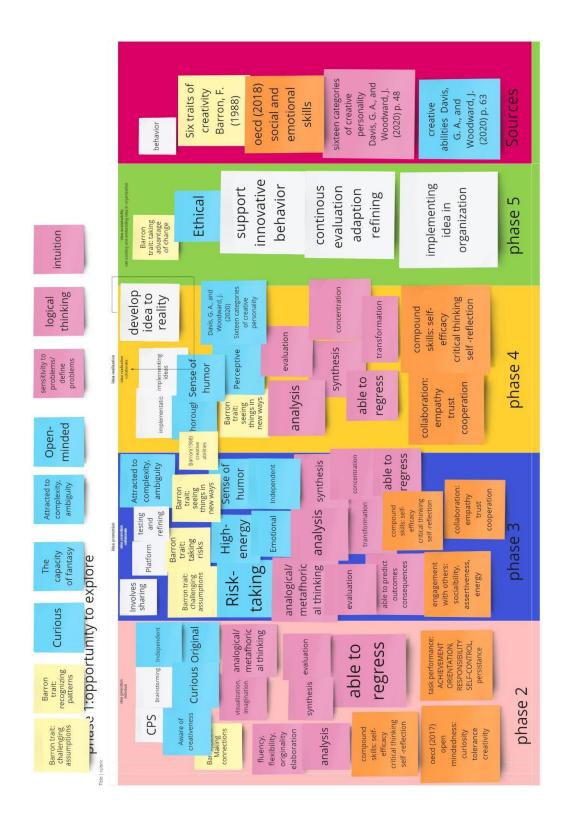
APPENDICES

Appendix A: Scope of the Project

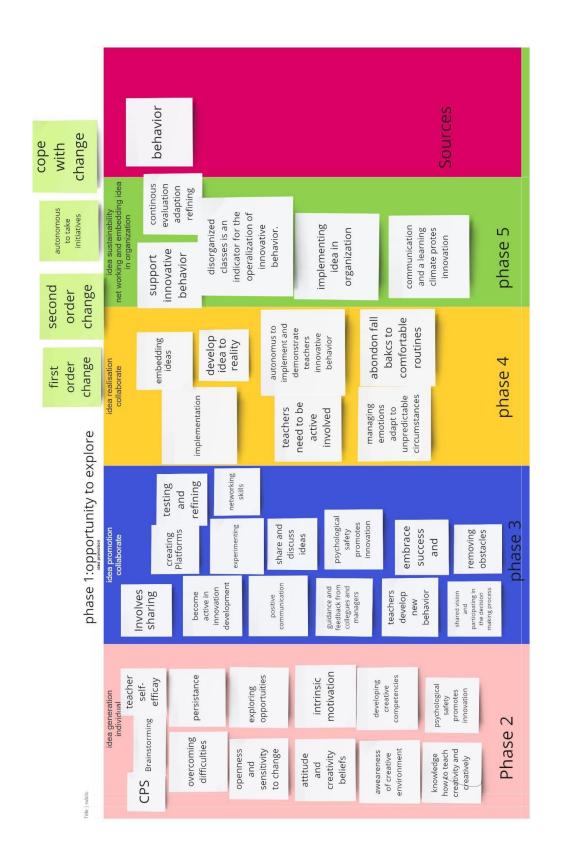


4 Unknown for now

Appendix B: Creativity Skills in the Five-Stage Process



Appendix C: Examples of Innovative Behavior in the Five-Stage Process



Appendix D: Dutch Rubric Questions for the Rubric of One

Onderzoeken= Inquiring

- 1. Als ik een vraagstuk/ uitdaging in mijn werk tegenkom dat ik **belangrijk** vind, maak ik dit bij mijn collega's **bespreekbaar.**
- 2. Ik ben van nature nieuwsgierig en sta open voor nieuwe ervaringen.
- 3. Ik kan gemakkelijk **omgaan met veranderingen** binnen het onderwijs en snap dat een idee niet zomaar wordt geadopteerd door collega's.
- 4. Ik werk aan **vernieuwingen** binnen de context van mijn werk of aan iets dat gaat over het beroep waarvoor we opleiden.
- 5. Ik ervaar steun om patroon doorbrekende ideeën met collega's te delen.

