

The Pigment Power of Aronia: Evaluating Chokeberry Extract for Optimal Color and Quality in Gummy and Jelly Sweets

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ABSTRACT: The purpose of this paper is to study the predisposition of school culture to the introduction of change in teaching practices, as this is dictated by the conditions of the 21st century. The conceptual areas discussed include the introduction and implementation of change and innovation in education, 21st century skills and school culture. Since the research primary data was collected in the Greek educational system, the characteristics of the specific context are also analysed. The research methodology developed on a pragmatic basis, combining quantitative and qualitative research methods, namely semi-structured interviews, a survey, and document analysis, within a sequential three-stage design. The development of the research tools and the data analysis were conducted with reference to an originally designed model of four school culture types. The results point to an actual school culture that combines both change negative and change positive characteristics. Specific aspects are evaluated as more change negative school culture characteristics, such as the families' role and the approach to the development of the personal, social and civic skills, while others as more change positive ones, such as school management.

Keywords: educational change; educational research; primary education; school culture

I. INTRODUCTION

Change has been a constant reality throughout human history. Under the shifting political, social, and economic conditions of the contemporary century, though, the pace of change has accelerated and posed new challenges for education. Current market requirements point to a necessary development of a great variety of skills and competences that go beyond the educational paradigm formed within industrialisation, while contemporary social conditions pose the need for the students' cultural development into citizens of a globalised world (UNESCO, 2014). In fact, according to Senge (2009), it will not be long before the Industrial-Age education system must change essentially, despite the fact that schools may manifest considerable levels of inertia and resistance to innovation. For education to maintain its value, there needs to be a shift towards a school culture that does not adapt to change but rather thrives on it, embraces it and creates new change of its

choice(Thomas & Brown, 2011).

The definition of what is to be learnt in the context of this new learning culture is an important step that will guide subsequent decisions, policies, and actions. The discussion of the 21st century skills has shed light to the range of skills and competencies that contemporary students may need in their personal, social and professional lives in an era that is perceived as the age of synthesis (Sias et al., 2016). According to the findings, authors seem to visualise the 21st century as an era majorly characterised by the evolution of technology and ICT, globalisation and a need for innovation, consequently highlighting the need for students to develop relevant skills and competencies.

What is of great significance in the process of educational change is the engagement of all educational stakeholders with specific emphasis placed on students and learning, as well as the development of the teachers' capacity, aspects regarded as key factors for education policy success (OECD, 2018). Teachers' feelings under the circumstances are of heightened importance and should not be ignored, as they may differ from individual to individual. The importance of each person's perception of the evolving conditions and his/her engagement with them lies in the fact that it greatly affects the collective metaphors guiding both individual and collective action in the process (Richford, 2001).

Such individual and collective interpretations are related to the term of school culture which is identified as a core factor related to the meaningful introduction and successful implementation of educational change (Costa, 2015; Markoff 2014, Reed, 2013 & Tschannen-Moran, 2014, in Ganon-Shilon and Schechter, 2017; Karadag & Oztekin-Bayir, 2018). It includes widely held beliefs and assumptions which can facilitate or impede attempts for educational reform. Moreover, a positive organization culture is related to enhanced feelings of security, improved employee relations, work satisfaction and efficiency, which can further affect change implementation outcomes (Christofidou, 2011; Cohen, 2012; Ostroff, Kinicki & Tamkins, 2013).

The dominant contextual and cultural traits, usually referred to as school culture, are often side-lined or ignored although they admittedly affect policy implementation outcomes (Harris et al., 2016). The consideration of the

cultural predisposition to change, however, is of great importance because it can reveal the reasons behind potential resistance to the introduction of new concepts and practices and the resulting failure of change initiatives. Evaluating the dominant school culture can, particularly, show behavioural trends that may demand intervention efforts, but it may, also, reveal protective or risk factors capable of affecting the desired outcomes, as well as resources available within the system that may enhance the procedure (Roach & Kratochwill, 2004).

Recognising the significance of school culture brings us, inevitably, to the question of what the term refers to. Throughout literature, the researchers' interest in the conceptualisation of school culture resulted in a number of definitions and descriptions. The meaning of the term has been discussed since as early as 1932, when Waller argued that in each school there are complex and unique rituals of relationships, folkways and a moral code (Maslowski, 2006), a concept that was also supported by Hoy and Miskel (2013) as a factor that affects the evolution of the organisational identity and directs its members' behaviours. Maybe, the simplest definition found throughout relevant literature is the one describing culture as 'the way we do things around here' (Ouchi & Johnson 1978 in Simpson, 2004). Although the definition looks simplistic, it highlights one of the core features of school culture, that through time the presence and influence of culture over people's thinking and acting, as well as all school processes, becomes invisible and taken for granted; it simply translates into how things naturally happen in the educational unit.

