

The Principal Leadership based on Higher Order Thinking Skills for Realizing 21st Century Education

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Abstract: *This paper, which has been presented on TTE 2018, Together Transforming Education, International Conference and Exhibition 21-22 November 2018. Sabah Federal Government Administrative Complex, Ministry of Education Malaysia, aims at promoting the principal leadership based on higher order thinking skills for realizing 21st century education. A principal has an important role in improving and developing the knowledge of students who are in the school area. The Principal must be able to coordinate the tasks of school resources including technical and administrative education, across programs and sectors by utilizing resources to achieve educational goals effectively and efficiently. If we observe related to the role of the principal in implementing efforts to improve the quality of education, the role of the principal is not only to provide guidance to the teacher in improving the quality of the teaching and learning process, but the most important thing is that the principal must be able to convince the public and other stakeholders in carrying out their roles and duties is to create a "learning climate", by influencing, inviting, and encouraging teachers, students, and other staff to have high-level skills as millinneeal needs.*

Keywords: principal leadership, higher order thinking skills,

1. Introduction

Campbell, Corbally & Nyshand (1983) put forward three classifications of the role of primary school principals, namely: (1) roles related to personal relationships, including the principal as a figurehead or symbol of the organization, leader or leader, and liaison or liaison, (2) role relating to information, including principals as monitors, disseminators, and spokesmen who disseminate information to all organizational environments, and (3) roles related to decision making, which include principals as entrepreneurs, disturbance handlers, providers of all sources, and negotiators in realizing education that has high skills. Various organizations try to formulate various kinds of competencies and skills needed in the face of the 21st century. However, one important thing to note is that educating the younger generation in the 21st century cannot only be done through one approach. Some of these organizations and their development results are presented at a glance as follows.

Wagner (2010) and Change Leadership Group from Harvard University identified competencies and survival skills needed by students in facing life, the world of work, and citizenship in the 21st century emphasized in seven (7) the following skills: (1) critical thinking skills and problem solving, (2) collaboration and leadership, (3) agility and adaptability, (4) initiative and entrepreneurial spirit, (5) being able to communicate effectively both orally and in writing, (6) being able to access and analyze information, and (7) have curiosity and imagination.

It is well known that 21st century skills comprise skills, abilities, and learning dispositions that have been identified as being required for success in 21st century society and workplaces by educators, business leaders, academics, and governmental agencies. This is part of a growing international movement focusing on the skills required for students to master in preparation for success in a rapidly changing, digital society. Many of these skills are also associated with deeper learning, which is based on mastering skills such as analytic reasoning, complex problem solving, and teamwork. These skills differ from traditional academic skills in that they are not primarily content knowledge-based. During the latter decades of the 20th century and into the 21st century, society has undergone an accelerating pace of change in economy and technology. Its effects on the workplace, and thus on the demands on the educational system preparing students for the workforce, have been significant in several ways. Beginning in the 1980s, government, educators, and major employers issued a series of reports identifying key skills and implementation strategies to steer students and workers towards meeting the demands of the changing workplace and society.

The current workforce is significantly more likely to change career fields or jobs. Those in the Baby Boom generation entered the workforce with a goal of stability; subsequent generations are more concerned with finding happiness and fulfillment in their work lives. Young workers in North America are now likely to change jobs at a much higher rate than previously, as much as once every 4.4 years on average. With this employment mobility comes a demand for different

skills, ones that enable people to be flexible and adaptable in different roles or in different career fields.

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HOTS is a skill that must be honed through the "process" of daily learning in the classroom. Therefore, the Teaching Strategy that can develop HOTS is needed by the teacher. The development of HOTS cannot be "instant" but must be step by step from LOTS to MOTS and finally to HOTS. The education community needs to be aware that the development of HOTS through the learning process is far more effective than through the Seminar / Workshop "HOTS-Based Problem Preparation" which is currently widespread everywhere. The instant ways that are popular from the beginning until now have proven: The results obtained are really NOT COMPLETE to the costs, time and effort that has been made. The key: Growth Mindset believes that good results can only be obtained from a good process. The Minister of Education and Culture on various occasions has also asked teachers to develop HOTS-based learning as in the following link.

In classroom learning, HOTS can be developed through the process of "communication and collaboration" (2 of 4 21st Century Skills) both from teacher to student and from student to student. With the same material, learning can be changed from LOTS to HOTS, for which questions are needed that can guide the development of HOTS effectively, the complete list of which can be seen below. One of the main 21st century components that teachers want their students to use are higher-order thinking skills. This is when students use complex ways to think about what they are learning. Higher-order thinking takes thinking to a whole new level. Students using it are understanding higher levels rather than just memorizing math facts. They would have to understand the facts, infer them, and connect them to other concepts.

2. 21st Century Principal Leadership

Today's leaders continue to work in the face of change. In the challenges related to cultural diversity, technology, social trends, market forces, or continuous improvement efforts related to total quality management, change always exists. The leader must be a wise change manager and show a smart approach to leadership; in this case, leadership is the ability to overcome and manage change. This is coercion and the influence of one other will to achieve change through the implementation of vision and purpose. Leadership is the driving force behind an organization's ability to effectively implement, implement and manage change.