Verbeelden=Imagining

- 1. Ik kan **vlot ideeën bedenken**, maak gemakkelijk connecties en **combinaties** met verschillende ideeën en informatie.
- 2. Ik ben een **doorzetter** en ga moeilijkheden niet snel uit de weg.
- 3. Ik kies mijn werkzaamheden op basis van intrinsieke motivatie
- 4. Ik heb voldoende **kennis van divergerende en convergerende tools** om in mijn lessen de creativiteit te stimuleren
- 5. Ik vergroot het **creatief potentieel van mijn studenten** door het scheppen van een creatief klimaat binnen het onderwijs.
- 6. Ik heb genoeg **vertrouwen** in mijn kennis en vaardigheden om studenten voor te bereiden op een veranderende, onzekere en complexe wereld.

Samenwerken= Collaboration

- 1. Ik **experimenteer samen met collega's** met nieuwe ideeën om het onderwijs te verbeteren.
- 2. Ik ervaar genoeg **vertrouwen en veiligheid** tijdens het samenwerken waardoor er makkelijk **afwijkende ideeën** worden besproken.
- 3. Innovatie werkgroepen worden ingericht op basis van talent en/of interesse.
- 4. Er is een **netwerk of platform** binnen de school waar docenten **samenwerken** aan onderwijskundige uitdagingen.

Experimenteren en toepassen= Doing

- 1. Ik neem een **actieve rol** bij onderwijsinnovaties in, deel graag mijn ideeën en oplossingen en sta open voor discussie.
- 2. Ik heb **veel contacten binnen de organisatie** die mij kunnen ondersteunen of verder helpen bij het uitvoeren van nieuwe ideeën.
- 3. Nieuwe ideeën worden afgestemd op de reeds aanwezige kennis en vaardigheden van studenten
- 4. Ik **creëer draagvlak** voor de verandering door actief en tijdig te communiceren en het **wegnemen van weerstand.**
- 5. Het **bespreken van fouten** is een belangrijk onderdeel van onze leercultuur.
- 6. De veranderingen waar ik interesse in heb zijn verbeteringen van het **bestaande onderwijs.**
- 7. De veranderingen waar ik interesse in heb zijn transformaties naar een geheel nieuw onderwijsconcept.

Proces evaluatie= Reflecting

- 1. Ik maak actief gebruik van een **procesmatige aanpak** (bv. POINt).
- 2. Ik kan veranderingen **benoemen**, bedacht binnen onze afdeling die structureel zijn ingevoerd binnen de afdeling/ het college.
- 3. Ik ervaar dat er sprake is van een **constante leercultuur onder collega's** binnen de afdeling.
- 4. Ik vind dat de inrichting van het huidige onderwijs mee evolueert met de uitdagingen van deze tijd.

Twee voorbeelden waarin jij betrokken bent bij een innovatie in je werk.
Beschrijf je voorbeeld zo gedetailleerd mogelijk (het idee, waarom, hoe, met wie en wa
en welke acties jij ondernomen hebt).

Voorbeeld 1:

Voorbeeld 2:

Welk(e) ontwikkelmogelijkheden zijn voor jou op dit moment interessant, waardoor jij jouw innovatieve impact vergroot? (**Development opportunity's of interest)** Kruis aan in welk onderdeel jij ontwikkelmogelijkheden ziet voor jezelf.

1. o	onderzoeken	
2. v	rerbeelden	
3. s	amenwerken	
	experimenteren/ uitvoeren	
5. p	procesevaluatie	

Appendix E: English Rubrics Question Sample

Inquiring

- 1. When I encounter an issue/challenge in my work that I feel is important, I suggest that issue to my colleagues.
- 2. I am naturally curious and open to new experiences.
- 3. I can deal with changes in education and understand that an idea is unlikely to be adopted by colleagues at once.
- 4. I work on innovation in the context of the work I do or on issues related to the occupation in which our students are being trained.
- 5. I feel supported to share pattern-breaking ideas with colleagues.