In a more structured approach to the term, Schein (2010) proposes a three-layer model, according to which school culture consists of the basic assumptions, the values and the artefacts and practices characterising the system. Despite difficulties in the definition of the concept, the presence of specific characteristics of culture in organisations is easily sensed by external agents entering its space and procedures.

Since the research presented hereby refers to the educational system of Greece, it was deemed essential that the particularities of the system in relation to the investigated areas were discussed. In the face of the arising conditions of the 21st century the Greek educational system has responded with a series of changes that have been introduced during the past decades, aiming at reform and innovation. Such initiatives have, in most cases, been realised in a top-down manner, within a governance and administration system that is described as highly centralised and deeply bureaucratic. The centralisation of the administrative system is recognised as a major handicap in the process of reform initiation (OECD, 2016).

The implementation of introduced change has been commonly met with resistance and evolved with delay and shortcomings. According to relevant research in the country,

there are negative reform implementation results and a school identity generally characterised by inertia and introversion (Spiropoulou et al., 2007; Kouloumparitsi, 2008; Kiriakodi & Tzimoyiannis, 2015). Still, reform attempts are continuous. In 2014, the extension of the programme 'Education and Lifelong learning' for the period 2014- 2020 was decided and signed. In 2017, the new three-year action plan for education was announced. The Ministry of Education declares that its long-term strategy pertains to the continuation and extension of institutional changes. The paradox is that Greece is found to have a committed teaching body which is, however, accomplishing average results, something that highlights the need for an environment that will favor school improvement (OECD, 2018).

In recognition of the need for an investigation of the factors that can enhance the change initiatives outcomes under the aforementioned conditions, the aim of the current research is to study the predisposition of school culture to the introduction of change in teaching practices in the context of the Greek public primary education, especially with regards to the conditions of the 21st century. The research questions are grouped into three conceptual categories, namely cultural predisposition to change, academic emphasis and practices, and value gaps between the actual and the desired school culture.

Taking into consideration the difficulties and insufficiencies of educational reform attempts recognised by research in the Greek educational system, studying school culture in the context of the Greek primary education is expected to give an insight into the values and beliefs, as well as the dominant corresponding practices that, possibly, impede or can, potentially, assist the introduction and implementation of change with the aim of educational improvement. The evaluation of school culture, through the identification of these forces, can shed light to the reasons why policy implementation results may not be as expected. The comparison of the current school culture with the desired one gives the teachers and headteachers a chance to express the educational needs as experienced by them through the everyday school practice, while it can accumulate suggestions regarding areas in need of change in a bottom-up direction that takes the specific context into consideration. The importance of the current research lies in its contribution to the understanding of the role of school culture with regards to the implementation and results of educational interventions in the specific context of the Greek primary education, especially in consideration of the disquieting research findings about the results of educational reforms in the region. However, current social and economic changes, the need for corresponding evolution in education, and the relationship of school culture with the successful implementation of educational change as is discussed in relevant literature, are global realities.

Consequently, and always taking into account the specific context of each national educational system, the research findings, which are discussed in the relevant part of the respective PhD thesis and presented hereby, aspire to be of use to educators, academics, researchers, education stakeholders, policy makers and anyone who may be interested in positive educational development worldwide.

II. METHOD

Research philosophy and design

Within the context of the current research, reality is seen as the interpretation of independently existing conditions through the subjective eyes of individuals who evolve within, are affected by and affect their social environment. It is, thus, equally real and socially constructed, which results in the association of the philosophy of the research in question with pragmatism, with the researcher's decisions regarding methodology being taken with the aim of developing a combination of research methods that will best serve the research aim and objectives (Morgan, 2014).

The research design that was regarded most appropriate for the study of the particular research question included a mix of quantitative and qualitative methods in an effort to achieve the combination of strengths offered by the two and, especially, with the objective to ensure objectivity and generalizability of the results to the extent possible but, also, to provide deep insights of the questions addressed (Morgan, 2014). For the aims of this paper, quantitative and qualitative research tools that were utilised within a sequential three-stage research design are discussed. In the first stage of the research semi-structured interviews with teachers and headteachers in primary schools in the region of Crete, Greece, were conducted. In the second stage, a survey investigating the responses of teachers and headteachers in the same region followed. The final stage of the sequence included a second set of semi-structured interviews and document analysis. The data collection took place in the period from December 2016 until February 2018.

