

WHAT IS LOGICAL RELATION BETWEEN SCHOOL-BASED MANAGEMENT AND DECENTRALIZATION?

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Abstract

School-based management is a subset of decentralization, it introduced by mathematical logical ways, the theory of sets and shown on Venn diagrams. That conforms to quad ratio (Islamic logic: 1- The proportion of draw, 2- contrast, 3-absolute universal and private ratio, 4- universal and existence in common ratio). It says: between the two concepts there are four possible, 1- two-set match 2-two completely separated collection 3-one is subset of another 4-two set of subscription. And the relationship between two concept of school-based management and decentralization like the third type of relationship. It means the concept of school-based management is a subset of the concept of decentralization. Where the decentralized policy is useful, Leaving behind the other obstacles in the way of implementation of school-based management, investment in school-based management policy begins. And one way to invest is training of top managers. Top managers can improve school-basement projects. Decentralization runs in many organization, as ministry of education(Iran).In this article at first we are going to define the concept of school-based and decentralization, then the logical relation between these two concept will be diagnosed. If the set is a subset of the other set, for example B is subset of A, as in B is in the A there. This means that if B is school-based concept and A is decentralization concept, every benefit in B can find in A. If school staff is, members of their school, headmaster is one member of the set, and each school is sub set of government organization sets.

Keywords: School-based management, Decentralization, Mathematical logic, Theory of sets, Quad ratio (Islamic logic).

1. INTRODUCTION

Decentralization has been implemented in many countries. Decentralization in management arises here. Important topic about the policy of decentralization is how to implement the decentralization policy. As you know education is important in development and progress of countries, seek and find knowledge about decentralization in education. In this study we use mathematic logic that an argument about planning the future we will be. Therefore, it is necessary to introduce the concepts of argument at first. Islamic philosophy has always had a rather difficult relationship with the Islamic sciences, those techniques for answering theoretical questions which are closely linked with the religion of Islam, comprising law, theology, language and the study of the religious texts themselves. Many theologians such as Ibn Hazm, al-Juwayni and Fakhr al-Din al-Razi presented accounts of Islamic theology which argued for a particular theory of how to interpret religious texts (see Islamic theology). They tended to advocate a restricted approach to interpretation, rejecting the use of analogy and also the idea that philosophy is an objective system of enquiry which can be applied to anything at all. Political philosophy in Islam looked to Greek thinkers for ways of understanding the nature of the state, yet also generally linked Platonic ideas of the state to Qur'anic notions, which is not

difficult given the basically hierarchical nature of both types of account (see Political philosophy in classical Islam). Even thinkers attracted to Illuminationist philosophy such as al-Dawani wrote on political philosophy, arguing that the structure of the state should represent the material and spiritual aspects of the citizens. Through a strict differentiation of role in the state, and through leadership by those skilled in religious and philosophical knowledge, everyone would find an acceptable place in society and scope for spiritual perfection to an appropriate degree. According to the Routledge Encyclopedia of Philosophy: "For the Islamic philosophers, logic included not only the study of formal patterns of inference and their validity but also elements of the philosophy of language and even of epistemology and metaphysics. Because of territorial disputes with the Arabic grammarians, Islamic philosophers were very interested in working out the relationship between logic and language, and they devoted much discussion to the question of subject matter and aims of logic in relation to reasoning and speech. In the area of formal logical analysis, they elaborated upon the theory of terms, propositions and syllogisms as formulated in Aristotle's *Categories*, *De interpretatione* and *Prior Analytics*. In the spirit of Aristotle, they considered syllogism to be the form to which all rational argumentation could be reduced, and they regarded syllogistic theory as the focal point of logic. Even poetics was considered as a syllogistic at in some fashion by most of the major Islamic Aristotelians." (Black, D., 1998, pp 706-713). Approaches to the characterization of logical constants and logical consequence are affected by developments in mathematical logic. (Timothy McCarthy, 2015, Retrieved July 15)