Imagining

- 1. I can fluently and easily think of ideas and make connections as well as combinations with various ideas or information.
- 2. I am a persistent person and I do not avoid difficulties.
- 3. I choose my activities based on intrinsic motivation
- 4. I have sufficient knowledge of divergent as well as convergent tools to stimulate creativity in my classroom
- 5. I stimulate each of my student's creative potential by cultivating a creative climate in the classroom.
- 6. I am confident about my expertise and ability to equip and train students for a world that is constantly changing, unsure and complicated.

Collaboration

- 1. I experimented with my colleagues with new ideas for improving teaching.
- 2. I feel trusted and secure when collaborating, which allows for dissenting ideas to be discussed easily
- 3. Innovative workgroups are set up based on talent and or interest.
- 4. There is a network or platform in the school for educators to work collaboratively on education-related issues.

Doing

- 1. I take an active role in educational innovations by sharing ideas and solutions and being open to dialogue.
- 2. I have a lot of connections in the organization that can support or help me to further implement new ideas.
- 3. New concepts are aligned with the students' already existing knowledge and skills.
- 4. I generate support for change by actively and timely communication and removing resistance.
- 5. Discussion of mistakes is a vital part of our learning culture.
- 6. The changes I would be interested in are upgrades to the existing teaching.
- 7. The changes I am interested in are transformations to an entirely new educational concept.

Reflecting

- 1. I use process-based approaches effectively (e.g. POINt).
- 2. I can pinpoint changes, that were invented from within our department, and structurally implemented in the department/college.
- 3. I notice a continuous learning culture between colleagues in the department.
- 4. I believe that the structure of current education evolves along with the contemporary challenges.

Describe two examples in which you are engaged in a work innovation. Describe your example in as much detail as possible (the idea, why, who, what, where, how).

1

Which development opportunities are currently of interest to you that will increase your innovative impact?

Please mark the section in which you identify development opportunities for you.

- 1 Inquiring
- 2 Imagining
- 3 collaboration
- 4 doing
- 5 reflecting

Explanation for my readers:

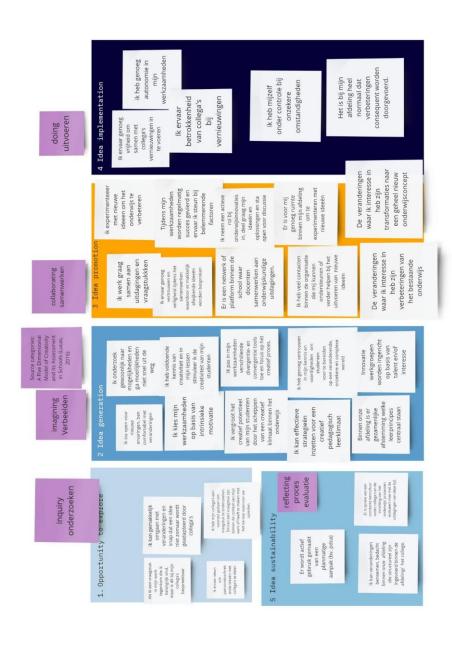
The Rubric of One, is mainly focused on providing feedback. There is only one guideline per section that must be met. If this is met, it is all good. The difference is most obvious when improvements are needed or when the result is positive. This rubric raises awareness of innovative behavior and delivers better insights into the learning process.