As a result of the study of the literature review in relation to the cultural aspects most related to the introduction of change, mainly in teaching practices, an original model of

four distinct culture types was designed (Robinson, 2010; Thomas, 2012; Karadag & Oztekin-Bayir, 2018; OECD, 2018). The four culture types cover the range of different types of cultural predisposition to change, namely the change rejective, the change resistant, the change friendly and the change creative culture type. The development and application of the research tools and the data collection and analysis are performed with the aim of studying the predisposition towards change and innovation in the prevalent school culture in public primary education with reference to these different types of school culture. The approach adopted in the development of the research tools was based on the investigation of the individual's evaluation of the dominant organisational culture, rather than his/ her own cultural values, making the organization, and not the individual, the item referent (Morrison et al., 2011).

Sampling

The sample for the interviews of the first and the third stage was purposively selected out of the volunteering participants, in order to cover a wide range of work experience lengths and to be representative of the sex composition of the research population. Three teachers and one headteacher were interviewed at the first research stage, and thirteen teachers and two headteachers at the third stage. The participants in the survey were selected through stratified random sampling to ensure that the teachers and headteachers would be represented in the sample according to the population composition. The target sample was determined with the use of the Slovin's formula, which is used for finite populations characterised by many unknown parameters (Ellen, 2018). The actual sample, which included 385 teachers and 31 headteachers, managed to exceed the target sample in numbers, remaining satisfyingly close to the population composition in percentages, in all cases except for the gender classification of headteachers, as can be seen in Tables 1 and 2. Finally, the general part of the national curriculum (Pedagogical Institute, 2003) was the document chosen for analysis, as it is considered to be the most important text of formal education, in which the perspective of the state with respect to education is summarised and communicated.

Table 1
 Analysis of the teachers' sample

Population	Target sample		Actual sample		Actual sample evaluation		
	N	%	N	N	%	N	% difference
Teaching staff	5810	100%	356	385	100%	+20	-
Female	4321	74,37%	265	281	73%	+16	-1.37%
Male	1489	25,63%	91	104	27%	+13	+1.37%

General education teachers	3526	60,69%	216	240	62,34%	+24	+1.65%
Specialties	2284	39,31%	140	145	37,66%	+5	-1.65%

Table 2
 Analysis of the headteachers' sample

Population	Target sample		Actual sample		Actual sample evaluation	
	N	%	N	N	%	% difference
Headteachers	324	100%	20	31	100%	+11 -
Female	153	47,22%	9	7	23%	-2 -24.22%
Male	171	52,78%	11	24	67%	+13 +14.22%

III. RESULTS

First stage

What is initially revealed in the analysis of the interviewees' responses is the difficulty faced by all respondents when they attempt to discuss the term 'school culture'. Regarding prevailing culture attributes, Greek primary education is presented to be characterised by in-classroom flexibility, autonomy and teacher independence, but also an emphasis on knowledge transfer and hard skills which is dictated by an overloaded curriculum. The result is a neglect of the personal and social development of the student which is a concern expressed by all the interviewees, since interpersonal, social and communication skills are regarded as crucially important for the future citizens. As a result, it is highlighted that current teaching practices, as these are dictated by the prevalent school culture, only favor the development of such skills to a very small extent, 'with the exception of the case of the European education projects' (Interviewee 3). This inevitably poses the need for change, which is recognised by all interviewees and is seen as something desirable. However, there is, also, an identified

prevailing fear and suspicion of any change introduced or suggested, an example of which being the 'teachers' initial unwillingness to implement European projects' (Interviewee 4), and a lack of support and meaningful cooperation among teachers towards innovation.

Second stage

The respondents of the questionnaire of this stage attribute characteristics from all four culture types to the actual and the desired school culture in primary education. There is an agreement that the actual school culture is mainly characterised by elements of the change friendly school culture (Type C), with the change rejective type (Type A) being the weakest of the four. In the case of the desired school culture, the change creative type (Type D) is the strongest one, while the change rejective type (Type A) is found to be even weaker. The mean percentages of the four culture types of the actual and the desired school culture according to the teachers and the headteachers survey participants can be seen in Table 3 and Table 4, respectively.