Went on to explain some basic concepts of mathematics that are used in this study same as set theory, Venn diagram, set, membership, equal sets, intersection, disjointed sets. **Set theory** is the branch of mathematical logic that studies sets. Set theory, as well as, branch of mathematics that deal with the properties of well-defined collections of objects, which may or not be of a mathematical nature. (Herbert Enderton, 2014, Encyclopedia Britannica). **Venn diagram** said The English mathematician John Venn began using diagrams to represent sets. His diagrams are now called Venn diagrams. Venn diagram, graphical method of representing categorical propositions and testing the validity of categorical syllogisms, devised by the English logician and philosopher John Venn (1834-1923). Long recognized for their pedagogical value, Venn diagrams have been a standard part of the curriculum of introductory logic since the mid-20th century. Diagrams make mathematics easier because they help us to see the whole situation at a glance. **Sets** are fundamental objects in mathematics. Intuitively, a set is merely a collection of elements or members. Example: $A = \{1, 2, 3\}$, A, is set of members. (Hewins, R. D., 1995) **Membership** said If B is a set and x is one of the objects of B, it mean" x belong to B "or "x is an element of B". If y is not a member of B then this mean that" y does not belong to B. (Hewins, R. D., 1995) **Subset** said If every member of set A is also a member of set B, then A is said to be a subset of B. (Hewins, R. D., 1995) **Equal sets** said Two sets A and B are define to be equal when they have precisely the same elements, that is, if every elements of A is an elements of B and every elements of B is an elements of A. thus a set is completely determined by its elements; the description is immaterial. For example, the set with elements 2, 3, and 5 is equal to the set of all prime number less than 6. If the sets A and B are equal, this is denoted symbolically as $A=B$ (as usual). (Enderton, H. B., Set Theory, p 3) **Intersection** said In mathematics, the intersection of two sets A and B is the set that contain all elements of A that also belong to B(or equivalently , all elements of B that also belong to A), but no other elements. (Enderson, H., 1977, Academic Press) **Disjoints sets** said two sets are said to be disjoint if they have no element in common. Equivalently, disjoint sets are sets whose intersection is the empty set. (Enderson, H., 1977)

Then we suggest two basic concepts of management and expand the relationship between them. **Decentralized decision-making** is any process where the decision –making authority is distributed throughout a larger group. It also connotes a higher authority given to lower level functionaries, executives, and workers. This can be in any organization of any size, from a governmental authority to a corporation. However, the context in which the term is used is generally that of larger organizations. This distribution of power, in effect, has far- reaching implications for the fields of management, organizational behavior, and government. The decisions arising from a process of decentralized decision-making are the functional result of group intelligence and crowd wisdom, often in a subconscious way a la Carl Jung's unconscious. New evidence that fiscal decentralization contributes to economic growth, in contrast to previous studies that have denied such a contribution. Little cultural, historical, and institutional variation. Also provide the finding that the definition of fiscal decentralization is important in relation to the effect of fiscal decentralization on economic growth. (Akai, N., Sakata, M., 2002, pp 98-108) Elsewhere in broad sense, fiscal decentralization is that the central government relinquishes its fiscal controls to subnational governments. According to proponents of fiscal decentralization, such a shift of fiscal power and responsibility to lower levels of governments can increase economic efficiency because governments at lower levels have informational advantages over the central government concerning resource allocation. In other words, subnational

governments are in a better position to provide the kind of public goods and services that closely meet local needs. Furthermore, when local government officials are responsible for the provision of public services, they are under closer scrutiny by their constituencies and, as a result, have a greater incentive to exercise their fiscal responsibilities in the best interest of general public. (Lin, J. Y., & Liu, Z., 2000, pp 1-21)

School based-management the abbreviated name **SBM** has many different definitions: School-based management school based management that involving school or at the school level. Autonomous management or school centralized management or school-based Budget, participate management school. Local management school, community- based education. Cooperatives education and cooperative management, the terms that refers to the type of school. (De Grauwe, A., 2005, pp 269-287) In general, school- bases management programs develop authority over one or more activities these can be any of followers 1- budget allocations 2- hiring and firing of teachers and other school staff 3-curriculum development 4-procurement of textbooks and other education materials 5- infrastructure improvement, and 6-monitoring and evaluation of teacher performance and student learning outcomes. (Patrinos, H. A., & Fasih, T. , 2009, World Bank publications)

