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ASSESSING QUALITY CULTURE OVER TIME

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Abstract

Purpose: The purpose of this paper is to present the results from a questionnaire assessing the quality culture used recurrently in order to better understand strengths and challenges in regards to developing a sustainable Quality Management (QM) culture.

Methodology: A previously developed questionnaire aiming at assessing the quality culture in an organization was handed out to all preschool principals in a Swedish municipality on four occasions during a research project aiming at developing the principals' ability to work with QM. The results was analysed statistically using SPSS to compare the results from the first and the fourth measurement point.

Main Findings: The results shows a general higher level of agreement to the statements and that 13 of the 42 statements had statistically significant differences between the first and the last measurement point, representing seven of the 14 factors in the questionnaire. The factors regarding information and the internal system view seems to be most affected during the project



period. The results also indicates a movement from a more person (principal) centred focus towards a more systemic view.

Practical implications: Using the questionnaire regularly can help an organization to monitor and create a deeper understanding and knowledge regarding how leaders and co-workers assess the quality culture. This can in turn be a foundation for future strategic efforts towards an organisations vision and goals.

Originality/value: The longitudinal use of the survey in one organization.

Type of paper: Research paper

Keywords

Quality management, quality culture, values, questionnaire, systematic quality work, preschools

1. Introduction

In a world that is rapidly changing organizations are challenged and needs to become more agile and innovative. Research shows that working systematically with Quality Management (QM) is a way to meet these challenges by e.g. having a focus on the customer, empowering the co-workers and having a committed leadership (Mohammad and Rad, 2006). Positive effects have, for instance, been demonstrated in regards to job satisfaction, increased profitability and customer satisfaction in organizations working with values derived from QM (Hansson and Eriksson, 2002; Lagrosen, 2000; Westlund and Löthgren, 2001). Working systematically with QM is not an easy task and the organizational culture has been pointed out as a critical factor for success. There is a need for creating a sustainable quality culture that, amongst other things, promotes a more holistic view on the organization and society as well as continuous work with improvements (Ingelsson et. al, 2018).

This challenge is very present within the Swedish preschools as the new curriculum, LFPÖ 18, declares that preschool education should be the ground for a life-long desire to learn which in turns makes the level of quality in preschools important for children's continued education. As a consequence, there is a need to pay attention to the organizational culture in preschools since failure to focus on culture is often cited as one of the main reasons for not being able to create a systematic work with QM (see e.g. Kotter, 1996; and Green, 2012). When building, developing and/or changing organizational culture leaders have the main responsibility to make this happen (Schein, 2004) and in preschools that would be the principals. According to LFPÖ 18, the principals are responsible for "*carrying out systematic work on quality together with preschool teachers, child minders and other staff, as well as providing children's guardians with opportunities to participate in work on quality*" (p. 12). Even though the leaders are pointed out as crucial, limited research focus has been on principals' leadership as most of the research carried out concerning quality in preschool has focused on processes and documentation (Håkansson, 2016).

In addition, changing an organizational culture demands knowledge about the current state (Fletcher and Jones, 1992), and ways of assessing and monitoring the culture is needed when working with QM (Bäckström et. al, 2017). Consequently, the purpose of this paper is to present the results from a questionnaire assessing the quality culture used recurrently in order to better understand strengths and challenges in regards to developing a sustainable QM culture.



2. Background

Organizational culture consists of the shared values of its members and in order to have a strong organizational culture a large agreement on what is important is required (O'Reilly et al., 1991). According to Chatman and Eunyoung Cha (2003) organisational culture affects organisational performance in two ways: it energises employees by appealing to their higher ideals and undefined values, and it shapes and coordinates behaviours and decisions. Wu, Zhang and Schroeder (2011) argues that quality culture are important when working with implementing Total Quality Management (TQM, i.e. systematic QM) since it influences higher performance outcomes through the customising of quality practices.

Building, developing and/or changing the culture in an organization focusing on QM is a long-term commitment and the main mission for leaders as they influences the attitudes and behaviours of the rest of the employees by how they act and behave (Schein, 2004). Even though one can change organizational structures rather quickly, the creation of a shared understanding of the organization's vision and values may take longer (Sinkula, 1997).