Table 3

Mean percentages for the four culture types of the actual and the desired school culture according to teachers							
Actual school culture (Mean)				Desired school culture (Mean)			
Type A	Type B	Type C	Type D	Type A	Type B	Type C	Type D
17.72	22.53	33.52	26.22	6.06	9.65	38.76	45.53

Table 4

Mean percentages for the four culture types of the actual and the desired school culture according to headteachers							
Actual school culture (Mean)				Desired school culture (Mean)			
Type A	Type B	Type C	Type D	Type A	Type B	Type C	Type D
16,61	22,79	33,72	26,88	5,50	10,47	37,80	46,23

Further studying the two groups' responses per item

manifests that, in the majority of the cases, the teachers and

the headteachers agree on their evaluation of the actual and the desired school culture. The items investigated in the survey are shown in Table 5. The results per item for both

the actual and desired school culture, according to the survey participants' evaluation, both the teachers' and the headteachers' one, can be found in Figures 1-4.

Table 5
 Questionnaire items

Item 1	Purpose of education
Item 2	Management
Item 3	Teacher collaboration
Item 4	Students in our school
Item 5	The families
Item 6	Academic emphasis; personal, social and civic skills
Item 7	Academic emphasis; creativity
Item 8	Teaching resources
Item 9	Academic emphasis; geographical scope
Item 10	Innovation
Item 11	Beliefs regarding change