School-based management is the systematic decentralization to the school level of authority and responsibility to make decisions on significant matters related to school operations within a centrally determined framework of goals, policies, curriculum, standards, and accountability. (Caldwell, B. J., 2005, Vol 3) School-based management is a research based, committed, structured, and decentralized method of operating the school district within understood parameters and staff role to maximize resource effectiveness by transferring the preponderant share of the entire school system's budget, along with the corresponding decision making power, to the local schools on an equitable lump sum basis, based upon a differentiated per pupil allocation to be spent irrespective of source in the best interests of students in those schools according to a creative local school plan and local school budget developed by the principal collaboratively with trained staff, parents and students as stakeholders, and approved by the superintendent; such plans being designed to achieve approved goals of improving education by placing accountability at the individual school, and evaluated more by results than by methodology. (Neal, R. G., 1991, p17) SBM policy showed that this system causes more efficiency and effectiveness of school and empowering principals, teachers and students, academic achievements and also more participation of sympathetic people in education. The better our understanding of concept of SBM in the development of SBM and presenting conceptual frame work resulted in fewer problems faced in the future. (Moradi, S., Aminbidohkti, A. A., Barzegar, N., & Hussin, S. B., 2013, pp 442-446) In this article going to show on Venn diagram what mathematic logic which states that the logic of Islam about two concept, school-based management and decentralization.

Correct implementation of decentralization improves the efficiency of the public sector. Such measures have an enormous potential and could, if properly designed and implemented, significantly improve the efficiency of the public sector. Decentralization measures are like some potent drugs, however: when prescribed for the relevant illness, at the appropriate moment and in the correct dose, they can have the desired salutary effect, but in the wrong circumstances, they can harm rather than heal. Administer of SBM should have decuple character analysis, which has same characteristic of successful and independent people: 1- Someone please take the principles from the higher authorities and the final decision does. 2-Creative Director with initiative of all the talent that exists, use the creativity of staff, students and parents for efficiency. 3- With the help of staff at the school and using available funds and other financial institutions of your society feeds. 4- Make use of the skills of parents and students. 5- Establishment the human relations at school. 6- Use other schools experience. 7- To increase their knowledge by studying the ongoing efforts. 8-In time of crisis, with counselors help and with creations, offer rational solutions and solve problems. 9- Efforts to strengthen the participation and creativity of teachers and student. 10-Accept criticism and patient learns from mistake. (AboZoha, E.; Unesco/UniCef)

By extension, in the absence of an organization other than the school and school members such as teachers, school staff and students, such attributes can be considered for any decentralization.

After reviewing concepts, turn it to assess the similarity of the Islamic logic and mathematical logic. At first we wanted to find the relationship between the concept of school-based management and decentralization through Islamic logic, but we understand that the discovery of logical links with Islamic principles, such as the mathematical principles. When reviewing quad ratio in Islamic logic that said :1- The proportion of draw, 2-contrast, 3-absolute universal and private ratio, 4- universal and existence in common ratio). All kinds of relation between two general may have with each other. For example if any type of the general concept that are given individuals with a more general concept which also includes a series of examples and people, compare up, one of the four will each of the above, when we study carefully, we find that it similar to, the relationship between the two sets in sets theory .This means that two sets have one of the four types of relationships 1- two-set match 2-two completely separated collection 3-one is subset of another 4-two set of

subscription .Can be used with both the concept of school- based management and decentralization like two sets in math .After the two sets checked, Venn diagram can be used to portray the theme. The purpose of this study is to prove the co to be concept of school-management subset of concept of decentralization .Research question: 1- Is there any relationship between the concept of school-based management and decentralization of government policy there? 2- Is decentralization a more general concept of school-based management concept is? Actually we answer by use deductive reasoning.

Previous studies on the decentralization or school-based management based on data obtained in the form of case studies have been carried out in parts of the country, the quality or shortage and factors affecting the lack of proper implementation were done in decentralization, In this study the relationship between school-based policy and decentralized policy and knowing ways to improve quality in one affects the other. As statistical methods to find the relationship between two variables that change the variable with changes in one another. With the aim of understanding the relationship between two variables same as bridge become dominant over the other to dominate one another. One of the methods of problem solving in mathematical logic.