With this said, and looking at preschool as a context, one can achieve great rewards for both the individual child, their guardians and the society as a whole working with quality in preschools (Yoshikawa et al., 2013). This work can result in better prospect for the future of the child since children attending preschools are stimulated socially, emotionally, cognitively and in terms of knowledge (ibid). In a Swedish context this affects almost all children since 90,5 percent of all two year olds were enrolled in preschool and 95,6 percent of all five year olds in the year 2020 (The National Agency for Education, 2022). This is also strengthened by the curriculum for the Swedish preschools (LFPÖ 18), as it states that "*It (the preschool) should promote all children's development and learning, and a life-long desire to learn as a fundamental value*" (p. 5). The curriculum also states that one of the goals for what the preschools should provide all children with is: "*the conditions to develop a growing responsibility for and interest in sustainable development and active participation in society*" (p. 13). The preschool principal is pointed out as responsibly for the development of the preschool in order to correspond the national goals and their leadership is seen as one of the prerequisites for the development and quality of the education in preschools (LFPÖ 18). In addition, the Swedish municipalities are the mandator for most of the preschools and has an obligation by law to provide preschool activities for children whose parents work or study.

Mohammad and Rad (2006) states that an organizations existing culture could hinder or help QM implementation effectiveness. Thus, before embarking on a journey towards a new or changed (QM) culture it is important to know what the current organizational culture looks like as well as having a way of monitoring any changes. These more "softer aspects" are often overlooked when organizational effectiveness and success are assessed. More often "harder" aspects are measured like cost of quality, reduced inventory and delivery dependability (Motwani, 2001; Hansson & Eriksson, 2002).



3. Methodology

3.1. The research project

The project was a collaboration between a university and a municipality in the middle of Sweden with the purpose of enhancing the quality in preschools, focusing on the principals' ability to work with quality development in a systematic way. 21 principals, heading 49 preschools with about 600 co-workers and 3 000 children, participated in the project alongside their superintendent which also represented the municipality in the project management team. The preschools were all under the auspices of the municipality.

The project was designed as an interactive research project where the university and the municipality co-created the actions taken in order to meet the needs of the organization as well as the purpose of the project. According to Johansson and Wallo (2020), interactive research approach differs from action research as it focuses more on creating joint learning and creation of knowledge and not so much on the researcher being responsible for solving practical problems in the organization. This definition of interactive research guided all stages of the project in order to reach the aim of the project through the development of the principals' ability to work with quality development in a systematic way.

The project was built on three main pillars; the quality work-shops, the portfolio assignments and theoretical anchoring. Even though the pandemic struck during the project causing a lot of pressure on the organization as well as making it impossible to meet in person, the project moved to on-line meetings, the outline had to be adjusted but the structure was consistent.

The projects base line was assessed by the first measurement point (MP) alongside a work-shop where the principals identified success factors needed to deliver with high quality in a preschool environment (Ingelsson et. al, 2022). Ingelsson et al. (2022) found that when the principals themselves describe success factors needed to deliver with quality they focus on leadership, co-workers and conditions for continuous improvements. The more externally centred values in form of having a holistic view and a customer focus were less in focus. A broadened focus on the customer as well as the systemic and holistic view on the organizations and society was found to be needed order to balance the more internal focus that was present in the success factors identified by the principals (ibid).

Following the start of the project a number of conceptual areas (all addressed within the three pillars) were developed during the project in relation to the aim of the project as well as based on the current needs of the organization. Examples of areas are: vision and goals, my own role as principal, culture – values – behaviours, long-term thinking, systematic methods and tools, policy deployment, visualization, creating motivation and individual as well as overall reflections.



3.2. *The questionnaire*

A previously developed and tested questionnaire, aiming at assessing the quality culture in an organization, was used yearly during the four year research project. The questionnaire measures individual agreement to 42 statements, intended to be compiled into 14 factors and the respondents are asked to state to what extent they agree to the statement on a 7-point Likert scale (seven equals “totally agree” and one equals “totally disagree”).

The 14 factors are:

- | | | |
|-------------------------------|---|--|
| 1. Development | } | forming the value Participation of everybody |
| 2. Influence | | |
| 3. Giving information | | |
| 4. Empathy | } | forming the value Leadership commitment |
| 5. Presence & communication | | |
| 6. Integrity | | |
| 7. Customer focus | | 8. Internal system view |
| 9. External system view | | 10. Pride |
| 11. AI (appreciative inquiry) | | 12. Long-term thinking |
| 13. Self-reported health | | 14. Continuous improvement |

3.3. *The use of the questionnaire*

The results from the questionnaire was statistically analysed using SPSS with the purpose to find any differences between the baseline and the final MP four years later. When analysing the results from the first MP in 2019, Cronbach alpha were calculated in order to assess the internal validity of the factors. Since very few of the 14 factors reached an accepted level of 0.6 the decision was made to analyse the result on a statement level throughout the project. Mean and standard deviation were calculated for MP one (April 2019) and four (May 2022), focusing on the highest and lowest, and the results were then further analysed using an independent sample T-test in order to identify any statistically significant differences between the two MPs. 21 principals answered the questionnaire both on the first and the last time the questionnaire were used resulting in a response rate of a 100 percent. However, even though the number of principals were the same on both occasions some had been replaced during the period giving the reason to why an independent sample T-test was used. The statements that had a statistically significant difference between the two MPs were then grouped under the factor they are supposed to represent in order to see if they were evenly distributed or if any of the factors seemed to be more affected during the project.