Figure 1
 Actual school culture composition per item as evaluated by teachers

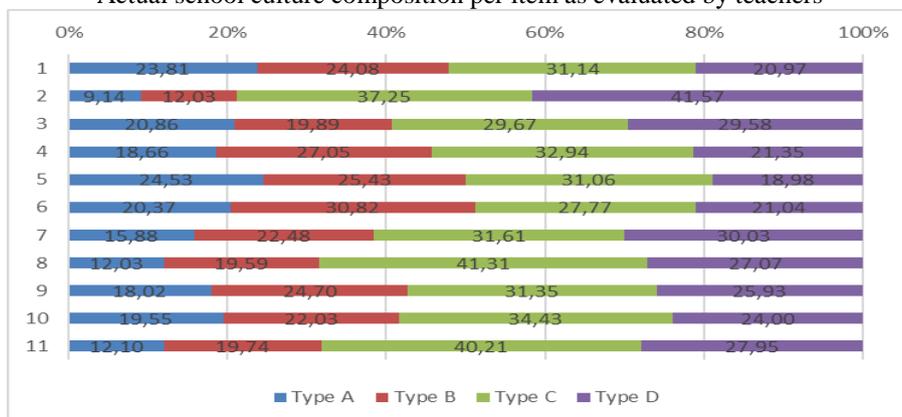


Figure 2
 Desired school culture composition per item as evaluated by teachers

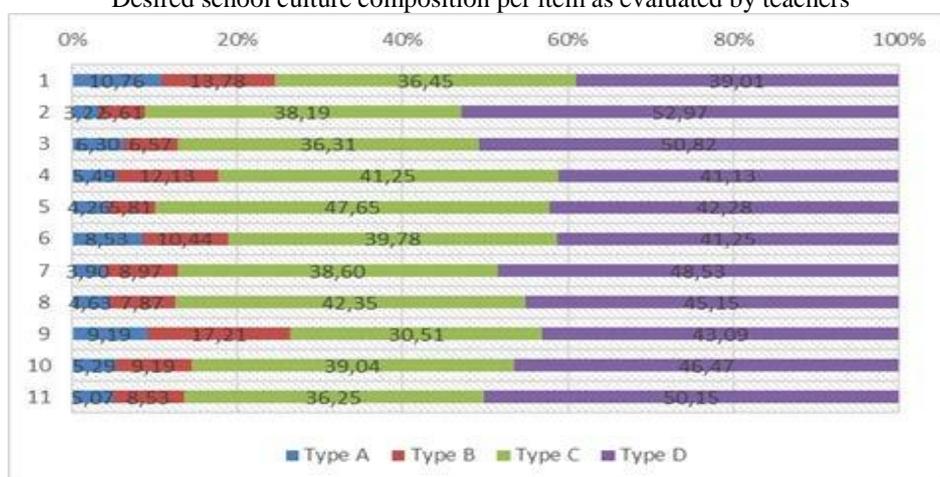


Figure 3

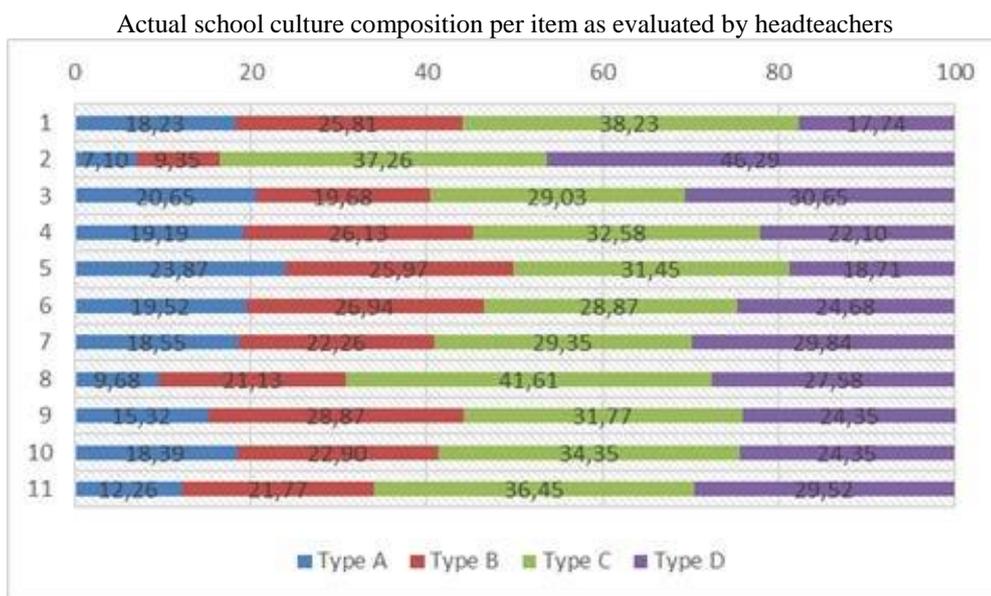
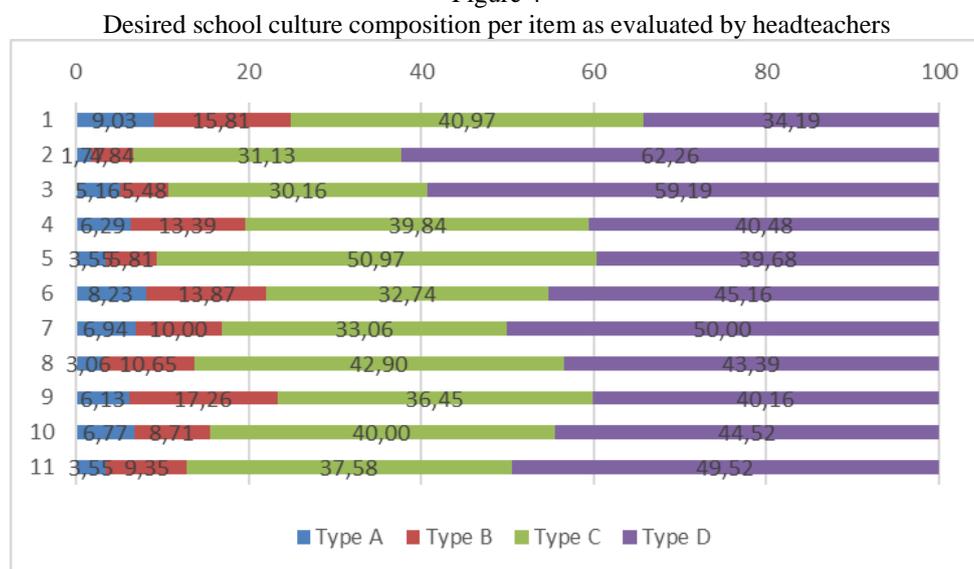


Figure 4



To start with, both groups believe that management is the area most positively predisposed to change. On the other hand, the areas evaluated as the most change negative by both teachers and headteachers are related to the families' role, the school purpose and the emphasis placed on the development of the personal, social and civic skills.

As far as the desired culture is concerned, both groups recognise the significance of management being the most change positive aspect. The areas where change negative characteristics are most maintained include the school purpose and the geographical scope of reference for all the respondents. Headteachers, also, assess students and the

development of personal, social and civic skills high in change negative characteristics in comparison to the rest of the culture aspects.

There is an agreement between teachers and headteachers that the predisposition of families towards change is the aspect most in need of improvement. It has to be mentioned here, however, that both respondent groups desire families that will welcome and support change (Type C- change friendly), rather than families that will actively encourage and participate in the initiation and implementation of change and innovation (Type D-change creative). Teachers, also, hold that there is a great need for change towards more

change positive characteristics in the aspect of the development of the personal, social and civic skills. One of the widest value gaps resulting from the headteachers' answers is found in the aspect of teacher collaboration.