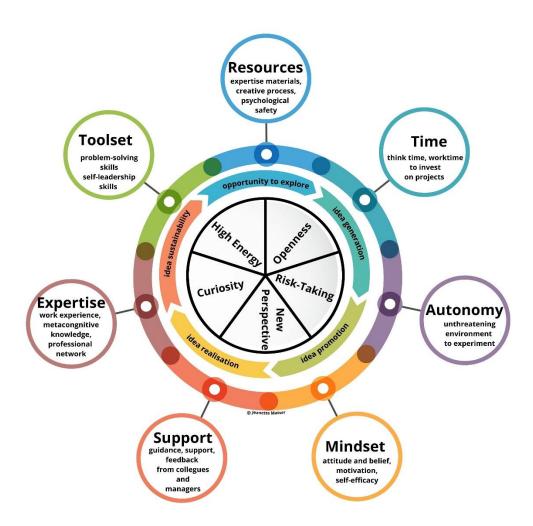
Appendix F: Visual Prototyped Rubric





Appendix G: Synthesis Dutch Rubric Questions

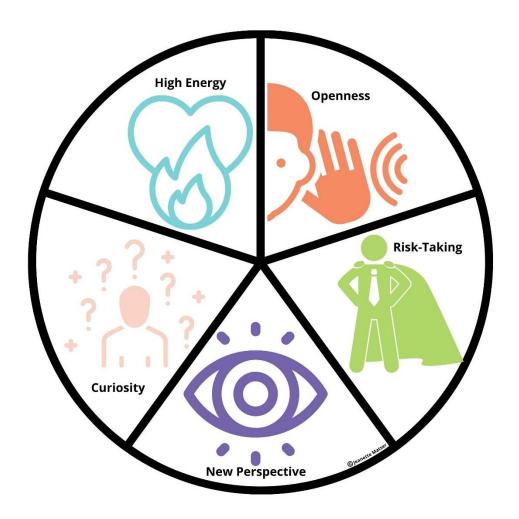




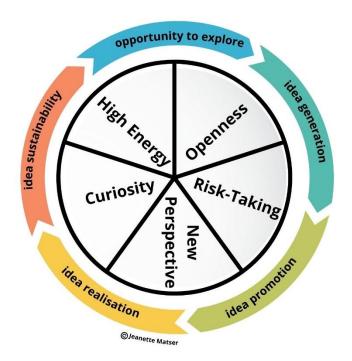
Appendix H: Accelerate Innovative Behavior Model

Note. The innovative behavior Model is a five-stage process, the process is demonstrated in the opportunity to explore, idea generation, idea promotion, idea realization, and idea sustainability. Five foundational skills accelerate this behavior; curiosity, openness, high energy, new perspective, and risk-taking. Four elements that support the individual approach are resources, time, autonomy, the collaborative approaches are supported by mindset, support, expertise, and toolset (Hosseini et al, 2021; Mulder & Messmann, 2010b; Thurlings et al., 2015). Model design: Jeanette Matser

Appendix I: Five Foundation Skills to Accelerate Innovative Behavior.







Note. The five-stage process model of innovative behavior (Messman & Mulder (2010b): opportunity to explore, idea generation, idea promotion, idea realization, idea sustainability includes five foundational skills that accelerate innovative behavior; curiosity, high-energy, openness, risk-taking, and new perspectives. Model design: Jeanette Matser.

Appendix K: Booklet English Version

COLOFON

Author: Jeanette J. Matser

State University of New York Department of Creativity and Change Leadership Submitted in Partial Fulfillment of the Requirements for the Degree of Master of Science May 2022 Buffalo State In Creativity and Change Leadership

Anderson. De Dreu, C. K. W., & Nigstad, B. A. (2004). The routinization of innovation research: a constructively critical review of the state-of-the-science. Journal of Organizational Behavior, 28(D), 147-775. https://doi.org/10.1002/job.236

Beghetto. (2018), What if?: Building Students' Problem-Solving Skills through Complex Challenges, ASCD.

Beghetto, R. A. (2019). Beautiful risks: Having the courage to teach and learn creatively. Rowman & Littlefield.

Greenberg, S. S., & Stanford d.school. (2021). Creative acts for curious people: How to think, create, and lead in unconventional ways. Penguin Books

Hammond, Neff, N. L., Farr, J. L., Schwall, A. R., & Zhao, X. (2011). Predictors of Individual-Level Innovation at Work: A Meta-Analysis. Psychology of Aesthetics, Creativity, and the Arts, 6(1), 90-105. https://doi.org/10.1037/a001856

-dimensional measure of individual innovative Kleysen, & Street, C. T. (2001). Toward a multi-dimensic behavior. Journal of Intellectual Capital, 2(3), 284–296. https://doi.org/10.1108/EUM0000000005660

Messmann, & Mulder, R. H. (2010). Innovative Work Behaviour in Vocational Colleges: Understanding How and Why Innovations Are Developed, Vocations and Learning, 4(1), 63–84, https://doi.org/10.1007/str2lae-010-9049-x

