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Education 4.0 in Greek Higher Education. Challenges, Opportunities and Reservations

Abstract

Over time, modern society has gone through three Industrial Revolutions and is now entering the 4th Industrial Revolution. These revolutions were directly related to the achievements of the educational systems of modern states. The 4th Industrial Revolution is known in Education as Education 4.0. Education 4.0 introduces major innovations in education. Its main features are artificial intelligence, robotics, nanotechnology, 3D printing, internet of things, etc. In this context, this paper explores: -The possibilities offered in Higher Education in terms of upgrading the quality of teaching and learning. -The utilization of Education 4.0 strategies in the organization of quality educational programs in Higher Education. -The risks and difficulties involved in the implementation of Education 4.0 in educational systems, like the Greek one, which may not be properly prepared for such a major change. In this context, we will present an investigation through literature and documents of organisations of the possibilities offered in Higher Education in terms of upgrading the quality of teaching and learning.

Keywords: industrial revolution 4.0, education 4.0, higher education, strategies, possibilities, reservations

Η Εκπαίδευση 4.0 στην Τριτοβάθμια Εκπαίδευση στην Ελλάδα. Προκλήσεις, Δυνατότητες και επιφυλάξεις

Περίληψη

Διαχρονικά η σύγχρονη κοινωνία έχει διανύσει τρεις Βιομηχανικές Επαναστάσεις και τώρα εισέρχεται στην 4^η Βιομηχανική Επανάσταση. Οι επαναστάσεις αυτές συνδέονταν άμεσα και με τις εξελίξεις και τα επιτεύγματα των εκπαιδευτικών συστημάτων των σύγχρονων κρατών. Η 4^η Βιομηχανική Επανάσταση είναι γνωστή στην Εκπαίδευση ως Εκπαίδευση 4.0. Η Εκπαίδευση 4.0 εισάγει μεγάλες καινοτομίες στην εκπαίδευση, ιδιαίτερα στην τριτοβάθμια. Τα κύρια χαρακτηριστικά της είναι η τεχνητή νοημοσύνη (Artificial Intelligence), η ρομποτική, η νανοτεχνολογία, η 3D εκτύπωση, το Διαδίκτυο των Πραγμάτων (Internet of Things), κ.ά. Στο πλαίσιο αυτό, η παρούσα εργασία διερευνά μέσω της σχετικής βιβλιογραφίας: -Τις δυνατότητες που προσφέρει η Εκπαίδευση 4.0 στην Τριτοβάθμια Εκπαίδευση ως προς την αναβάθμιση της ποιότητας της διδασκαλίας και της μάθησης. -Την αξιοποίηση των στρατηγικών της Εκπαίδευσης 4.0 στην οργάνωση ευέλικτων εκπαιδευτικών προγραμμάτων. -Τους κινδύνους και τις δυσκολίες που συνεπάγεται η εφαρμογή της Εκπαίδευσης 4.0 σε εκπαιδευτικά συστήματα, όπως της Ελλάδας, που δεν είναι κατάλληλα προετοιμασμένα για μια τόσο μεγάλη αλλαγή.

Λέξεις-κλειδιά: βιομηχανική επανάσταση 4.0, εκπαίδευση 4.0, τριτοβάθμια εκπαίδευση, προκλήσεις, δυνατότητες, επιφυλάξεις

1. Introduction

An Industrial Revolution is a historical period as well as a particularly complex system of rapid changes and rearrangements on a technical, economic, social and cultural level in societies. Throughout the history of mankind, four major industrial revolutions have taken place. Each one of them has resulted in social, educational, economic and political changes setting the tone of each era. The First Industrial Revolution (18th century) had as its main feature the discovery of ‘Steam’ which used water and steam power to mechanise production. The Second Industrial Revolution (1900 -1950) had as its main feature the discovery of ‘Electricity’, which transformed individual production into mass production. The Third Industrial Revolution (1950) had as its main feature the development of Electronics and Information Technology to automate production. Now, we are experiencing the arrival of the Fourth industrial Revolution, which has as main core Quantum Technology, Information Science, self-learning of mechanical systems, new forms of energy and Artificial Intelligence¹.

¹ Fisk, P., *Education 4.0 ... the future of learning will be dramatically different, in school and throughout life. The Genius Works*. In:<http://www.peterfisk.com/2017/01/future-education-young-everyone-taught-together> (accessed on 3/11/2021)

The ability and success to solve 21st century problems are related to how educational institutions, but also overall education will dynamically adopt changes and appropriately manage arising problems. More specifically, higher education in the fourth industrial revolution (HE 4.0) is a complex, dialectical and exciting opportunity which can potentially transform society for the better. The fourth industrial revolution is powered by artificial intelligence, and it will transform the workplace from tasks-based characteristics to the human centred characteristics. Due to the convergence of man and machine, it will reduce the subject distance between humanities and social science as well as science and technology. This will necessarily require much more interdisciplinary teaching, research and innovation².

In this context, the goal of the paper is the presentation an investigation through literature and documents of organisations of the possibilities offered in Higher Education in terms of upgrading the quality of teaching and learning. The effective use of Education 4.0 strategies in the organization of quality educational programmes in Higher Education and the difficulties and reservations involved in the implementation of Education 4.0 in educational systems, like the Greek one, which may not be properly prepared for such a major change.

2. What is Education 4.0?

The term “industrial revolution 4.0” was coined by Klaus Schwab, founder and executive chairman of the World Economic Forum, who in 2016 published a book titled ‘The Fourth Industrial Revolution’ and introduced the term in the meeting of the 2016 Davos WEF. As Schwab claimed³ (2016), the Fourth Industrial Revolution is, however, fundamentally different from the previous ones. It is characterized by a range of new technologies that are fusing the physical, digital and biological worlds, impacting all disciplines, economies and industries, and even challenging ideas about what it means to be human. The technologies of the Fourth Industrial Revolution, including Artificial Intelligence, genome processing, neuroscience development, virtual reality, robotics of cloud computing and 3-D printing are rapidly changing our lives on a social, economic and environmental level⁴.

In this reality, it is a fact that the industrial revolution 4.0 has changed the way of thinking about education too. Changes are made not only in the way of teaching, but

2 Xing, B. (2015). Massive online open course assist edmechatronics learning a hybrid approach. *Furthering Higher Education Possibilities through Massive Open Online Courses*, A. Mesquita and P. Peres, Eds., Hershey PA, USA 17033: IGI Global.

3 Schwab, K. (2016). The Fourth Industrial Revolution: what it means, how to respond. World Economic Forum. <https://www.weforum.org/agenda/2016/01/the-fourth-industrial-revolution-what-it-means-and-how-to-respond/>.

4 Dunwill, E. (2016). 4 changes that will shape the classroom of the future: Making education fully technological. Retrieved from <https://elearningindustry.com/4-changes-will-shape-classroom-of-the-future-making-education-fully-technological>.

what is more necessary is a change in the perspective of the concept of education itself⁵.

According to Fisk (2017), there are nine trends related to Education 4.0. These are:

1. Learning can take place anytime and anywhere. E-learning tools offer great opportunities for remote, self-placed learning. Flipped classroom approaches also plays a huge role as it allows interactive learning to be done in class, while theoretical parts to be learned outside the class time.
2. Learning will be personalized to individual students. They will be introduced to harder tasks only after a certain mastery level is achieved. More practices will be provided if the instructors see a need in it. Positive reinforcements are used to promote positive learning experience and boost students' confidence about their own academic abilities.
3. Students have a choice in determining how they want to learn. Although the learning outcomes of a course are preset by the institutions/bodies in charge of the curriculum, students are still free to choose the learning tools or techniques that they prefer. Among the options that lecturers can adopt to enable students to be creative in their learning are blended learning, flipped classroom and BYOD (Bring Your Own Device) approach.
4. Students will be exposed to more project-based learning. Students are required to apply their knowledge and skills in completing a couple of short-term projects. By getting involved in the projects, they are practicing their organizational, collaborative and time management skills, which are useful in their future academic careers.
5. Students will be exposed to more hands-on learning through field experience such as internships, mentoring projects and collaborative projects. The advancement of the technology enables the learning of certain domains effectively, thus making more room for acquiring skills that involve human knowledge and face-to-face interaction.
6. Students will be exposed to data interpretation in which they are required to apply their theoretical knowledge to numbers and use their reasoning skills to make inferences based on logic and trends from given sets of data. The manual part of mathematical literacy will become irrelevant as computers will perform the statistical analysis and predict the future trends.
7. Students will be assessed differently and the conventional platforms to assess students may become irrelevant or insufficient. Students' factual knowledge can be assessed during the learning process, while the application of the knowledge can be tested when they are working on their projects in the field.
8. Students' opinion will be considered in designing and updating the

5 Lase, D. (2019). Education and Industrial Revolution 4.0. https://www.researchgate.net/publication/334837153_Education_and_Industrial_Revolution_40. DOI:10.24114/jh.v10i1.

curriculum. Their inputs help the curriculum designers maintain curriculum contemporariness, up-to-date and usefulness.

9. Students will become more independent in their own learning, thus forcing teachers to assume a new role as facilitators who will guide the students through their learning process⁶.
10. These chances of Education 4.0 offer new challenges to teachers and students, and to educational institutions overall. Teachers should create rich educational experiences to meet students' learning needs, but also the latter take a greater share of responsibility for their education. They should become more self-directed and self-regulated learners.

3. Education 4.0 in Greece

Greece ranks rock bottom among 100 countries in the world in the future orientation of its government and is the only western European economy to be classified as 'emerging' in terms of readiness to take part in the industry 4.0 (Readiness for the Future of Production Report, 2018). The Greek government despite efforts to adopt and introduce innovations, such as, founding the Ministry of Digital Governance, remains rather attached to the past. If we take into consideration that over time there has been a centralised, bureaucratic central administration, which is historically explained, the future does not seem very optimistic. Greece is a laggard in Europe not due to the lack of human capital, infrastructure or natural resources, but rather due to the lack of the appropriate institutional framework and the necessary investment in technology. Trapped in the traditional concept of "clientelism", the Greek policy serves corporate interests and undermines the set of an innovative business model, developed by Greek bright minds which can bring new wealth (Readiness for the Future of Production Report, 2018)⁷. Moreover, a great number of young scientists, who could significantly contribute to the innovations required by Education 4.0, have emigrated abroad to find work⁸.