Both teachers and headteachers agree that management is the area least in need of change. This could be expected, in a sense, since both groups assessed the specific aspect of the actual school culture as the most change positive one. Teachers, also, point to the geographical scope of reference of the education as one of the areas with the smallest value gaps, while headteachers to the teaching resources and the school purpose. It has to be highlighted that the geographical scope and the school purpose were assessed by the teachers and the headteachers, respectively, as two of the areas with the most change negative characteristics in the actual school culture, as well. These two observations in combination show that, although the respondents recognise various existing change negative characteristics in the particular aspects, they do not believe that it is a priority that these characteristics should be eliminated.

Third stage Interviews

Teachers believe that the development of skills is as important as the development of content knowledge, 'or even more for students of younger ages' (Interviewee 15). However, they acknowledge that the main objective of the primary school remains, in practice, to guide students towards academic achievement. As a result, this is one of the areas most in need for change.

The main reasons why school practice does not place emphasis on the development of skills include the existing overloaded curriculum, families' resistance due to prioritisation of academic development and teachers' resistance due to a lack of relevant training, 'concerns that they might not be able to respond to the new conditions' (Interviewee 1), or unwillingness to undertake more work. The teachers' predisposition to the topic is regarded of particular importance because of high teacher autonomy in the classroom. Additionally, it is argued that family resistance levels are strongly dependent on the relationship, trust and communication between the families and the school. Consequently, intervention in these elements is regarded essential in order for the school to be able to achieve a more balanced approach to the student development that will aim at the hard and soft skills equally. It is recognised that, lately, there has been an increase in the implementation of projects aimed at the development of skills and competencies in schools. Numerous projects of various types, structures and topics were mentioned in the interviews. The projects address a wide range of skills, contribute to the development of the relationship of the school with the community and other schools, and offer opportunities for interaction with the international context. There is evidence, though, that not all teachers implement

long-term projects with specific aims and objectives relevant to the development of skills.

National curriculum analysis

The development of content knowledge is intertwined with the development of skills and competencies in the national curriculum. The main objectives highlighted include the students' learning skills and the development of their personality, with emphasis placed on their emotional, intellectual and physical sides equally. Based on the recognition of strong globalisation tendencies, the curriculum suggests the development of the national identity along with the identity of the European citizen, and on the basis of respect to the national identities of other people. With regards to teaching methodology, there is an evident promotion of student-centred practices. Traditional teacher-centred methods, such as narration, are suggested only as the method to be used when the rest of options are not considered appropriate. It is highlighted that memorisation and passive acquisition of new knowledge on the part of the students should be avoided.

Although, the distinct subject curricula include detailed structures of the knowledge areas to be approached, along with timeframes and relevant methodological suggestions, it is mentioned in the document that these should be treated as general guidelines. The teachers are encouraged to use the curriculum with flexibility and to adapt it to their classroom and school characteristics.

IV. DISCUSSION

Cultural predisposition to change

The aim of education

As expressed by teachers and headteachers, the aim of education in the context of the Greek primary school is, mainly, to guide students towards their all-round development as individuals, citizens and future professionals. Although the perception of the purpose of education is found to be change positive, it maintains change negative characteristics that are proportionally significant both in the actual and the desired school culture. This could, potentially, manifest the existence of ideas in the population, or in a proportion of the population of the respondents, that can result in tendencies of resistance to the introduction of change in education. The particular assumption is, further, supported by cases of purely traditional, teacher-centred classroom processes. Although these cases were not the rule, they clearly represented the existence of the aforementioned tendencies.

Teachers and headteachers believe that education should aim at skill development and content knowledge equally. It is recognised, however, that, in practice, the main objective of primary education is the student's academic achievement. There is a wide perception that the state places increased emphasis on the development of factual knowledge, which is

communicated to the school through a curriculum overloaded with information to be taught. The comparison of the findings of the interviews and the document analysis regarding the aim of education, however, result to an interesting finding, since the national curriculum promotes, in its core educational objectives, a clear focus on the students' personality and skills development, along with knowledge development.