Messmann, & Mulder, R. H. (2012). Development of a measurement instrument for innovative work behaviour as a dynamic and context-bound construct. Human Resource Development international, 13(1, 43–59, https://doi.org/10.1080/136/1886&.2011.646994

Mumford, Zaccaro, S. J., Harding, F. D., Jacobs, T. O., & Fleishman, E. A. (2000). Leadership skills for a changing world. Solving complex social problems. The Leadership Quartery, 11(1), 11–35. https://doi.org/10.1016/s1048-9843(99)00041-7



Teachers t

BE MORE INNOVATIVE IN YOUR WORK.

CREATIVITY AND INNOVATION IN VOCATIONAL EDUCATION

General goal in vocational education is the development of work competence that includes routine expertise, resourcefulness, functional literacy, craftsmanship, and a businesslike attitude. The fundamental goal of a school is to prepare students for the unknown future. It makes sense for students to learn to respond to uncertainty. Providing students with opportunities to learn to respond productively to uncertainty will help prepare them for the real challenges they face now and in the future.

Students should learn actual complex problem-solving, which involves different levels of uncertainty. This can be achieved by providing a work environment where students move between expert instruction, collaborative investigation, and practicing a skill using specialist equipment. An environment where basic (theoretical and practical knowledge of subjects and expertise), digital, problem-solving, and soft skills are included. This practical guide acompanies the rubric for innovative work behavior for teachers in vocational education.



Innovative behavior is a process that consists of five phases; opportunity exploration, idea generation, idea promotion, idea realization, and sustainable embedding of an innovation initiative. The first two phases of the process are of individual character and arise out of intrinsic motivation. The sequential phases; idea promotion, idea realization, and sustainable embedding of an innovation opportunity require explicit teamwork and collaboration within the organization and are partially determined by the mindset in the organization.

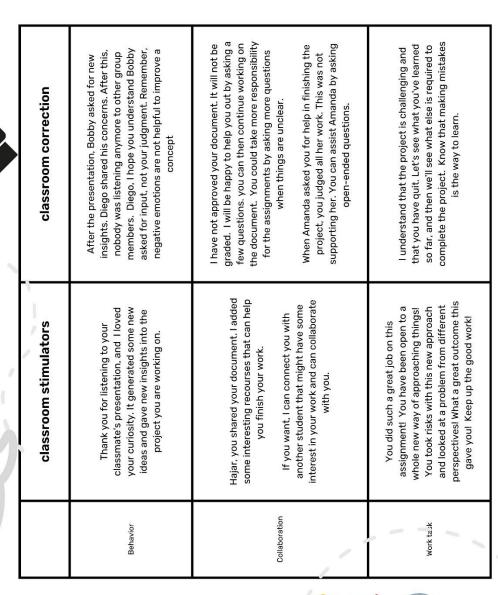
HOW TO SPARK INNOVATIVE SUPERPOWERS?

- 1. Enter the workplace with openness and curiosity,
- Be more active in developing innovation and overcoming difficulties,
- Shape your attitudes and beliefs for professional change.(e.g., towards incorporating creativity skills into the curriculum or preferred traditional teaching priorities),
- Seek out exciting projects and activities that spark up your motivation,
- Master your creative thinking skills to implement these skills in the classroom,
- Collaborate with your colleagues and create a safe learning environment together,
- Ask for support, mentorship, guidance, and feedback when working on challenges or when taking risks,
- 8. Together with your colleagues, create a relaxed environment where you can share and evaluate new ideas, opportunities, gut feelings, and risk-taking,
- 9. Raise the sense of playfulness in the classroom by generation and experimenting with new ideas,
- 10. Work together on projects and communicate the procedures that should be used to complete a task.