In Greece 'what we need not tomorrow, not today but yesterday is to upgrade primary, secondary and higher education as a matter of national urgency as well as to invest in research and development of new technologies at home. Otherwise, the inevitable introduction of automation into the manufacturing sector and AI into the service sector will create social turmoil and exacerbate inequalities'⁹.

6 Hussin, A. A. (2018). Education 4.0 Made Simple: Ideas For Teaching. *International Journal of Education & Literacy Studies*. ISSN: 2202-9478.

7 World Economic Forum (2018). Readiness for the Future of Production Report. In collaboration with A.T. Kearney. Retrieved 23/9/2021 from http://www3.weforum.org/docs/FOP_Readiness_Report_2018.pdf (weforum.org).

8 Giannaros, T. (2018). Greece empties and bleeds. Capital.gr. <https://www.capital.gr/me-apopsi/3266983/i-ellada-adeiazei-kai-aimorraei> (In Greek, retrieved 25/09/2021).

9 Ifantis in Michopoulou, V. (2019). Greece ready for the industry 4.0? <https://www.euroscientist.com/is-greece-ready-for-the-industry-4-0/>.

However, we should underline that the crisis caused by the pandemic due to covid-19, which forced the educational system to use distance learning for a very long time, resulted in ‘opening the discussion’ on the use of new technologies and the future of education within the context of Education 4.0¹⁰.

The pandemic has raised the bar for teachers, as they were challenged to respond in record time to improve their skills and train in previously unknown fields, especially in terms of technological means. The pandemic worked as an accelerator in the expansion of distance learning, teleconferencing and teleworking, which are evidently here to stay¹¹.

4. The possibilities of Industrial revolution 4.0 in Higher Education

Within the context of Education 4.0, higher education is offered significant opportunities not only in terms of teaching and learning, but also in terms of research as well as service operations. At this point we will discuss more the possibilities to improve teaching and learning. A new learning environment is also created in higher education with the introduction of many technological devices, such as computers, mobile phones, tablets, that have knowledge at a touch.

Teaching, in its actual form, namely students gathered in an amphitheatre or a lab to listen to their teacher or sit at a table to discuss with their peers, is changing. The possibilities offered by ICT bring about radical changes in higher education in terms of teaching, such as massive open on-line courses, or MOOCs, a form of education that provides standalone instruction online. In this way it is underlined the need to improve on-line teaching. Knowledge is no longer transmitted by the teacher in the amphitheatre, but it is explored, researched, experimented and created according to the resulting needs. Today’s students aged 18-23 members of Generation Z (Gen Z) are completely familiar with new technologies¹². They are fully committed to learning processes using different ways that the ones used to date. For them, learning is without boundaries; they can learn anywhere, at any time and have unlimited access to new information. They are interested in learning involving active collaboration with their team members and places outside their classroom¹³. Learning is shifted away from rote memorisation and retrieval of information by students to cultivation and development of abilities and skills. Nowadays, educational institutions and teachers engage less in terms of accessibility and more in providing such education to students to be able to

10 Aravantinou-Fatorou A. (2020). The implementation of the requirements of Education 4.0 in Secondary Education in Greece with emphasis on teacher training. Unpublished Thesis. Patra, Hellenic Open University.

11 Primikiri, A. (2020). Education 4.0. Learning and Skills in 21st Century. Athens. Papadopoulos (In Greek).

12 Kozinski, S. (2017). How Generation Z Is Shaping the Change In Education. Retrieved from <https://www.forbes.com/sites/sievakozinsky/2017/07/24/how-generation-z-is-shaping-the-change-in-education/?sh=11e88f836520>.

13 Hussin, A. A. (2018). Education 4.0 Made Simple: Ideas For Teaching. *International Journal of Education & Literacy Studies*. ISSN: 2202-9478.

critically process all the information and knowledge given to them.

Yet are educators and teachers ready to welcome these changes? Recent international research has shown that most teachers do not grasp the need to have access to new technologies for themselves and many of them resist change as they consider that face-to-face teaching is of outmost importance and irreplaceable. Although they verbally recognise the benefits digital tools provide in the classroom, they are unwilling to use them¹⁴.

In this context, what is most important for teachers? To be trained in the use of digital tools in teaching and practical applications. It is important for them to recognise that digital tools are a very important complementary tool reinforcing theoretical and practical classes in the laboratory context. It is necessary to bring the devices to the teaching context, bring them together and see them as tools for building knowledge. Of course, teachers can make use of them in order to improve the quality of teaching and learning.

A very strong argument teachers use is that university campuses are less or not at all frequented by students and this may cause difficulties for students to socialize (lack of face-to-face communication, collaboration, etc.). This kind of socialization is being explored that is why educational institutions now need to understand how students can effectively use wearable devices, how they learn from them, how they collaborate and communicate with their peers but also how teachers will teach them.

Furthermore, on-line teaching will provide universities with resources gained from the costs required for service operations which ensure the physical presence of students at university. This condition will allow universities to enrol more students but also to allocate resources in the training of teachers in new technologies.

5. The strategies of Industrial revolution 4.0 in planning flexible learning pathways - projects in Higher Education

The main aim of universities has always been and still is to educate their students. The primary target is to acquire, through quality teaching, not only technological skills but also new skills that will allow them to manage using critical thinking all the rapid developments in the field of new technologies and support the development of the society based on democracy and equity. These skills are the following:

- Critical thinking;
- Creativity;
- Self-directed learning;
- Communication;
- Aesthetics ability;

14 Rasika, L., Fung, L. and Abdullah, H. (2019) Strengths and Weaknesses of Education 4.0 in the Higher Education Institution. *International Journal of Innovative Technology and Exploring Engineering* (IJITEE) ISSN: 2278-3075, Volume-9 Issue-2S3, December 2019.

- Cooperativity;
- Professional and individual development;
- Citizenship¹⁵.

It is truly important that the increasing use of new technologies to enrich the educational experience, to actually succeed in educating students about ‘learning to learn’ in collaborative and creative ways, towards a critical approach of the massive volume of information offered to them. ‘Learning to learn’ has never been so relevant and important as it is today. Moreover, collaborative learning, group work learning and peer-to-peer learning, which according to researchers will prevail, will result in transforming the role of teachers into mediators and facilitators, mentors who will guide learners to knowledge within communities formed through the process of peer-to-peer learning¹⁶.

To succeed in acquiring such skills it is important to create flexible educational pathways within the framework of Education.4.0, based on modern strategies, such as:

- Microteaching;
- Discovery learning;
- Effective use of games;
- Reflective analysis;
- Offer of effective praise¹⁷.

The effective use of the aforementioned strategies offers flexibility and quality to educational programmes on the condition that new technologies are effectively used. It also presupposes providing safe learning environments, allocating enough time to concentrate, offering appropriate challenges and cultural development¹⁸.

Finally, another condition is to improve quality assurance – through evaluation systems -, to support innovation, equity and effectiveness in education, including also the possibility of learning mobility for all students¹⁹.

Some of these strategies are not unknown to the Greek educational system. There are educational programmes, such as Erasmus, e-twinning or STEM, which have adopted these strategies and prepare teachers and learners – students for the environment of Education 4.0. However, these programmes have a voluntary character and apply only to a part of the teachers and students²⁰.

15 World Economic Forum (2018). Readiness for the Future of Production Report. In collaboration with A.T. Kearney. Retrieved 23/9/2021 from http://www3.weforum.org/docs/FOP_Readiness_Report_2018.pdf (weforum.org).

16 Tharib, S. (2021). Approaches to Digital Visual Arts Through Design Iteration. *Academia Letters*, Article 676. <https://doi.org/10.20935/AL676>.

17 World Economic Forum (2016). <https://www.weforum.org/agenda/2016/01/the-fourth-industrial-revolution-what-it-means-and-how-to-respond/>.

18 Selwyn, N. 2017. *Education and Technology: Key Issues and Debates*. New York: Bloomsbury Press.

19 World Economic Forum (2016). <https://www.weforum.org/agenda/2016/01/the-fourth-industrial-revolution-what-it-means-and-how-to-respond/>.

20 Paraskevas, M. (2016). Open and Distance Learning Services in the Greek School Network. 1st International Conference on Blended Learning, IABL 2016, Kavala, April 2016, Greece.

6. The difficulties and reservations involved in the implementation of Education 4.0.

Throughout the industrial revolutions, major technological innovations resulted in job losses and social unrest due to unemployment. However, despite the difficulties arising from the replacement of humans by machines, people were free to develop higher-level skills, which ultimately resulted in economic and technological progress and improvement of living standards. However, economists, such as Brynjolfsson and McAfee (2014)²¹, claim that this revolution is likely to cause greater inequity in society, especially in the workplace. More specifically, automation has already started to replace human labour in the economy, a phenomenon that will expand in the coming decades. The Organisation for Economic Co-operation and Development (OECD, 2019)²² estimates that within the next ten to twenty years, there is a risk that 14% of job positions will be fully automated, while another 32% will substantially change. The demand for highly skilled employees has evidently increased, while the demand for low-educated or low-skilled employees has decreased²³.

In this context, there are questions arising for countries like Greece regarding not only employment but also educational institutions. The main question is the following: Is the educational system prepared for this change? Will it be able to adopt these changes, to adapt to the new technologies and benefit from their advantages?