It is believed that the reason behind this seemingly contradictory finding is related to an unclear perception of the level of flexibility in the use of the national curriculum, which is suggested in the text of the curriculum itself. The new national curriculum is a text that includes, indeed, detailed structures of the knowledge areas to be acquired, combined with timeframes and relevant teaching methodology. It is mentioned, however, that these should, only, be treated as general guidelines that teachers can adapt to the special characteristics of their classrooms. This notion of flexibility, though, that is for the first time mentioned so clearly in the national curriculum, is a new thing in the centrally organised Greek educational system. Additionally, the inefficient communication between the state and the school that is mentioned by some interviewees, as well as the feelings of distrust towards the political intentions and the instability and fragmentation of the governance system mentioned in relevant literature (Panitsides, 2014) can possibly, further, explain the disagreement in the findings. The promotion of a new educational mentality may be the intention of the state, as expressed in the curriculum, but it seems that the message has not reached the school level.

With regards to globalisation, the dominant approach goes beyond the national perspective, but not to the extent of including the development of students as global citizens in the core educational objectives. Despite growing tendencies towards a more conscious consideration of the global environment, it is regarded that findings agree with relevant literature assumptions that contemporary schools remain organised and designed mainly on the basis of the local or national economic, political and social characteristics and purposes (Spring, 2002 in Zadjia, 2010).

Beliefs about change

School culture is found to be characterised mainly by beliefs that change is a positive thing and to teachers and headteachers that are open to relevant suggestions and new ideas. There is, however, an identified level of fear and suspicion towards such suggestions and initiatives. This leads to certain levels of resistance, unwillingness or hesitation to undertake change initiatives, which are expressed at least by a part of the population, as it is, also, found in other research conducted in the country in previous years (Spiropoulou et al., 2007; Kouloumparitsi, 2008; Kiriakodi & Tzimoyiannis, 2015).

The role of the headteacher is found to be particularly

supportive to the introduction of new concepts and practices, according to both the teachers and the headteachers' evaluation of the actual school culture. This is regarded as an important finding since school leadership and management is found to be strongly related to the evolution of school process and school achievement (Pashiardis, 2014). In addition, the headteacher personality is believed to potentially function as a role model for teachers' behaviours and to be able to strongly affect the creation of a positive school culture with the characteristics of employee satisfaction and enhanced educational outcomes (Gkolia et al., 2013; Sofos & Darra, 2015; Kakkos et al., 2016).

On the other hand, the role of the families is assessed by both teachers and headteachers as the item with the most change negative characteristics among all the items studied in the survey. It is mentioned, however, that the stance of the teacher towards the introduction of change and his/ her relationship with the families greatly affects the families' stance, as well.

Strength and homogeneity of the school culture.

The actual school culture combines characteristics from all four different culture types. The research participants recognise the existence of differentiated beliefs, values and practices within their schools, which might point to an unclear conceptualisation of the aims and objectives of the educational system, potentially a sign of a weak cultural basis, or the existence of subcultures with different characteristics, possibly a sign of heterogeneity. The triangulation of the quantitative and qualitative findings, further, support this conclusion. In the case of specific items, such as in the evaluation of the school purpose by both teachers and headteachers, as well as the evaluation of the reported academic emphasis with respect to the development of personal, social and civic skills by teachers, culture heterogeneity is more obvious and could, even, be expressed as a culture clash.

Taking into consideration that the teachers enjoy increased autonomy in their classroom, it is understood that the development of subcultures, which may, even, be significantly different, is possible. According to relevant literature, the existence of subcultures that may vary among groups within organisations can be considered the rule, rather than the exception (Schneider, Ehrhart, & Macey, 2011). Such subcultures may, even, coexist without creating conflict (Hartnell & Walumbwa, 2011). However, the specific, potential cultural fragmentation poses a concern, since culture homogeneity through shared values and norms is considered to contribute to commonality of purpose and a shared vision, elements that, ultimately, improve the learning procedure (Cavanagh, 1997, in Maslowski, 2006). Additionally, it remains an issue whether effective teacher collaboration, with its associated benefits, can be achieved among people with different cultures, or if the collaborating

groups are, inevitably, limited to teachers sharing similar subcultures within the educational system.

Academic Emphasis and Practices

21st century practices for the development of 21st century skills

According to the research findings, there is a wide range of skills that is addressed in the everyday school practice. It is interesting to see, however, that the development of the personal, social and civic skills, as academic emphasis, is the only school culture area assessed as, mainly, change resistant. Although school culture with regards to skills development combines characteristics from the whole spectrum of predisposition to change, the dominant trait is that there is an effort on the part of the teachers to avoid deviation from the curriculum, addressing skills development only when there is time. Consequently, it becomes evident that priority is given to content knowledge and academic achievement, an issue often discussed in literature within the context of the existence of rigid, normalisation-oriented academic criteria that leave no space and time for deviation (Thomas, 2012).