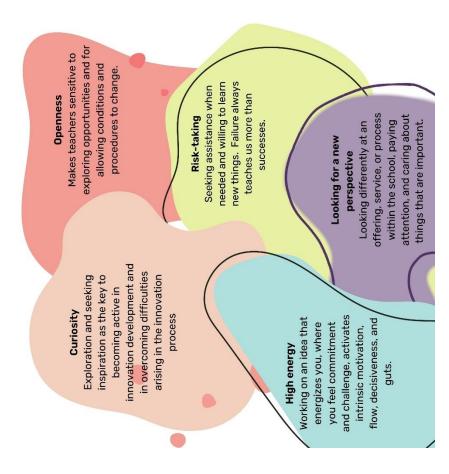
THE VOCABULARY OF INNOVATIVE BEHAVIOR SKILLS

probably can find examples by observing recognition(stimulators) and awareness innovation skills. All interaction inside or work task performance in the classroom. listening and adapting to ideas you hear (correction). There is an urgent need to To create awareness around innovative innovative behavior, collaboration, and work behavior, you can start focussing outside the classroom should be based on these skills. Different skills support perspectives in your department. You present successes, and give feedback students understand and get familiar with innovative behavior skills in the on curiosity, openness, high-energy, Words matter. The way teachers talk, your behavior and others, including classroom. We use words to create identify appropriate behavior that does impact how colleagues and risk-taking, and looking for new supports, model, and implement in your organization.





RAISE AWARENESS FOR INNOVATIVE SKILLS TO **INNOVATIVE WORK FOUNDATIONAL** BEHAVIOR



WHAT IS INNOVATIVE WORK **BEHAVIOR IN VOCATIONAL EDUCATION?**

directed at the generation, introduction, or application Innovative workplace behavior is an individual action of beneficial novelty at any organizational level. This ideas or technologies to work processes intended to improving work relations, or the application of new might include new product ideas, technologies, changes in administrative procedures aimed at significantly enhance their efficiency and effectiveness.



Become active when problems arise in schools

Keeping up with recent developments

and events in and outside the school.

Expressing ideas, asking critical

questions, suggesting improvements.

Fake 1 hour and work on solutions the way you used to do (with a few colleagues who knows the

Delegate work tasks to several people and execute the action

Ask for the support of colleagues and

supervisors, keeping them informed

about the ongoing process.

Failing is not an option. Plan every detail and make sure everyone sticks to the plan. Or stop the process and search for new challenges.

> Share the innovation, make others familiar with its details, examining outcomes for undesirable effects.

Implement the innovation and Implementation means a evaluate the outcomes.

Assessing the progress of innovation

development, improving action strategies for future situations.

successful ending of the project.

Appendix L: Booklet Dutch Language Version

Dutch version of the booklet.

A Request for an English or Dutch pdf, please reach out and connect to my LinkedIn profile.



COLOFON

Schrijver: Jeanette J. Matser

In Creativity and Change Leadership Submitted in Partial Fulfillment of the Requirements

Master of Science
May 2022
Buffalo State
State University of New York
sartment of Creativity, and Change Lea

Bronnen

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CREATIVITEIT EN INNOVATIE IN HET BEROEPSONDERWIJS

Een algemeen doel in het beroepsonderwijs is de ontwikkeling van vakbekwaamheid, waaronder routinematige kennis, vindingrijkheid, taalbeheersing, vakmanschap en een ondernemende houding. Het fundamentele doel van een school is studenten voor te bereiden op een nog onbekende toekomst. Het is zinvol dat studenten leren omgaan met onzekerheid. Door studenten kansen te bieden om constructief te leren reageren op onzekerheid, zullen zij beter voorbereid zijn op de echte uitdagingen van nu en in de toekomst.

Daag studenten uit om complexe problemen op te lossen, waarbij een verschillende mate van onzekerheid een rol speelt. Dit kan worden bereikt door een leeromgeving aan te bieden waarin studenten afwisselen tussen instructie, onderzoekend leren en het oefenen van een (specialistische)vaardigheid. Een omgeving waar basist(theoretische en praktische kennis), digitale, probleemoplossende en sociaal-emotionele vaardigheden aan bod komen.