There is evidently concern at all levels of the Greek educational system, but particularly in higher education for the development of Artificial Intelligence, robotics and technology in general. The inherent weaknesses of the Greek educational system may lead to reservations about the successful implementation of the strategies and teaching methods of Education 4.0, and the possibility of not only educational but also social and work exclusion may be seen as a visible threat of the Fourth Industrial Revolution. It has not even been taken the first step to date, namely the allocation of sufficient resources to train teachers to enable -initially themselves- to learn how to use these new tools in order to transmit new knowledge and skills to their students.

7. Conclusions

It is natural that the rapid developments in society but also in science and technology have a significant impact on the educational process and therefore it is of the utmost importance to redefine the orientation of education, the content

21 Brynjolfsson, E. & McAfee, A. (2014). The Second Machine Age: Work, Progress, and Prosperity in a Time of Brilliant Technologies. *Journal of Information Technology Case and Application Research*, 16:2,112-115, DOI: 10.1080/15228053.2014.943094.

22 OECD. (2019). Education Today, Global perspectives on education and skills. OECD Education Today. (<https://oecdedutoday.com/what-the-fourth-industrial-revolution-could-mean-for-education-and-jobs/>).

23 Schwab K. (2016). The Fourth Industrial Revolution: what it means, how to respond. World Economic Forum. <https://www.weforum.org/agenda/2016/01/the-fourth-industrial-revolution-what-it-means-and-how-to-respond/>.

of programmes of studies, pedagogical and teaching approaches and the role of teachers. From all the above it seems that the transformation of education will be dramatic. Whether learning takes place in a classroom or the workplace, online or offline, whether learning is structured or not, standardized or not, certified or not, whether it involves teachers or students, it will not have any relevance to what people have experienced in the last 300 years²⁴. For this reason, leaders and citizens together shape a future that works for all by putting people first, empowering them and constantly reminding ourselves that all of these new technologies are first and foremost tools made by people for people²⁵. Learning how humankind can benefit from this revolution while addressing its challenges is also the main aim of the World Economic Forum Annual Meeting, 2016.

For educational institutions and the level of system, technologies may improve internal procedures, reduce bureaucracy, promote collaboration and communication with the wider community, including parents and carers.

To implement all the above, planning and appropriate policies are required for which as it seems the majority of EU countries have not taken any action yet. Europe seems to lag behind other Asian countries, which have already started to transform their educational systems. It is noteworthy that even though there is significant available literature and research on educational systems of Asian countries, the same does not apply with EU countries²⁶. This involves particularly Greece which lacks in literature and research.

In terms of education, it is necessary for education policies to address immediately the problem of allocating resources in order to equip educational institutions with all the necessary tools, but also to train teachers in order to respond to their new role as facilitators who guide to knowledge and not just as simple transmitters of it.

What should be at the centre of discussions is the conviction that the Fourth Industrial Revolution is within the control of all of us as long as we are able to collaborate across geographies, sectors and disciplines to grasp the opportunities it presents. The Greek society faces two choices now, either to stand with creativity and openness in front of the Fourth Industrial Revolution, to follow the digital transformation and to exploit opportunities, or to remain attached to old - fashioned models and face the future by defending its past. The first option will keep us after 20 years on the list of most developed economies, while the second, with mathematical precision, will lead Greece to the poorest economies.

24 Christensen, C. M. et al. (2006). The Ongoing Process of Building a Theory of Disruption. *Journal of Product Innovation Management*. <https://doi.org/10.1111/j.1540-5885.2005.00180.x>.

25 Schwab, 2016 as 23.

26 Rasika et al, 2019 as 14.

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Patsi Konstantinia

Leadership styles: relationship with conflict management styles-A Review

Abstract

The study was designed to examine the relationship between leadership styles with conflict management of head teachers in school organizations. The need for the study arose as a result of the challenges faced by head teachers in their efforts to handle conflicts which are unavoidably present in schools. Conflict in organizations is an area that needs further investigation for organizations, which could learn more from the findings and thereby improve their performances by using conflicts functionally. The study had chosen educational institutions because these institutions are the most important types of organizations in the development of a nation¹. The review of relevant literature shows that there is relationship between leadership styles (transformational, transactional and laissez faire) and conflict management styles adopted by head teachers. In view of this, it is recommended that the Ministry of Education and the local Directorates of Education could through systematic training of head teachers in matters of leadership styles and conflict

¹ Mengistu, M. (2020). Conflict Management strategies by School leaders in Medhanealem government preparatory school of Gullele sub city, Addis Ababa. Thesis. University of Addis Ababa.

management to provide the specialized knowledge that will enable them to respond with greater proficiency and more efficiency in their difficult and complex work.

Keywords: Conflicts, conflict management, leadership styles, education

Περίληψη

Η παρούσα μελέτη σχεδιάστηκε για να εξετάσει τη σχέση μεταξύ των στυλ ηγεσίας με τη διαχείριση συγκρούσεων των διευθυντών σε σχολικούς οργανισμούς. Η ανάγκη για τη μελέτη προέκυψε ως αποτέλεσμα των προκλήσεων που αντιμετωπίζουν οι διευθυντές στην προσπάθειά τους να διαχειριστούν τις συγκρούσεις, που είναι αναπόφευκτα παρούσες στα σχολεία. Η σύγκρουση σε οργανισμούς είναι ένας τομέας που χρειάζεται περαιτέρω διερεύνηση, από τα ευρήματα της οποίας οι οργανισμοί θα μπορούσαν να μάθουν περισσότερα κι έτσι να βελτιώσουν τις επιδόσεις τους χρησιμοποιώντας τις συγκρούσεις λειτουργικά. Η μελέτη επέλεξε τα εκπαιδευτικά ιδρύματα, επειδή αυτά είναι οι πιο σημαντικοί τύποι οργανισμών για την ανάπτυξη ενός έθνους. Από την ανασκόπηση της σχετικής βιβλιογραφίας προκύπτει ότι υπάρχει σχέση μεταξύ των στυλ ηγεσίας (μετασχηματιστικό, συναλλακτικό και αδιάφορο) και των στυλ διαχείρισης συγκρούσεων που υιοθετούνται από τους διευθυντές. Ενόψει αυτού, συνιστάται στο Υπουργείο Παιδείας και στις κατά τόπους Διευθύνσεις Εκπαίδευσης να φροντίσουν μέσω της συστηματικής εκπαίδευσης των διευθυντών σε θέματα ηγεσίας και διαχείρισης συγκρούσεων να παρέχουν τις εξειδικευμένες γνώσεις που θα τους επιτρέψουν να ανταποκριθούν με μεγαλύτερη επάρκεια και περισσότερο αποτελεσματικότητα στο δύσκολο και πολύπλοκο έργο τους.

Λέξεις-κλειδιά: Συγκρούσεις, διαχείριση συγκρούσεων, στυλ ηγεσίας, εκπαίδευση

1. Introduction

Education is a fundamental mission of the State and has a purpose the moral, spiritual, professional and physical education of Greeks, the development of national and religious consciousness and their development into free and responsible citizens². The purpose of Primary and Secondary Education is to contribute to the all-round, harmonious and balanced development of the intellectual and psycho-physical powers of students, so that, regardless of gender and origin, they have the opportunity to develop into complete personalities and live creatively. In pursuance of these aims/goals the school authority is confronted with a lot of managerial challenges prominent among which is conflict management. It has been argued that effective conflict management

2 <https://www.hellenicparliament.gr/Vouli-ton-Ellinon/To-Politevma/Syntagma/article-16/>

is a sine qua non to organizational effectiveness. Also, It has been contended that the ability to handle head teachers conflict effectively is an index of good leadership. Since leadership effectiveness is determined by leadership style, it is possible that the components of transformational, transactional and laissez faire leadership styles could be related to conflict management styles³. The aim of the present study was to examine the relationship between leadership styles of head teachers to conflict management styles adopted by them in schools. From the review of relevant literature it appears that there is a relationship between leadership styles (transformational, transactional and laissez faire) and conflict management styles adopted by head teachers. In the first section, the concepts of conflict are defined with a brief reference to the causes, stages and results of intra-school conflicts, while in the second section, the concept of leadership and leadership styles is approached conceptually. The third section follows where the relationship of Leadership styles with conflict management styles is investigated. Finally, the conclusions are formulated in the fourth section

2. Literature review

2.1 Conflict

2.1.1 Definition of Conflict

As long as organizations continue to use work teams, conflict cannot be avoided since it is an inevitable aspect of work teams. Conflict is an outcome of behaviors. It is an integral part of human life. Whenever there is interaction there is conflict. Conflict means expression of hostility, negative attitudes, antagonism, aggression, rivalry, and misunderstanding. It is also associated with situations that involve contradictory interest between two opposing groups. It can be defined as a disagreement between two or more individuals or groups with each individual or group trying to gain acceptance of its view over others⁴. Conflict is defined as:

- a. an interactive process manifested in incompatibility, disagreement, or dissonance within or between social entities (i.e., individual, group, organization, etc.). Calling conflict an interactive state does not preclude the possibilities of intraindividual conflict, for it is known that a person often interacts with himself or herself. Obviously, one also interacts with others. Conflict occurs when one or (two) social entity(ies):
 - a. Is required to engage in an activity that is incongruent with his or her needs or interests
 - b. Holds behavioral preferences, the satisfaction of which is incompatible with another person's implementation of his or her preferences;
 - c. Wants some mutually desirable resource that is in short supply,

3 Osita, A. (2012). transformational leadership style and conflict management of principals in secondary schools in Imo state, Nigeria. Thesis. University of Nigeria OER Competition

4 Thakore, D. (2013). Conflict and Conflict Management. IOSR Journal of Business and Management (IOSR-JBM). Volume 8, Issue, PP 07-16

- such that the wants of everyone may not be satisfied fully d. Possesses attitudes, values, skills, and goals that are salient in directing one's behavior but that are perceived to be exclusive of the attitudes, values, skills, and goals held by the other(s) e. Has partially exclusive behavioral preferences regarding joint actions and f. Is interdependent in the performance of functions or activities⁵.
- b. a two-dimensional dynamic process that needs to be perceived by the parties and there are difficulties in this process to select from among two or more options. The reasons for conflicts are disagreements, differences, friction and discrepancies based on differences of opinion, views and interests ⁶.
 - c. the process which begins when one party perceives that another has frustrated, or is about to frustrate, some concern of his⁷
 - d. that which could happen between two or more people or groups with incompatible goals in an organisation⁸.
 - e. a process incorporating two or more people or groups within which one party has to perceive the other party's actions as in opposition to its own⁹
 - f. a process in which one party perceives that its interests are being opposed or negatively affected by another party¹⁰
 - g. the interactive process manifested in incompatibility, disagreement, or dissonance within or between social entities¹¹

From the above definitions, it is obvious that there is no just one practical definition of conflict. Each person has an individual way of thinking and behaves differently from others in similar situations. For the purpose of this article the definition of Rahim (2001) has been adopted.