As far digital literacy is concerned, although both teachers and headteachers pointed to strong change friendly characteristics, relevant practices seem to be, mainly, limited in the implementation of relevant projects or in the context of the subject of computer science.

Special emphasis is placed in the study of the dimension of practices as they are the most visible and accessible layer of culture, which can manifest tendencies in the deeper, invisible layers of values and assumptions (Schein, 2010). A variety of practices were reported from the whole spectrum, from merely student-centred methods to strongly teacher-centred ones. A tendency towards the development of a more active learner in the educational system is manifested, although, in most cases, the teacher still maintains his/her central role.

The increasing integration of projects as part of the educational process is found to be related to the introduction of new teaching and learning approaches aiming at 21st century skills. Interviewees argue that the educational projects suggested and implemented are the exception to a rule of teaching practices that only contribute to the development of 21st century skills to a small extent. In addition, teachers who have organised or have participated in externally designed specific goal-driven projects seem to be able to make more references to student-centred teaching methods that aim at the development of skills, such as teamwork or alternative uses of resources.

Although there is a level of uncertainty among teachers and headteachers as to what can, actually, be characterised as innovative, examples of projects and practices that are considered worth mentioning for their emphasis on skills and their clear reference to the contemporary conditions and

context include:

- The integration of students in the organisation and management of non-school-typical installations, such as school gardens or school museums.
- Activities that reach outside the school limits and create bridges with the community.
- Creative and meaningful ICT integration in the educational process.
- Practices that reposition emphasis from the strict quantitative evaluation of academic progress, according to firm, predetermined standards, to a more flexible qualitative approach to evaluation, as a tool for individual improvement in the areas of knowledge and skills development equally.

Value gaps

The identification of value gaps between the actual and the desired school culture is conducted within a mentality related to quality improvement concepts (Detert, Louis & Schroerer, 2001). The areas most in need of improvement are identified, mainly, through the combination of data from the survey and the third stage interviews, which make references to the desired school culture, further than the actual one. First of all, there is clear consensus with respect to an identified need for change in a variety of areas according to both quantitative and qualitative data.

However, there are some specific areas that seem to require special attention.

Teachers and headteachers believe that the family's cultural predisposition to change is the aspect most in need of change and that there is a need for improved school-family relationships and the development of feelings of trust. The research participants wish for families that will be more open to change, will support their children in new practices and will cooperate with the school towards the achievement of enhanced results. It seems, however, that teachers and headteachers would not, necessarily, want families to have a highly active role, but rather to be followers in the procedure.

An urgent need for a more flexible and less loaded curriculum, for flexibility in the school working hours and continuous teacher training is reported. The desired change in all three areas mentioned is, ultimately, related to the improvement of the conditions that will contribute to a shift from a mentality that, merely, focuses on academic achievement to one that favors the combined development of content knowledge and skills.

Finally, there is, also, a great need for the organisation and implementation of continuous teacher training that will help teachers stay up to date with new conditions, educational concepts, practices, potential and options. Training would, further, help the teachers manage the feelings of insecurity towards the unknown that are related to increased resistance to change, through building their self-confidence in the use

of new teaching practices.

V. CONCLUSION

The evaluation of the school culture predisposition to change in the context of the Greek public, primary education wishes to contribute to a more efficient introduction of new and innovative practices and enhanced educational outcomes. The areas most in need of change, according to the research, include the school-family relationships, the academic emphasis and the understanding and implementation of the notion of flexibility. The main systemic characteristics that need to be taken into account in any attempt for intervention in these, or other areas, point to the centrality of decision-making procedures, the top-down organisation and the reported defective communication within the system. Potential resources that should be considered and exploited with the aim of the achievement of change objectives are found to be the general consensus about the need for change, the strongly change positive predisposition of the headteachers, teacher autonomy in the classroom, the high levels of teacher motivation and the increasingly wider use of projects. The combined study of these three elements is held to be of particular significance in the design of an enhanced change implementation policy. In the light of the findings that make reference to the families' role in the formation of school culture and the successful implementation of change as the aspect most in need of change, it is held that further investigation of this factor would be of interest and use. In particular, the evaluation of school culture from the perspective of the students' families would provide a more holistic approach and would allow further triangulation of the findings and results.

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