4. Results

4.1. Mean and standard deviation

In order to see the statements that were most and least agreed upon by the principals a “top 10” (see Table 1) and a “bottom 10” (see Table 2) was compiled for the first MP and the last.

Table 1. The ten statements that the principals agrees to most from the two MPs

MP one			MP four		
Statement	Mean	SD	Statement	Mean	SD
I'm almost always well	6.48	0.68	I know for whom I create value	6.80	0.41
The PD-talk with my co-workers feels meaningful	6.43	0.60	I know our organisations overall goals	6.80	0.41
I take suggestions from my co-workers seriously	6.38	0.67	I take suggestions from my co-workers seriously	6.75	0.44
I understand my co-workers work situation	6.38	0.74	I am proud of my workplace	6.65	0.67
I know for whom I create value	6.35	0.81	I understand my co-workers work situation	6.60	0.50
I keep my promises	6.33	0.66	I am proud of the work my work group does	6.60	0.82
I am proud of my workplace	6.24	0.62	We have a commonly agreed upon vision for the whole organisation	6.50	0.76
I am proud of the work my work group does	6.19	0.75	I know what creates value for our citizens	6.47	0.61
I treat everybody equally	6.00	0.71	I keep my promises	6.45	0.51
We focus on how we can do things better, not who did something wrong	5.95	0.67	I'm almost always well	6.40	0.88

The agreements to the statements are generally higher when looking at MP four, one example being that the statement “I'm almost always well” have moved down from the highest in 2019 to place 10 in 2022 but the agreement is almost at the same level (6.48 – 6.40).

Table 2. The ten statements that the principals agrees to least from the two measurement points

MP one			MP four		
Statement	Mean	SD	Statement	Mean	SD
My co-workers get good opportunities for personal development	4.75	1.16	The communication within our organization works well	5.05	1.54
When things are going really well, we usually take the time to understand the reason why	4.71	1.19	We often talk about our strengths and what we are really good at	5.00	1.26
We often talk about our strengths and what we are really good at	4.67	0.86	My co-workers can adjust their working hours if necessary	4.80	1.40
My co-workers get sufficient opportunities to develop their competence	4.67	1.15	The information between the different parts of the organization works well	4.80	0.95
My co-workers can adjust their working hours if necessary	4.24	1.41	In our organisation, we always work with our citizens to develop our work	4.80	1.15

The communication within our organization works well	4.14	1.01	In our organisation, we always work with suppliers to develop our work	4.75	1.16
We have time to work with improvements in our day-to-day work	4.11	1.10	We always ensure that we can support our suppliers when needed	4.75	1.12
The information between the different parts of the organization works well	3.52	1.25	We have time to work with improvements in our day-to-day work	4.65	1.27
In our organisation, we always plan for our resources over several years.	2.86	1.31	In our organisation, we always plan for our resources over several years.	3.80	1.47
The organisation's financial planning supports long-term work	2.81	1.21	The organisation's financial planning supports long-term work	3.70	1.59

Also when looking at the “bottom 10” one can see that the agreements are generally higher even though the statements regarding long-term perspectives are still on the “do not agree” side of the scale.

4.2. Differences between the two measurement points

The means were compared using an independent sample T-test in order to see if there were any statistically significant difference between the measurements points (sig. level 0.05), see Table 3.

Table 3. Statements with statistical significant differences, ranked by highest mean MP4

Statements	MP one		MP four		df	T	Sig.
	Mean	SD	Mean	SD			
I know for whom I create value	6.35	0.81	6.80	0.41	38	-2.21	0.033
I know our organisations overall goals	5.62	1.16	6.80	0.41	39	-4.29	0.000
I am proud of my workplace	6.24	0.62	6.65	0.67	39	-2.04	0.049
I know what creates value for our citizens	5.86	0.79	6.47	0.61	38	-2.73	0.010
I see my co-workers and give them support	5.86	0.65	6.35	0.59	39	-2.53	0.015
We have a commonly agreed upon vision for the whole organisation	4.85	1.35	6.50	0.76	38	-4.77	0.000
I know how the work I do is connected to other parts of the organisation	5.33	1.20	6.35	0.75	38	-2.29	0.028
I give my co-workers sufficient amount of information	5.33	0.66	6.11	0.88	38	-3.17	0.003
I know how the work I do contribute to our organization's overall goals	5.43	0.87	6.05	0.85	39	-3.25	0.009
My co-workers get good opportunities for personal development	4.75	1.16	5.50	0.95	39	-2.23	0.031
The communication within our organization works well	4.14	1.01	5.05	1.54	38	-2.22	0.032
The information between the different parts of the organization works well	3.52	1.25	4.80	0.95	39	-3.67	0.001
In our organisation, we always plan for our resources over several years.	2.86	1.31	3.80	1.47	39	-2.17	0.037