2.1.2. Approaches regarding conflict

Although the specific literature display numerous points of view regarding the nature or the definition of the conflict, eventually there have appeared the following approaches regarding the conflict within organizations:

- a. The traditional approach considers conflict as being dysfunctional by definition.

5 Rahim, M. A. (2002). Toward a theory of managing organizational conflict. *International Journal of Conflict Management*, 13, 206–235

6 (İpek, 2000; Soyalp, 2001) Στο Göksoy, S.& Türkan, T. (2016). Conflicts at Schools and Their Impact on Teachers. *Journal of Education and Training Studies*. Vol. 4, No. 4; April 2016. ISSN 2324-805X

7 Thomas, K. W. (1992). Conflict and conflict management: Reflections and update. *Journal of Organizational Behavior*, 13(3), 265-274.

8 Omoike (2014) Στο Aja, S. N. (2013). Conflict management approaches principals adopt for effective administration of secondary schools in Ebonyi State. *International Journal of Science & Research (IJSR)*, 4(12), 2009-2013

9 Tabassi, A. A., Abdullah, A., & Bryde, D. J. (2019). Conflict Management, Team Coordination, and Performance Within Multicultural Temporary Projects: Evidence From the Construction Industry. *Project Management Journal*, 50(1), 101–114. <https://doi.org/10.1177/8756972818818257>

10 Joseph, J. (2016). Conflict Management. *IOSR Journal of Business and Management (IOSR-JBM)* Volume 18, Issue 3.Ver. I (Mar. 2016), PP 49-53

11 Joseph, J. (2016). Conflict Management. *IOSR Journal of Business and Management (IOSR-JBM)* Volume 18, Issue 3.Ver. I (Mar. 2016), PP 49-53

This makes its approach negative and many individuals still consider it so.

- b. The human relations approach has as a premise the interpersonal relations established between individuals with different personalities, objectives, mentalities, education value systems and behaviours, which generate conflicts.
- c. The interactionist approach, which is the most recent one, views the conflict not only as inevitable, but also as absolutely necessary, as an important force that stimulates innovation and changing.¹²

2.1.3. Types of Conflict

For years now, managers had been taught to see conflict only as a negative force though nowadays, the following two different orientations to conflict have grown with time:

- a. **Functional or Constructive Conflict:** refers to differences in opinions regarding tasks, procedures, strategy, business ideas, and other-business related issues that tend to be openly discussed and resolved and facilitate the strengthening of the relationship. Such conflict is regarded as healthy due to the fact that the outcome that results from “the openminded contesting of the diverse perspectives is generally superior to the individual perspectives themselves”.¹³ Functional form of conflict, or constructive conflict, supports the goals of the organization and improves its performance. It may actually encourage greater work effort and help task performance. One of the main benefits of constructive conflict is that it gives its members a chance to identify the problems and see the opportunities, it can stimulate new ideas, learning, and growth among individuals. When individuals engage in constructive conflict, they can learn more about themselves and others. In addition, it can help to improve relationships among members, because when two sides work on resolving a disagreement together, they feel that they have mutually accomplished something¹⁴.
- b. **Dysfunctional/Destructive Conflict:** concerns strong disagreements, underlying emotions, and actions (e.g., attacks, clashes, sarcasm) taken by one or both parties that lead to frustration and hostility in the relationship. The injection of such negative feelings, attitudes, and behaviors in the relationship can create stagnation in the interactions between the exchange partners. Such an exchange climate may pull apart and even disintegrate the relationship especially if such a situation persists and governs thinking between the parties for some time¹⁵.

12 Manolescu, A., & Deaconu, A. (2008). Considerations Regarding the Conflict Management. *Theoretical and Applied Economics*, 2 (2),29-34

13 (Skarmas, 2006). Στο Pfajfar G, Shoham A, Makovec Brenčič M, Koufopoulos D, Katsikeas CS, Mitređa M. 2019. Power Source Drivers and Performance Outcomes of Functional and Dysfunctional Conflict in Exporter-Importer Relationships. *Industrial Marketing Management*. 213-226 78

14 Aimee, C. (2017). An appraisal of the approaches to conflict resolution in project management in Cameroon. Thesis. Saint Monica University.

15 (Skarmas, 2006). Στο Pfajfar G, Shoham A, Makovec Brenčič M, Koufopoulos D, Katsikeas CS, Mitređa M. 2019. Power Source Drivers and Performance Outcomes of Functional and Dysfunctional Conflict in Exporter-Importer Relationships. *Industrial Marketing Management*. 213-226 78

2.1.4. Stages of conflicts

Each conflict incident sets a precedence of subsequent conflict encounters. The pattern of the conflict relationship is dependent on the conditions causing the conflict, the party's perception of the incident, and their actions toward the conflict. The stages of conflict are¹⁶:

- a. Latent conflict: in this stage, there is no conflict at the surface, or in other words conflict is hidden so far, but the causes of a potential one are there (i.e., competition for limited resources, all forms of incompatibility, and orientation towards organizational independence),
- b. Perceived conflict: this is the phase where all parties become aware that a conflict has been emerged. Management will be able to notice more and more the risen conflict when actions and reactions of involved parties appear. At this stage, the possibility to resolve this conflict is higher than any other stage since it is fresh. Therefore, Pondy urges managers to improve communications between parties to search for the origin of causes;
- c. Felt conflict: this stage is characterized by parties actually feeling the conflict. Anxiety and tension develop towards each parties, which will impact the relationship between them and to deal with each other in a negative manner;
- d. Manifest conflict: a several varieties of low spirit and conflict behaviour from complete apathy to open aggression occur from one or all parties;
- e. Conflict aftermath: in this phase, results and impacts of conflict appear and affect one or all parties. If managers fail to resolve conflicts at this step, these results and impact will become causes of another conflict cycle¹⁷.

2.1.5. Sources of conflicts

Conflict is defined as an interactive process manifested in incompatibility, disagreement, or dissonance within or between social entities (i.e., individual, group, organization, etc.). Calling conflict an interactive state does not preclude the possibilities of intraindividual conflict, for it is known that a person often interacts with himself or herself. Obviously, one also interacts with others. Conflict occurs when one or (two) social entity(ies):

- a. Is required to engage in an activity that is incongruent with his or her needs or interests;
- b. Holds behavioral preferences, the satisfaction of which is incompatible with another person's implementation of his or her preferences;
- c. Wants some mutually desirable resource that is in short supply, such that the wants of everyone may not be satisfied fully;

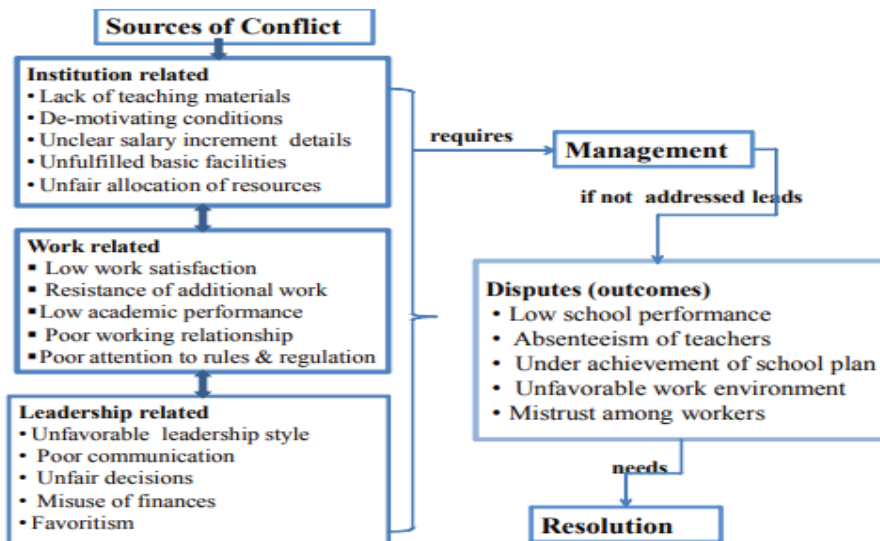
¹⁶ Pondy (1967)

¹⁷ Lebrague, R. M., Benamar, S., & Rahmani, Y. Z. (2020). Organizational Conflict and its Management: A Theoretical Analysis. *Social Sciences Journal*, 14(3), 218-228.

- d. Possesses attitudes, values, skills, and goals that are salient in directing one's behavior but that are perceived to be exclusive of the attitudes, values, skills, and goals held by the other(s);
- e. Has partially exclusive behavioral preferences regarding joint actions; and
- f. Is interdependent in the performance of functions or activities¹⁸

Based on literature, a number of factors may create conflict between teachers and school leaders and if not addressed they may lead to low school performance, absenteeism, under achievement of school plans, unfavorable work environment and mistrust among workers. Figure 1 present the conceptual framework on major sources of conflict derived from literature, and consequently the results of unmanaged conflict.

Figure 1: Conceptual Framework¹⁹



2.1.6. Effects of conflicts

The implications of conflicts can be both negative (dysfunctional) and positive (functional). In specific, they may cause various emotions to school stakeholders, such as tension, anger, disappointment, a sense of worthlessness and resignation, and thinking of giving up.