2. METHODOLOGY

2.1. Mathematic logic

The difference in cognition makes a difference method of solving the problem. For example the image is created in the mind by saying things such as car, chair, book are different, another definition for each of them that you have thought in your mind, that vehicle or carrier to transport somebody or something, place to sit and relax, Means for transmitting information by text, maybe repeatedly review concepts and new results obtained. The problem can be achieved by restructuring concepts in new ways. According to "Rubert Angus Buchanan professor of history of technology, Director, Centre for the History of Technology, Science, and Society, University of Bath, England. Author of '*The Power of the Machine.*' ": repeat review concepts, new knowledge is created new understanding of problem, led to creation of new solution and development of problem-solving. As many human inventions have been similarly. This is a creative look at the issues. A highly compressed account of the history of technology such as this one must adopt a rigorous methodological pattern if it is to do justice to the subject without grossly distorting it one way or another. The plan followed in the present article is primarily chronological, tracing the development of technology through phases that succeed each other in time. Obviously, the division between phases is to a large extent arbitrary. One factor in the weighting has been the enormous acceleration of Western technological development in recent centuries; Eastern technology is considered in this article in the main only as it relates to the development of modern technology. Within each chronological phase a standard method has been adopted for surveying the technological experience and innovations.

Advanced mathematical thinking has played a central role in the development of human civilization for over two millennia. Yet in all that time the time the serious study of the nature of advanced mathematical thinking.

The mature mathematician is not immune from internal conflicts, but has been able to think to gather large conflict of knowledge into sequences of deductive argument to such a person it seems so much easier to categorize this knowledge in logically structured way. Thus the mature mathematicians may consider it helpful to present mathematical in a way with highlight the logic of subject. (Tall, D., 1991, Vol. 11)⁸

In this study, we have tried to follow the methods mathematicians according to logical relations to a new knowledge management concept was so new solutions are found. Some on the philosophy of logic and logic will be explained.

Philosophy of logic, the study, from a philosophical perspective, of the nature and types of logic, including problems in the field and the relation of logic t mathematics and order disciplines. The term logic comes from the Greek word logos. The variety of senses that logos possesses may suggest the difficulties to be encountered in characterizing the nature and scope of logic. Among the partial translation of logos, there are "sentence", "discourse", "reason", "rule", "account", "ratio", "account"(especially the account of the meaning of an expression), "relation principle", and "definition". Not unlike this proliferation of meanings, the subject matter of logic has been said to be the "laws of thought", "the rules of right reasoning", "the principles of valid argumentation", "the use of certain words labelled 'logical constants'", "truths (true propositions) based solely on the meanings of the terms they contain", and so on.(Quine, W. V. O. ,1986)⁹

A fundamental problem in the philosophy of logic is to characterize the concept of 'logical consequence' and 'logical truth' in such a way as to explain what is semantically, metaphysically or epistemologically distinctive about them.

Approach to the characterization of logical constants and logical consequence are affected by developments

in mathematical logic. One way of viewing logical constant is as a semantic property; a property that an expression possesses by virtue of the sort of contribution it makes to determine the truth conditions of sentences containing it.

Another way is proof –theoretical: Appealing to aspects of cognitive or operational role as the defining characteristics of logical expressions. Broadly, proof-theoretic accounts go naturally with the conception of logic as a theory of formal deductive inference; model-theoretic accounts complement a conception of logic as an instrument for the characterization of structure. If a sentence is logically true each sentence sharing its logical form is true.

Logic identifying and providing the correct way of thinking (definition and reasoning).

In past, only logic was considered a branch of philosophy in mathematics and in computer science and cognitive science to pay. Thus, logic is a procedure for evaluating right and wrong. It is necessary to learn how logical thinking. Logical thinking helps you discern the truth, solve problems, and make good decisions unless your logic is flawed. Logical thinking is critical for IT professionals, managers, and executive. We use deductive logic for management concepts to better classify identification of concepts and categorize proper to make better decision in our organization.

The research instrument is deductive reasoning, subject is logical relationship and procedure is compare features two concept.

In evaluating arguments and explanations two features are significant: whether the premises, the” starting points”, are jointly plausible; and whether what is said to follow from them does so. When we reflect on these features we arrive at logic: systematic study of what follows from, and of relations that hold within and between, bodies of belief, loosely speaking. (Loosely speaking, for in logic we are not so much concerned with what we do accept or believe rationally and what inferences we in fact make but with rather what one could so accept or believe and what inferences one would be warranted in making whether or not one actually does so.)

In this study, considering the logical method to recognizing the importance of decentralization policies and Proved that can be afford of decentralization in Ministry of Education level.

Administration, teacher, staff and student are members of school. If assume a school is a set of members, administer, teacher, staff, student are members. School with all member is subset of education ministry.

The ministry of education is an organization following a series of public organizations. Thus, according to deductive reasoning administrators, teachers, school staff, students are in set of Ministry of Education.