4.3. *Statements in relation to factors*

The statements that had a statistically significant difference between the two MPs were then grouped under the factor they are supposed to represent.

1. Development
 - My co-workers get good opportunities for personal
3. Giving information
 - The communication within our organization works well
 - The information between the different parts of the organization works well
 - I give my co-workers sufficient amount of information
4. Empathy
 - I see my co-workers and give them support
7. Customer focus
 - I know for whom I create value
 - I know what creates value for our citizens
8. Internal system view
 - I know our organisations overall goals
 - I know how the work I do contribute to our organization's overall goals
 - I know how the work I do is connected to other parts of the organisation
10. Pride
 - I am proud of my workplace
12. Long-term thinking
 - In our organisation, we always plan for our resources over several years.
 - We have a commonly agreed upon vision for the whole organisation

Results show that 13 statements showed statistically significant differences between the two MPs, representing seven of the 14 factors. Within two factors, giving information and internal system view, all three statements showed statistically significant differences.

5. **Discussions**

The purpose of this paper was to present the results from a questionnaire assessing the quality culture used recurrently in order to better understand strengths and challenges in regards to developing a sustainable QM culture. The focus of the analysis was on the changes from the first MP to the last during a four year research project. A project aiming at enhancing the quality in preschools, focusing on the principals' ability to work with quality development in a systematic way. Based on the presented results, we can conclude that there are some changes in the principals' agreements to the different statements intending to assess the quality culture and all of them positive. In addition, we can observe that the mean value, i.e. the principals' agreement to the statements, in general has gone up during the period.

The results from MP one indicates a more internal or personal view, where the statements most agreed upon was about me as a principal and on how I act, something that was corroborated by the findings from the analysis of the results from the work-shop that started the project (Ingelsson et. al, 2022). The last MP indicates a more overall organizational view. The principals seem to have moved towards a more systemic view of QM were the organization, the system and the customer are more in focus than themselves as leaders even though they still agree to the statements regarding their relationship to their co-workers to a high extent.

Looking at the statements that had statistically significant differences between the two MPs they can be said to represent seven of the 14 factors in the questionnaire. And the factors regarding information and the internal system view seems to be most affected during the project



period. This could indicate that the focus of the project on working with vision and goals and the importance of a common and systematic approach to working with quality combined with motivating the co-workers has affected the principals' views. The factor regarding customer focus shows two statements with a statistical significant difference. This could have an effect on the work with including the guardians and giving them opportunities to participate in systematic work with quality (LPÖ 18).

Even though two of the statements regarding the long-term thinking reached a positive statistically significant change in agreement they still both have a low mean value. This could suggest an organizational structure and management that is hindering the principals, and as a consequence the co-workers, in adapting a more long-term view in their work. Which in turn can make it harder to create conditions for the children's life-long desire to learn as well as developing a growing responsibility for and interest in sustainable development (LPÖ 18) as one precondition for sustainable development is long-term thinking. A short-term focus on the organisation could also affect the principals and co-workers ability to develop strategies and structures for a sustainable quality culture.

The next step in the analysis of the results from research project will be to carry out a more holistic analysis of the results from the questionnaire in relation to the design and content of the project in order to create a deeper understanding of how the project affected the organization. A number of years from when the project ended, it would be interesting to do a follow up assessment of the quality culture, together with an assessment of how the co-workers agrees to the statements. Since the project targeted the principals i.e. the leaders of the preschools a change in their view on the culture should also effect the co-workers provided that the principals also acts in accordance to the values (Schein, 2003).

5.1. Practical implications

The use of the questionnaire can help organizations to assess both the current agreement level to a number of quality factors/value needed to create a sustainable quality culture as well as monitor any changes over time. This could help leaders and co-workers to understand the culture as well as having a tool to initiate dialogues about what is important in the organization in order to create a commonly agreed upon value base and, by doing so, strengthening the quality culture. Creating an understanding of the current culture can also help organizations to continuously develop strategies and structures needed to reach set goals and visions.



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