The literature refers the following functional outcomes of conflict: a. Conflict may stimulate innovation, creativity, and growth. b. Organizational decision making may be improved. c. Alternative solutions to a problem may be found. d. Conflict may lead to synergistic solutions to common problems. e. Individual and group performance may be enhanced. f. Individuals and groups may be forced to

search for new approaches. g. Individuals and groups may be required to articulate and clarify their positions. Positive effects of conflicts can be also considered:

- a. The protection of the organization from any future and more intense conflicts, provided that they are dealt with immediately.
- b. Its definitive treatment, because of the weakness that the appearance of a conflict suggests.
- c. The need to search for a third compromise solution that will satisfy both members, as it stems from the different interests of the members.
- d. Increasing cohesion between groups, as both sides seek to find a common optimal solution.
- e. The development, among the participants in the conflict, of communication and cooperation skills so that they are able to face the upcoming confrontations.
- f. The release of negative emotions, which are identified with the manifestation of a conflict, so that there is relief and relief from the anxiety and stress of everyday life.
- g. The satisfaction and sense of maturity among those involved, as a result of the correct choice of methods of dealing with it²⁰.

Rahim (2011) identified the following dysfunctional outcomes of conflict:

- a. Conflict may cause job stress, burnout, and dissatisfaction.
- b. Communication between individuals and groups may be reduced.
- c. A climate of distrust and suspicion can be developed.
- d. Relationships may be damaged.
- e. Job performance may be reduced.
- f. Resistance to change can increase.
- g. Organizational commitment and loyalty may be affected.

2.2 Conflict Management Styles

Several conflict management scholars have suggested that conflict management strategies involve recognition of the following:

1. Certain types of conflicts, which may have negative effects on individual and group performance, may have to be reduced.
2. There are other types of conflicts that may have positive effects on the individual and group performance. These conflicts relate to disagreements relating to tasks, policies, and other organizational issues. Conflict management strategies involve generation and maintenance of a moderate amount of these conflicts.
3. Organizational members while interacting with each other will be required to deal with their disagreements constructively. This calls for learning how to use different conflict-handling styles to deal with various situations effectively²¹.

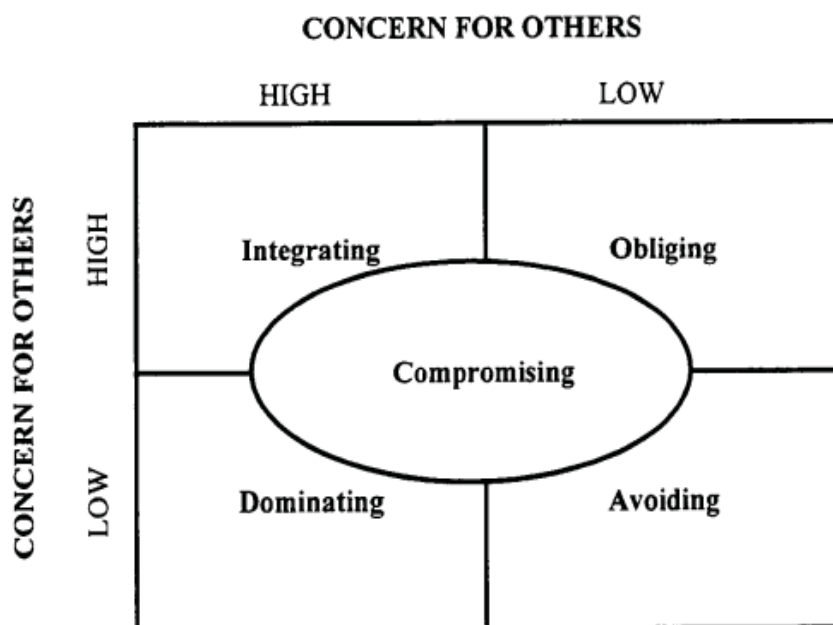
Different theoretical models have been proposed to analyze the way in which

20 Charitos, G. (2019). Leadership and conflict management in the public sector. Bachelor's thesis. University of the Aegean

21 Rahim, M.. (2003). Toward a Theory of Managing Organizational Conflict. *International Journal of Conflict Management*. 13. 10.2139/ssrn.437684.

individuals approach and handle conflict. Taxonomies and meta taxonomies have been anticipated using a unidimensional approach of cooperation and competition styles²², a bidimensional approach involving four styles of conflict management behavior²³, a bidimensional approach involving five styles²⁴, and even a tridimensional model of moving away, moving toward and moving against²⁵. The most extended model is that of Blake and Mouton (1964) who proposed a bidimensional grid for classifying the modes in which individuals handle interpersonal conflict. These two dimensions relate to the extent that individuals show high or low concern “for production” and “for people.”

Figure 2. The Dual Concern Model of the Styles of Handling Interpersonal Conflict²⁶



Later, other researchers²⁷, using this theoretical approach, redefined the dimensions as “concern for self and “concern for others.” The “concern for self dimension reflects the degree in which an individual tries to satisfy his/her personal concerns or needs. The “concern for others” dimension has the same meaning but is centered on others’ needs or concerns. Combining these two dimensions, following five different styles of managing interpersonal conflict are obtained as shown in figure 2.²⁸

28 Aritzeta, A., Ayestaran, S. and Swales, S. (2005a). ‘Team role preference and conflict management styles’. *International Journal of Conflict Management*, 16, 157–82.

a. Integrating Style

Integrating is characterized by both high concern for self and for others. This involves openness, exchange of information, and examination of differences to reach an effective solution acceptable to both parties²⁹. This style has two distinct aspects: Confrontation and problem solving. Confrontation involves open communication which is a technique to identify the root causes of the conflict. Open communication, a prerequisite for problem solving.³⁰ The problem-solving (integrating) style is more effective than other styles when: a. Issues are complex. b. Synthesis of ideas is needed to come up with better solutions. c. Commitment is needed from other parties for successful implementation. d. Time is available for problem solving. e. One party alone cannot solve the problem. f. Resources possessed by different parties are needed to solve their common problems. Situations where inappropriate: a. Task or problem is simple. b. Immediate decision is required. c. Other parties are unconcerned. d. Parties for successful implementation. e. Other parties do not have problem-solving skills³¹.

b. Obliging Style

The obliging style (also called accommodation, nonconfrontation, yielding, or lose-win style) is associated with attempting to play down the differences and emphasising commonalities to satisfy the concern of the other party. Individuals with this style may take the form of selfless generosity, charity, or obedience to another person's order. This style is associated with accommodating behaviours that include putting aside one's own needs to please the partner, passively accepting the decisions the partner makes, making yielding or conceding statements, denying or failing to express one's needs, and explicitly expressing harmony and cooperation in a conflict episode³². The Obliging style is more effective than other styles when: a. You believe that you may be wrong. b. Issue is more important to the other party. c. You are willing to give up something in exchange for something from the other party in the future. d. You are dealing from a position of weakness. e. Preserving relationship is important. Situations where inappropriate: a. Issue is important to

29 Copley, R. (2008). Conflict management styles. A predictor of likability and perceived effectiveness among subordinates. IMaster's Thesis. Department of Communication Studies, Indiana University

30 Mengistu, M. (2020). "Conflict Management strategies by School leaders in Medhanealem government preparatory school of Gullele sub city, Addis Ababa. Thesis. University of Addis Ababa.

31 Rahim, M. (2003). Toward a Theory of Managing Organizational Conflict. *International Journal of Conflict Management*. 13. 10.2139/ssrn.437684.

32 Hocker and Wilmot, 1998; Gross and Guerrero, 2000 στο Yu, Chun-Sheng & Sardessai, Ron & Lu, June & Zhao, Jing-Hua. (2006). Relationship of emotional intelligence with conflict management styles: An empirical study in China. *International Journal of Management and Enterprise Development - Int J Manag Enterprise Dev*. 3. 10.1504/IJMED.2006.008240.

you. b. You believe that you are right. c. The other party is wrong or unethical.³³

c. Dominating Style

A dominating style is characterized by high concern for self and low concern for others. This style has been identified with a win-lose perspective or with forcing behavior by one individual over another as a means to win a position or resolve a conflict situation. An individual using a dominating style typically uses whatever measures necessary to win the objective, and as a result, ignores or minimizes the needs and expectations of the other party³⁴. This style is often used: a. when rapid decision making is critical b. Where issues are critical and unpopular decisions must be made. c. Where issues are critical to the company and the decision-maker is confident of their decision. d. In a competitive environment, where you risk being taken advantage of by being noncompetitive³⁵. Situations where inappropriate: a. Issue is complex. b. Issue is not important to you. c. Both parties are equally powerful. d. Decision does not have to be made quickly. e. Subordinates possess high degree of competence.³⁶

d. Avoiding Style

An avoiding style is associated with both low concern for self and others. This style is usually accompanied by withdrawal, as an individual using this style fails to satisfy both his or her concerns as well as the concerns of the other party. This style is often used when the potential ramifications of confronting the other party seem to outweigh the benefits of resolving the conflict³⁷. This style is useful when a. an issue does not warrant attention. b. The potential for success is limited. c. The risk exceeds potential benefit. d. The reflection is warranted. e. More information is required. f. Others can resolve the situation more readily g. The issue is related to another more fundamental issue³⁸.

e. Compromising style

Compromising style (intermediate in concern for self and others) style involves

33 Rahim, M. (2003). Toward a Theory of Managing Organizational Conflict. *International Journal of Conflict Management*. 13. 10.2139/ssrn.437684

34 Copley, R. D. (2008). Conflict management styles: A predictor of likability and perceived effectiveness among subordinates. M. A. Dissertation. Department of Communication Studies, Indiana University

35 Alimpa, C. (2018). Conflict management styles: Historical evolution perspectives and rationalization. *Review of Public Administration and Management*

36 Rahim, M. (2003). Toward a Theory of Managing Organizational Conflict. *International Journal of Conflict Management*. 13. 10.2139/ssrn.437684.