When governments are following decentralization policies, in Ministry of education have done with increasing school-based management (SBM). And to improve school-based management features to manage school-based administer feature carefully.

Concept decentralization of education of a country area that can be seen in school-based management is subset of decentralization of all government agencies and privatization. Because, the decentralization of education is not resulted to decentralization in all organizations. But if decentralization is in general, the concept of decentralization in education, followed by school-based management is also on.

2.2. Results

Present a visualization approach for set relationships based on Venn diagrams. Two sets based on mathematical logic shown in Figure .1. in four rows. In the other words two sets, to one another have four modes that use of Venn diagram display.

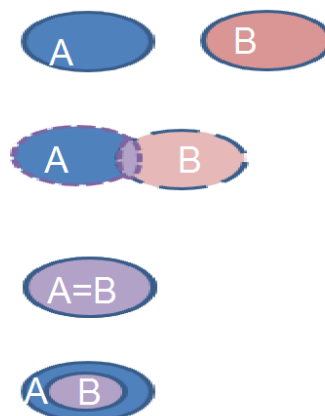


Fig.1.Venn diagram

In the last case shown in Fig.2. , a set is another subset that is close to be the subject of study. Now extended it by math symbol. According to what was said in mathematical logic, Display mathematical notation and Venn diagrams to better understand about what was said in partial 2.1.mathematic logic.

$x = \text{Administer}$

$A = \text{School – based}$

$B = \text{Decentralization}$

$x \in A$, $A \subset B \longrightarrow x \in B$

And in a Venn diagram to be displayed:

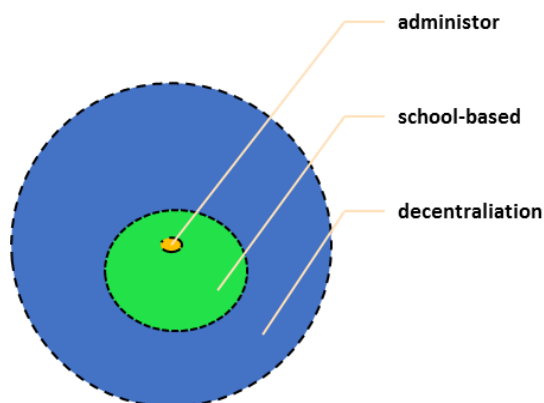


Fig.2. showing the status of member, sets A&B

The Training Manager is part of a policy of decentralization of education, a good manager resulted to a better implementation of the decentralization plans.To achieve the objectives of decentralization in education need schools with school-based management, such schools that managers has fundamental role in achieving the goals. So in order to achieve the goals set by changing the following categories and their members including the training of managers who can afford decentralized management is important.

3. CONCLUSION

The first question to investigate the presence and absence of the relationship between school-based and decentralized. Because the two are logically related to one another, the second question to investigate that one is subset of another, with a sampling of different statistical populations may be fond suitable statistical relationship between the two functions. The generality of the concept of decentralization to the school, because it was central to all government agencies and school-based decentralization in education and school-level applications. Other researchers focus was on the importance of school and the reasons for the weakness in execution. In this study, we performed a review of the concepts from the perspective of a rational mind. We found a logical relationship between these two concepts, regarding the set and the subset. According to the results of study in accordance with the principal axis will the decentralization policy because the concept of school-based management is at the heart of decentralization. On the one hand, we can conduct some school-based creative director also performed in other government departments.

If an administer in SBM should have decuple character analysis, which has same characteristics of successful and independent people said in the introduction, As in previous studies trying to find a relationship between two or more variables were performed to dominate the variation of variables, with dominated on variation of other variables. In an inference or deductive logic ought to identify the mathematical logical relation is between the two concepts.

First imagine, all governmental organization without consider school and school by its human members. Decentralization in other sectors of the community can Influence in part as decentralization of education management In Education known as the school-based management. . We know SBM is in decentralization set any member of SBM set are in decentralization set, same as administer, staffs, teachers and students. These members have full impact on the decentralization of school. Character of administer effected on SBM policy .However, if you go beyond the school and other organizations also extend management. Administrators

character analysis can be extended based on the actions of an administrator the space of management, nevertheless, administrator of school is just member of SBM not all over organization. However, partial recovery can be achieved to improve the general.

Other studies have suggested: the logical relationship between the teacher and the school staff and school-based management. Review the concepts about school same as school staff, teachers and students.

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