Innovatief gedrag is een proces dat uit vijf fasen bestaat; verkenning van kansen, idee generatie, idee-promotie, idee realisatie, en duurzame verankering van een vernieuwingsinitiatief. De eerste twee fasen van het proces hebben een individueel karakter en spreekt vanuit de intrinsieke motivatie. De opeenvolgende fasen; idee-promotie, idee-realisatie en duurzame verankering van een vernieuwingsinitiatief vraagt om nadrukkelijke samenwerking en afstemming binnen de organisatie. Ook speelt de mindset binnen de organisatie een roi.

TIPS VOOR HET VERGROTEN VAN JOUW INNOVATIEKRACHT BINNEN DE ORGANISATIE

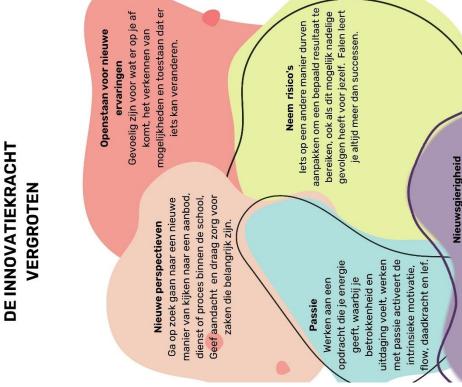
- Benader je werkzaamheden met een open en nieuwsgierig houding,
- Wees bewust van je eigen houding en overtuiging ten opzichte van veranderingen,
- Creëer momenten waarin je ideeën en gedachten deelt met collega's,
- 4. Volg je passie en ga op zoek naar interessante projecten om aan te werken,
- 5. Gebruik je doorzettingsvermogen bij nieuwe uitdagingen en ga moeilijkheden niet uit de weg,
- Activeer jezelf door een nieuw perspectief te zoeken voor een creatieve oplossing,
- 7. Verhoog de funfactor in je werk door te experimenteren met nieuwe concepten en technologieën,
- 8. Vraag bij innovatieprojecten de teamleiders om steun of begeleiding bij het wegnemen van obstakels en het verminderen van risico's,
- Creëer samen met je collega's een ontspannen omgeving waarin de focus ligt op procesevaluatie van kansen en risico's,
- 10. Spreek bij samenwerkingsprojecten vooraf het proces om tot een resultaat te komen.

DE TAAL VAN INNOVATIEF GEDRAG

nieuwsgierigheid, openstaan voor nieuwe zoeken naar nieuwe perspectieven en het (stimulans) en bewustwording (correctie) te creëren. Er is grote behoefte aan nemen van risico's. Alle interactie binnen voorbeelden vinden door je eigen gedrag inclusief het luisteren naar ideeën die je demonstreert en toepast. Om bewustzijn begin je in je dagelijkse werk de focus te delen en feedback geven, heeft invloed op de wijze waarop je innovatief gedrag in de klas herkent en eigen maakt. We te creëren rondom innovatief gedrag, en dat van anderen te observeren, samenwerking en het uitvoering van waarop docenten praten, successen gebruiken woorden om herkenning ervaringen, werken met passie, het Woorden zijn belangrijk. De manier innovatievaardigheden stimuleert, ondersteunt innovatief gedrag, de vaardigheden eigen te maken. Dit of buiten de les helpen je deze oefeningen in de klas. Je kan leggen op vijf vaardigheden; binnen de organisatie hoort. passend gedrag dat