37 Copley, R. D. (2008). Conflict management styles: A predictor of likability and perceived effectiveness among subordinates. M. A. Dissertation. Department of Communication Studies, Indiana University

38 Alimpa, C. (2018). Conflict management styles: Historical evolution perspectives and rationalization. *Review of Public Administration and Management*

give-and-take whereby both parties give up something to make a mutually acceptable decision. This style is useful when the goals of the conflicting parties are mutually exclusive or when both parties, e.g., labor and management, are equally powerful and have reached an impasse in their negotiation process. This can be used when consensus cannot be reached, the parties need a temporary solution to a complex problem, or other styles have been used and found to be ineffective in dealing with the issues effectively. This style seems most useful for avoiding protracted conflicts. This style is inappropriate for dealing with complex problems needing problem-solving approach. Unfortunately, very often management practitioners use this style to deal with complex problems, and, as a result, fail to identify real problems and formulate effective solutions to these problems. This style may be inappropriate if a party is more powerful than another and believes that his or her position is right.

2.3. Concept of Full Range Leadership

The term leadership has been subjected to variety of definitions in the behavioural science. They include one or more of these component categories: vision; purpose (e.g., goal achievement); behaviors (e.g., influencing, motivating, change agency, building community and trust, boundary spanning, intercultural competence); MNC job responsibilities (e.g., global integration, strategy, architecting); target audiences (e.g., individuals, groups, organizations, global community); global component (e.g., global work, international job); performance measures (e.g., effectiveness, competitive advantage, world class performance, improved quality of life, positive change); and descriptions of the global context (e.g., cultural, political, institutional, geographical differences, multiple authorities, complexity, ambiguity). Although they differ in their scope, as a group, they bring together a set of elements that help to better delineate global leadership. For example, scholars appear to agree that global leadership is significantly different from domestic leadership due to the salience of the context – characteristics of the global context appear to exert greater influence than is the case for domestic contexts³⁹. According to literature leadership defined as:

- a. “an influencing process aimed at goal achievement”, focusing on leadership as a process directed at influencing a specific group of people to meet a stated objective”⁴⁰.
- b. “the art of mobilising others to want to struggle for the shared aspirations”⁴¹

39 Mendenhall, Mark E. & Reiche, B. Sebastian & Bird, Allan & Osland, Joyce S., 2012. “Defining the “global” in global leadership,” *Journal of World Business*, Elsevier, vol. 47(4), pages 493-503.

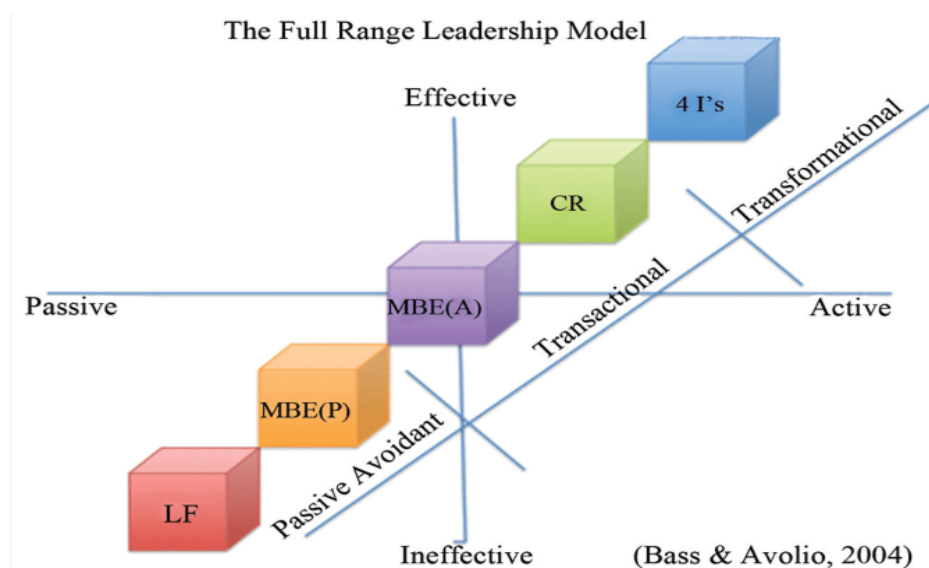
40 Stogdill Στο Benmira, S., & Agboola, M. (2021). Evolution of leadership theory. *BMJ Leader*, 5(1), 3-5. <https://doi.org/10.1136/leader-2020-000296>

41 Kouzes J, Posner B., (1995). Στο Benmira, S., & Agboola, M. (2021). Evolution of leadership theory. *BMJ Leader*, 5(1), 3-5. <https://doi.org/10.1136/leader-2020-000296>

- c. “simply influence”⁴²
- d. “the process of influencing others to understand and agree about what needs to be done and how to do it, and the process of facilitating individual and collective efforts to accomplish shared objectives”⁴³
- e. “a process whereby an individual influences a group of individuals to achieve a common goal”⁴⁴

2.3.1 The Full Range Leadership Model

Figure 3. The Full Range Leadership Model ⁴⁵



In a world that has become more complex and challenging, a need emerged for leadership theories that support circumstances of rapid change, disruptive technological innovation and increasing globalisation. This led to the new leadership era, moving away from the traditional theories of leadership, which define leadership as a unidirectional, top-down influencing process, drawing a distinct line between leaders and followers. Instead, the focus became on the complex interactions among the leader, the followers, the situation and the system as a whole, with particular

42 Maxwell J (1993). Στο Benmira, S., & Agboola, M. (2021). Evolution of leadership theory. *BMJ Leader*, 5(1), 3-5. <https://doi.org/10.1136/leader-2020-000296>

43 Yukl, G. (2006). Στο Yukl, G. (2006) *Leadership- What is it?* Available at https://www.sagepub.com/sites/default/files/upm-binaries/33554_Chapter1.pdf

44 Northouse, P. (2010). Στο Yukl, G. (2006) *Leadership- What is it?* Available at https://www.sagepub.com/sites/default/files/upm-binaries/33554_Chapter1.pdf

45 Ezzat, Hicham. (2017). *Leader for Creativity: Modeling and Experimenting Defixation-oriented Leadership*.

attention dedicated to the latent leadership capacities of followers⁴⁶.

Superior leadership performance--transformational leadership--is seen when leaders broaden and elevate the interests of their subordinates, when they generate awareness and acceptance among the subordinates of the purposes and mission of the group, and when they move their subordinates to go beyond their own self-interests for the good of the group. Transformational leaders motivate subordinates to do more than originally expected. They raise the consciousness of subordinates about the importance and value of designated outcomes and ways of reaching them and, in turn, get subordinates to transcend their own immediate self-interests for the sake of the mission and vision of the organization. Subordinates' confidence levels are raised and their needs are expanded. The heightened level of motivation is linked to the following empirically derived factors of transformational leadership:⁴⁷

- (a) Idealized Influence (Charisma)--leaders display conviction; emphasize trust; take stands on difficult issues; present their most important values; and emphasize the importance of purpose, commitment, and the ethical consequences of decisions. Such leaders are admired as role models generating pride, loyalty, confidence, and alignment around a shared purpose. A subjective component of attributed charisma may spin off from idealized influence, a behavioral component, for a fifth transformational component. (Components better describe the conceptually but not empirically distinct constructs. The same leaders tend to be high or low in each, but the behaviors involved are different and require different remediations).
- (b) Inspirational Motivation--leaders articulate an appealing vision of the future, challenge followers with high standards, talk optimistically with enthusiasm, and provide encouragement and meaning for what needs to be done.
- (c) Intellectual Stimulation--leaders question old assumptions, traditions, and beliefs; stimulate in others new perspectives and ways of doing things; and encourage the expression of ideas and reasons⁴⁸. Leaders fulfill the role of a transforming/intellectual leader to the extent they can discern, comprehend, conceptualize, and articulate to their subordinates opportunities and threats facing their organization, as well as the organization's strengths, weaknesses, and comparative advantages. It is through intellectual stimulation of subordinates that new methods of accomplishing the organization's mission are explored. The leaders are willing and able to show subordinates new ways of looking at old methods⁴⁹

46 Benmira, S., & Agboola, M. (2021). Evolution of leadership theory. *BMJ Leader*, 5(1), 3-5. <https://doi.org/10.1136/leader-2020-000296>

47 Yammarino, F.J. and Bass, B.M. (1990), "Long-term forecasting of transformational leadership and its effects among Naval officers: some preliminary findings", in Clark, K.E. and Clark, M.R. (Eds), *Measure of Leadership*, Center for Creative Leadership: Leadership Library of America, Greensboro, NC, West Orange, NJ.

48 Bass, B.M. 1997. Does the transactional-transformational leadership paradigm transcend organizational and national boundaries. *American Psychologist*, 52(2): 130-139.

49 Yammarino, F.J. and Bass, B.M. (1990), "Long-term forecasting of transformational leadership and its effects among Naval officers: some preliminary findings", in Clark, K.E. and Clark, M.R. (Eds), *Measure of Leadership*, Center for Creative Leadership: Leadership Library of America, Greensboro, NC, West Orange, NJ

(d) Individualized Consideration--leaders deal with others as individuals; consider their individual needs, abilities, and aspirations; listen attentively; further their development; advise; teach; and coach⁵⁰. Individualized consideration is, in part, coaching and mentoring. It is a method of communicating timely information to subordinates. It provides for continuous follow-up and feedback, and, perhaps more importantly, links an individual's current needs to the organization's mission, and elevates those needs when it is appropriate to do so.⁵¹

Transactional leadership is a more classic style, where the leader bases his relationship with his followers on the transactions through which he offers prizes, trying to influence their efforts and transmit to them precisely what kind of work they must do to obtain rewards. For this purpose, the goals to be achieved must be clearly defined, as well as correcting errors and deviations detected concerning these defined goals.⁵² Transactional leadership, using a carrot or a stick, is theorized to comprise the following three first-order factors: (a) Contingent Reward--leaders engage in a constructive pathgoal transaction of reward for performance. They clarify expectations, exchange promises and resources for support of the leaders, arrange mutually satisfactory agreements, negotiate for resources, exchange assistance for effort, and provide commendations for successful follower performance. (b) Active Management by Exception--leaders monitor followers' performance and take corrective action if deviations from standards occur. They enforce rules to avoid mistakes. And (c) Passive Management by Exception--leaders fail to intervene until problems become serious. They wait to take action until mistakes are brought to their attention⁵³.

It is important to note that even though the transformational and transactional leadership styles are different in concept and in practice, the FRLT does not view them as opposite ends of a continuum. Rather, they comprise two conceptually distinct but related dimensions of leadership that build on one another. Specifically, supervisors' transformational leadership augments transactional leadership in predicting employees' performance⁵⁴

Finally, Laissez-Faire Leadership, a nonleadership component, also emerges--leaders avoid accepting their responsibilities, are absent when needed, fail to follow up

50 Bass, B.M. 1997. Does the transactional-transformational leadership paradigm transcend organizational and national boundaries. *American Psychologist*, 52(2): 130-139.

51 Yammarino, F.J. and Bass, B.M. (1990), "Long-term forecasting of transformational leadership and its effects among Naval officers: some preliminary findings", in Clark, K.E. and Clark, M.R. (Eds), *Measure of Leadership*, Center for Creative Leadership: Leadership Library of America, Greensboro, NC, West Orange, NJ.

52 (Bass & Riggio, 2005). Sto Antonakis, J., Avolio, B. J., & Sivasubramaniam, N. 2003. Context and leadership: An examination of the nine-factor full-range leadership theory using the Multifactor Leadership Questionnaire. *Leadership Quarterly*, 14: 261-295.

53 Bass, B.M. 1997. Does the transactional-transformational leadership paradigm transcend organizational and national boundaries. *American Psychologist*, 52(2): 130-139.

54 (Dumdum, Lowe, & Avolio, 2013; Judge & Piccolo, 2004) In Kanat-Maymon, Y., Elimelech, M., & Roth, G. (2020). Work motivations as antecedents and outcomes of leadership: Integrating self-determination theory and the full range leadership theory. *European Management Journal*.

requests for assistance, and resist expressing their views on important issue.⁵⁵ Laissez-faire leaders abdicate their responsibility and avoid making decisions. Subordinates working under this kind of supervisor basically are left to their own devices to execute their job responsibilities. Although laissez-faire leadership is observed infrequently, managers still exhibit it in varying amounts. Prior research has found that laissez-faire leadership has an adverse effect on work-related outcomes of employees⁵⁶

Transformational leaders integrate creative insight, persistence and energy, intuition and sensitivity to the needs of others to “forge the strategy culture alloy” for their organizations. In contrast, transactional leaders are characterized by contingent reward and management-by exception styles of leadership. Essentially, transactional leaders develop exchanges or agreements with their followers, pointing out what the followers will receive if they do something right as well as wrong. They work within the existing culture, framing their decisions and action based on the operative norms and procedures characterizing their respective organizations. In a highly innovative and satisfying organizational culture we are likely to see transformational leaders who build on assumptions such as: people are trustworthy and purposeful; everyone has a unique contribution to make; and complex problems are handled at the lowest level possible. Leaders who build such cultures and articulate them to followers typically exhibit a sense of vision and purpose. They align others around the vision and empower others to take greater responsibility for achieving the vision. Such leaders facilitate and teach followers. They foster a culture of creative change and growth rather than one which maintains the status quo. They take personal responsibility for the development of their followers. Their followers operate under the assumption that all organizational members should be developed to their full potential⁵⁷. According to Full Range of Leadership Model, Laissez-faire is the most passive and therefore least effective of leader behaviors. Management by exception — active or passive — is slightly better, but it’s still considered ineffective. Management -by-exception leaders tend to be available only when there is a problem, which is often too late. Contingent reward leadership can be an effective style of leadership but will not get employees to go above and beyond the call of duty. Only with the four remaining styles— all aspects of transformational leadership— are leaders able to motivate followers to perform above expectations and transcend their self-interest for the sake of the organization. Individualized consideration, intellectual stimulation, inspirational motivation, and idealized influence all result in extra effort from workers, higher productivity, higher morale and satisfaction, higher organizational effectiveness,

55 Bass, B.M. 1997. Does the transactional-transformational leadership paradigm transcend organizational and national boundaries. *American Psychologist*, 52(2): 130-139.

56 Yammarino, F.J. and Bass, B.M. (1990), “Long-term forecasting of transformational leadership and its effects among Naval officers: some preliminary findings”, in Clark, K.E. and Clark, M.R. (Eds), *Measure of Leadership*, Center for Creative Leadership: Leadership Library of America, Greensboro, NC, West Orange, NJ.

57 Bass B. M. and Avolio B. J., *Transformational Leadership and Organizational Culture*, *Public Administration Quarterly*, 12, 113-121 (1993)

lower turnover, lower absenteeism, and greater organizational adaptability. Based on this model, leaders are generally most effective when they regularly use each of the four transformational behaviors⁵⁸.

2.3.2 Comparison between Transformational and Transactional Leadership⁵⁹

James Macgregor Burns distinguished between transactional leaders and transformational by explaining that: transactional leader are leaders who exchange tangible rewards for the work and loyalty of followers. Transformational leaders are leaders who engage with followers, focus on higher order intrinsic needs, and raise consciousness about the significance of specific outcomes and new ways in which those outcomes might be achieved (Hay, 2012). Transactional leaders tend to be more passive as transformational leaders demonstrate active behaviours that include providing a sense of mission.

Transactional VS.	Transformational
Leadership is responsive	Leadership is proactive
Works within the organisational culture	Works to change the organisational culture by implementing new ideas
Employees achieve objectives through rewards and punishments set by leader	Employees achieve objectives through higher ideals and moral values
Motivates followers by appealing to their own self interest	Motivates followers by encouraging them to put group interests first Individualised consideration: Each behaviour is directed to each individual to express consideration and support
Management-by-exception: maintain the status quo; stress correct actions to improve performance	Intellectual stimulation: Promote creative and innovative ideas to solve problems.

2.3.3 Outcomes of transformational leadership

The Full-Range Model of transformational leadership (Figure 2) incorporates three factors specifically relating to and labeled as “leadership outcomes”:

- i. extra effort which describes employees’ raised levels of performance in seeking to achieve organisational goals;
- ii. efficiency which reflects leaders’ and groups’ efficacy in achieving organisational goals; and
- iii. satisfaction, which relates to employees’ satisfaction with the leader.

Extra effort and efficiency describe ways in which transformational

58 Jaiswal, A. (2017). Leadership Styles and Employees’ Work Engagement. Available online at https://www.academia.edu/34916673/Leadership_Styles_and_Employees_Work_Engagement?email_work_card=view-paper
59 Odumeru, James A., Ogbonna, Ifeanyi G. (2013). Transformational vs. Transactional Leadership Theories: Evidence in Literature. International Review Of Management And Business Research Vol 2 (2)

leadership promotes behaviour which in turn contributes to organisational goals (organisational-level outcomes).

Satisfaction describes an intra-group outcome of transformational leadership. Extra effort, efficiency and satisfaction are manifest in the Full-Range Model of transformational leadership model as delimiting leadership outcomes⁶⁰.

3. Relationship of Leadership styles with conflict management styles

The results of a study that examined the relationship between leadership style and conflict management style among 150 managers, while handling interpersonal conflict (managers and subordinates) revealed that managers who perceived to exhibit more on transformational leadership style adopted integrating and obliging style of conflict management. Those who perceived to exhibit more on transactional style opted for compromising style of conflict management. Whereas, managers perceived to exhibit laissez-faire leadership style adopted avoiding style to manage conflicts with subordinates.⁶¹

A qualitative study that included eight school principals from four primary and four secondary schools in two historically black African areas (townships) in the Gauteng Province, South Africa show that the participants reflected a number of aspects in conflict management strategies. All maintained that conflict was not an aspect that was needed in schools for it tends to «stall progress». They also felt that schools that experienced conflict will never prosper “because the energies are usually directed at ending these conflicts. Furthermore, the participants agreed that conflict impacted badly on teaching and learning in their schools and that many school principals lack the capacity to manage conflicts and this can be detrimental to organisational growth. Finally, the participants identified crucial skills that would enable them to be effective conflict managers. These included the ability to work in teams and learning more about the theories of conflict⁶².

The results of a similar study suggest that school conflict is a significant problem that often arises in Greek schools and has mostly both interpersonal and organizational attributes. Factor analysis of the potential causes of these conflicts showed that when they were solely attributed to organizational issues ‘the allocation of students when an educator is absent’ was the primary cause. Accordingly, when the conflicts were attributed to interpersonal relations,

60 Saeed, Tahir & Almas, Shazia & Anis-ul-Haque, M. & Niazi, Ghulam. (2014). Leadership styles: Relationship with conflict management styles. *International Journal of Conflict Management*. 25. 10.1108/IJCM-12-2012-0091.

61 Saeed, Tahir & Almas, Shazia & Anis-ul-Haque, M. & Niazi, Ghulam. (2014). Leadership styles: Relationship with conflict management styles. *International Journal of Conflict Management*. 25. 10.1108/IJCM-12-2012-0091.