	Stimuleren	Corrigeren
Gedrag	Bedankt voor het luisteren naar de presentatie van je klasgenoot. Je hebt een paar interessante vragen gesteld!! Het leverde een aantal nieuwe ideeën op voor het project waaraan je werkt.	Na de presentatie reageerde jij meteen met commentaar. Hierna luisterde niemand meer naar elkaar. Diego, ik hoop dat je begrijpt dat Bobby om input vroeg, niet om je oordeel. Onthoud dat negatieve emoties niet helpen om een concept te verbeteren.
Samenwerken	Hajar, je hebt je document gedeeld. Ik heb wat interessante bronnen toegevoegd die je kunnen helpen je werk af te maken. Als je wilt, kan ik je in contact brengen met een andere student die misschien interesse heeft om met je samen te werken.	Ik heb je document niet goedgekeurd. Het wordt niet beoordeeld. Ik zal je helpen door je een paar vragen te stellen. vervolgens kun jij verder werken aan het document. Je kan meer verantwoordelijk nemen voor de opdrachten door bijvoorbeeld bij onduidelijkheid meer vragen te stellen. Toen Amanda jou vroeg om hulp bij het afmaken van het project, veroordeelde jij al haar werk. Dit was geen steun aan haar. Je kan Amanda helpen door open vragen te stellen of door vanuit een ander perspectief naar zaken te kijken.
Таак	Je hebt deze opdracht zo goed uitgevoerd! Je hebt open gestaan voor een heel nieuwe manier van werken! Je hebt risico's genomen met deze nieuwe aanpak en een probleem bekeken vanuit verschillende kanten! Wat een mooi resultaat heeft dit opgeleverd! Ga zo door!	Ik begrijp dat het project een uitdaging is, en dat je ermee gestopt bent. Nu opgeven is helemaal niet nodig, Laten we kijken wat je tot nu toe allemaal geleerd hebt, dat stemmen we daarna af wat er nog nodig is voor de afronding. Weet, dat juist fouten maken zorgt dat je leert.

BASISVAARDIGHEDEN DIE DE INNOVATIEKRACHT



WAT IS INNOVATIEF GEDRAG IN **HET BEROEPSONDERWIJS**

op het creëren, invoeren of toepassen van iets nieuws werkprocessen om de efficiëntie en effectiviteit ervan Innovatief werkgedrag is een individuele actie gericht veranderingen in administratieve procedures, of de toepassing van nieuwe ideeën of technologieën op op organisatorisch vlak. Het kan gaan om nieuwe ideeën voor onderwijs, nieuwe technologieën, te verbeteren.



Wat is het wel

ontwikkelingen en gebeurtenissen in Op de hoogte blijven van recente en buiten de school.

Het kenbaar maken van ideeën, het stellen van kritische vragen, het voorstellen van verbeteringen.

ondersteuning vragen aan collega's Samenwerken aan een project en en leidinggevenden, deze op de hoogte houden van het proces. Het delen van een vernieuwing, het bekend maken van de details, het analyseren van de resultaten op onwenselijke effecten.

Het verlangen naar kennis,

je wil iets meer te weten

komen. Het ontbreken van

volledigheid prikkelt de

nieuwsgierigheid.

evalueren. Strategieën voor acties in toekomstsituaties bijstellen. De vooruitgang van het proces

Wat is het niet

Actief worden op het moment er

problemen op school ontstaan.

normaal ook zou doen (met een paar terugkerend probleem, zoals je dat collega's die bekend zijn met de oplossing te bedenken voor een complexiteit van het probleem). Een uur de tijd nemen om een

verschillende mensen en zorgen dat Delegeren van werkzaamheden aan iedereen zijn deel van het actieplan uitvoert.

eraan houdt. Anders stopt het proces is. Werk een plan tot in de puntjes uit Duidelijk maken dat falen geen optie en gaan mensen op zoek naar een en zorg ervoor dat iedereen zich nieuwe uitdaging.

project is uitgevoerd. Implementatie betekent een succesvolle afsluiting Evalueren van resultaten nadat het van het project.

Appendix M: Recommendation for Education Leaders

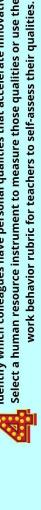
List of 7 Recommendations for Educational Leaders to Foster Innovative Behavior

colleagues and employees. Find leaders who provide the foundation for ongoing organizational development. Find leaders who believe in human connection and are skilled in innovating, motivating, and encouraging



supports appropriate risk-taking, use a contextual decision-making process Icreate accessible management that operates from a solid ethic base and

Identify which colleagues have personal qualities that accelerate innovative behavior. Select a human resource instrument to measure those qualities or use the innovative that is fair to all.



including those with age-related experience, who know what has happened in the past and know To select the best employees for an innovation project, consider a diverse group of people, how to build on experience to explore the future.



Naild teams on trust and continuously encourage and promote collegial collaboration.

• Promote intensive and ongoing professional development to improve teachers perceptions of their abilities by offering engaging training in creative skills.

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Jeanette Matser

May 2022