62 Msila, V. (2012). Conflict Management and School Leadership. *Journal of Communication*, 3(1), 25–34. <https://doi.org/10.1080/0976691X.2012.11884792>

factor analysis indicated ‘a lack of capable school leadership’ as the most common cause of conflict. These results indicate that two of the major causes of conflicts within Greek schools are the lack of cohesion among teaching staff and the ineffectiveness of the school leadership. Also, this study revealed that the cohesion of the teaching staff increased the likelihood of closer, more positive and collegial relations among teachers, so that when a problem arose at school, such as the absence of a teacher, then the teaching staff would be willing to solve the problem effectively in order to prevent pupils from missing out on valuable hours of tuition. This study supports the view that in order for a school leader to confront any type of conflict successfully, therefore, they should not only be aware of the conflict-handling strategies but also be aware of their consequences so that they choose the most appropriate style for handling conflicts. Additionally, constructive conflict management requires equal investment in leaders and leadership development because these two are the main elements that drive school systems towards higher levels of quality performance.⁶³

Another research showed that Conflict management strategies used in schools include; building on leadership skills and having a mechanism in place to deal with conflicts. They also work on being knowledgeable about sources of conflicts, expanding resources, giving staff opportunities for growth, and also trying to embrace change. Further, leaders strive to build on leadership skills like knowing when to switch leadership styles based on situation, being accountable and responsible, they try to involve teachers in decision making, and create ways to recognize and reward staff, they try to understand individual uniqueness, and ensure the school environment is safe for learning. If conflicts escalate to disputes, resolving conflict is the last result. Leaders were found to use different techniques based on situation, including; discussions, punishing, forcing, compromise (win-win decisions), avoidance, and ignorance as well as taking individual differences into account. The study concluded that school leaders need to develop leadership competences, and have a mechanism in place to management conflicts besides knowing when to intervene (resolving conflicts). They should look for ways to acquire additional resources (seek funds), create conducive learning environment, provide opportunities for teachers’ growth, and develop a culture where teachers work collaboratively with school stakeholders. Besides, they should have a mechanism to recognize performers, and encourage innovativeness to motivate teachers⁶⁴

The analysis of data of a study aiming to investigate the views of primary

63 Saiti, A. (2015). Conflicts in schools, conflict management styles and the role of the school leader: A study of Greek primary school educators. *Educational Management Administration & Leadership* 2015, Vol. 43(4) 582–609.

64 Shanka, E.B. & Thuo, M. (2017). Conflict management and resolution strategies between teachers and school leaders in primary schools of Wolaita Zone, Ethiopia. *Journal of Education and Practice*, 8 (4), 63-74.

education teachers of A' Piraeus region about principles' management style in school units and how it is correlated with their conflict management style shows that principles exhibit democratic/participative style in the management of school units and manage conflicts by using the methods of collaboration, compromise and accommodation. Moreover, she found that there is a correlation between principles' management style and their conflict management style.⁶⁵

The findings of a research that explored how leadership styles impact on work engagement and conflict management practices in 40 Nigerian universities reveal that academic institutions and processes are considered as being overly bureaucratic and transactional and that leaders exhibiting a transformational leadership style appeared inclined to a conflict-handling style of accommodating complaints and making concessions to harmonise competing claims⁶⁶.

Furthermore, another research examined the leadership style of school directors (transformational, transactional, laissez-faire/avoidant), based on school teachers' views, while on the same time aimed to examine the conflict management style, found that head teachers tend to choose (compromise, avoidance, domination), when dealing with conflict in the school environment it follows that the most preferred by school principals leadership style is the transformational, followed closely by the transactional. According to the results of the analysis regarding the perceived conflict management style, the compromise style emerged dominant, followed by the style of dominance and avoidance. Finally the results of the research showed: a. negative correlation between transformational leadership and dominance style and b. negative correlation between passive leadership and avoidance.⁶⁷

The data collected from 128 teachers from twelve randomly selected schools in the region of Epirus, NW Greece, showed that conflict is a frequent problem, and conflict frequency and conflict resolution may vary. The results provide that according to the perceptions of the teachers', who participated in the work, their school leaders exhibited a range of conflict management styles. Compromise and Collaborative styles were frequently observed, followed by Smoothing and Forcing. Avoidance was less frequently exhibited by school leaders. The transformational and transactional leadership styles exhibited were equally effective in successful conflict resolution, whereas a laissez-faire leadership style was not. The results indicate that leadership and conflict management style can

65 Laoulakou, A. (2017). Principles' Management Style in School units of primary education and the correlation between this and the conflict management style. Exploring the Views of Primary Education Teachers. Master's Thesis, Hellenic Open University, Patra, Greece. (In Greek).

66 Akanji, B., Ajonbadi, H., & Mojeed-sanni, B. (2018). Impact of leadership styles on employee engagement and conflict management practices in Nigerian universities Research question. *Educational Research*, 28(4), 830–848.

67 Maliari, D. (2018). *Leadership styles and conflict management styles at school: Perceptions of Volos Primary School teachers*. Bachelor's thesis. Aristotle University of Thessaloniki

be associated with the effectiveness of conflict management.⁶⁸

According to data analysis of self-reference questionnaires filled in by 144 Head teachers in the Prefectures of Karditsa, Larissa, Magnesia and Trikala the leadership style of School head teachers is a predictive factor concerning the conflict solving strategy. Therefore, head teachers with a transactional leadership profile tend to adopt the collaborative and productive conflict management style and are less likely to follow a Laissez-faire leadership style⁶⁹.

The results of a research examined the existence or non-existence of a correlation between educational leadership models and conflict management styles, which are adopted and applied by the Principals in public schools of Secondary Education in the Prefecture of Achaia show that the participants in the research, teachers, consider that regarding the organizational conflict management styles the “Integration/Collaboration” and “Compromise” are the styles that used mostly. This is followed by the styles of “Adaptation” and “Avoidance”, while the respondents consider that “Domination» is applied to a much lesser extent. Evidence is provided that there is a strong positive correlation of Transformational and Transactional leadership with the “Integrative/Collaborative” management style. Both the “Adapting” style and the “Compromising” style have a large positive correlation with these leadership models. On the contrary, Passive leadership shows a positive correlation with “Dominance “ and “Avoidance”, while it shows a negative correlation with “Integration”, “Adaptation” and “Compromise” styles. In conclusion, it appears that the most frequently appearing conflict management strategies are those of integration/collaboration and compromise and that there is a significant correlation between the model of educational leadership and the way of managing organizational conflicts⁷⁰

Lastly collected data from ten interviews with principals of primary schools in the prefectures of Evros, Xanthi and Kavala showed that conflicts often occur in the school environment and can be interpersonal, group, group and individual and of the school community with parents. The causes of these vary and depend on the population group in which the conflict arises. It was argued that conflicts bring negative consequences to all members of the school unit, however through appropriate management these consequences can be reduced and positive effects may also be created for the school unit. The principal has emerged as the person in charge of conflict management in the school and usually takes on the role of mediator.

68 Chandolia E, Anastasiou S. Leadership and Conflict Management Style Are Associated with the Effectiveness of School Conflict Management in the Region of Epirus, NW Greece. *Eur J Invest Health Psychol Educ*. 2020 Feb 14;10(1):455-468. doi: 10.3390/ejihpe10010034. PMID: 34542497; PMCID: PMC8314229.

69 Mpakirtzi, M. (2020). Contribution of the principal’s leadership style to the management of conflicts with teachers in the context of the teachers’ association in Primary Education school units. Diplomatic work. University of Thessaly.

70 Dimakopoulou, F. (2020). *Educational leadership models and conflict management: investigation of the relationship in Secondary Education schools of Achaia Prefecture*. Bachelor’s thesis. University of Patras

Communication, leadership and management skills, training and experience were presented as factors that strengthen the manager in dealing effectively with conflicts. The choice of conflict management technique depends on the type, causes and members of the conflict. Nevertheless, the technique of cooperation was recognized as the most constructive method of dealing with conflicts⁷¹.

4. Conclusions

Today, social demands are emerging due to rapid changes and increasing needs that are affecting the educational process and forcing the educational institutions to be more dynamic. Educational institutions are one of the most important organizational structures, for which both input and products are basically “human.” Therefore, schools are organized to meet the needs of the information age of the 21st century and to identify, select, and educate students who have leadership potential. One of the basic aspects of these structures is the school administrator⁷². School principals are considered to be the central educating figure constituting the leadership meant to lead the educational system into the 21st century, so it can cope with the challenges it faces, working within a system that has undergone many changes. These principals may be characterized as leaders with a transformational or transactional leadership style, and this style can affect the head teacher’s behavior within the school in relation to assessment as well⁷³.

Generally, it can be supported that in the school environment, conflicts occur between the teachers’ association and many times the school principal is called upon to mediate and manage this complex phenomenon. The sources and causes of conflicts are many and the techniques for dealing with them vary. As a leader, he is called upon to manage, soften them and “exploit” them for the benefit of the school unit, in order to achieve progress and development. It is widely known among academics and researchers that an organization’s total function is affected by numerous factors that constitute its internal culture, in terms of employees’ feelings, perceptions, behavior and relationships⁷⁴. This study was designed to examine the relationship between leadership styles with conflict management of principals in school organizations.

The review of relevant literature shows that there is relationship between leadership styles (transformational, transactional and laissez faire) and conflict management styles adopted by school principals. In view of this, it is recommended

71 Trianti P. D. (2021). *Conflict Management in Primary Education: Principals’ Strategies - Research*. Texts of Education, 1(1). <https://doi.org/10.12681/keimena-paideias.25198>

72 Kalkan, Ü., Altınay Aksal, F., Altınay Gazi, Z., Atasoy, R., & Dağlı, G. (2020). The Relationship Between School Administrators’ Leadership Styles, School Culture, and Organizational Image. *SAGE Open*. <https://doi.org/10.1177/2158244020902081>

73 Jamal AH (2014). Leadership styles and value systems of school principals. *Am. J. Educ. Res.* 2(12): 1267-1276

74 Belias, D., & Koustelios, A. (2014). Leadership and Job Satisfaction – A review. *European Scientific Journal*, 10(8), 24-46.

that the Ministry of education and the secondary education Management Board could through systematic in-service training of head teachers in matters of leadership styles and conflict management to provide the specialized knowledge that will enable them to respond with greater proficiency and more efficiency in their difficult and complex work. Also, pre-service training of teachers in human resources management skills, including leadership and conflict management, can aid in improving the efficiency of leaders in schools.

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