Leadership is the key to organizational change, continuous improvement, achievement, support, and long-term success. A leader can be an asset to a company by helping the company change, grow, and mature, or a leader can become a liability for the company to drain its resources and impose its ability to move forward.

In this 21st century, the world is busy talking about entering the revolutionary era 4.0 where the development of science

and technology automatically develops. So that life becomes unlimited because it is influenced by the development of the internet and digital technology that has spread widely. This also makes a special challenge for the community because in this era various human activities were replaced by mechanical technology including the fields of science and technology and higher education so that this era should have received a rapid response from the public so that Indonesia could have high competitiveness in the midst of global competition.

This 4.0 era is characterized by complex problems that will be faced by the world population. That is, all types of work in the world will be increasingly complex. This is caused by a combination of globalization with information technology, which has a very unexpected speed of development. To be able to take part in this era 4.0, of course, requires people who have more skills to deal with various complex problems. Among these skills are social skills. This type of work certainly cannot be replaced by computer or other technology. It is said that everyone is unique so he should be able to handle partners according to his uniqueness with the social skills he has. The resource capacity building program is carried out through education that provides skills in the field of education

In the field of education, this phenomenon is a challenge that can be said not only to focus on what is taught, but also the way of teaching in which education itself is based on the need to meet existing needs in the future. It has become a general consumption that education is now seen as a lifelong process not just as a stepping stone towards the professional world. Education 4.0 is considered as an opportunity for schools that are ready to foster the readiness of their students to enter a new phase of the education world that has changed so rapidly. Strategic steps that need to be prepared by the Ministry of Research, Technology and Higher Education in anticipating changes in the world that have now been dominated by digital devices.

Answering various educational challenges in the industrial evolution era 4.0 in the millennial generation, education must have characteristics that are oriented towards the performance of individuals by not only looking at cognitive aspects but psychomotor, and affective aspects. And this requires adequate facilities and infrastructure and support from the community. To face this era, intellectuals should have made a new literacy movement. The movement in question is a movement that focuses on digital, technological and human literacy. Because of that focus is the prediction of skills that will be needed in era 4.0. Digital literacy is literacy which aims to improve the ability to read, analyze, information in the digital world. Whereas technology literacy is literacy which provides an understanding of how machines work, and the application of technology. In contrast to human literacy which leads to an increase in communication skills or early social skills, it has been discussed.

Life in the 21st century, requires a variety of skills that must be mastered by a student, so education can be expected to prepare students to be able to master various skills. Students must master the four pillars of life that include learning to

know, learning to do, learning to be and learning to live together. These four principles each contain special skills that need to be empowered in learning activities, such as the so-called 4C, namely Communication, Collaboration, Critical Thinking and Problem Solving, and Creativity and Innovation, able to empower information literacy, and complete with HOTS (Higher Order Thinking skills). Achieving 21st century skills is done by updating the quality of learning, helping students develop participation, adjusting personalization of learning, emphasizing project / problem based learning. Learning that encourages collaboration and communication, increases student involvement and motivation, cultivates creativity and innovation in learning, uses appropriate learning tools, designs learning activities that are relevant to the real world, empowers meta-cognition, and develops student-centered learning so students are able to face learning challenges 4.0. Learning of the 21st century has the main principles of learning must be student-centered, collaborative, contextual, and integrated with the community. The role of the teacher in carrying out 21st century learning is very important in realizing a better future for the nation's children. At that time the teacher was also introduced to the Information and Communication Technology-Based Training Management Information System.

Principals in dimensions as educator leaders who communicate the vision of education mean their skills as educators are more important than their abilities as teachers. The head must have a knowledge base and expertise on how children should be educated. This is not the same as their ability to teach. As their head was asked to take an overview of everything that happened at school. They must be able to diagnose what is needed and ensure that they and their teacher deliver it. They need to follow the development of education and have ideas about innovations and useful improvements that can be introduced at the right stage. Even though other people in the school can contribute to this, and may be a source of ideas, the principal is expected to be a leading professional advisor to the governing body and able to offer good advice about the external requirements expected by the school to meet and about the priority that must be given to the improvements produced internally.

The principal in the management leadership (management) dimension means that it provides a professional base where a head manages the school. The principal needs to ensure that there are systems available for (1) curriculum development and monitoring (2) staff management, (3) financial management (4) external relations.

Principals in the relationship dimension mean that management and leadership depend on relationships with children, parents, staff and the government. There are also relationships with the community and others. The essence of many relationship problems is communication, both now and in the past. The need to explain and provide information is very important for good management. Where there is poor communication, people are left to make their own guesses about what happened and why. This can cause distrust and provide fertile breeding for those who have imagination. From time to time there will be differences of opinion that

arise from differences in values between deep individuals. Often the differences between these values are implicit rather than being made explicit. The real difference is about opinions and priorities, and there seems to be no respect for other people's perspectives. Relationships cannot be improved if respect, honesty and mutual trust are lacking. This is a difficult problem because there are at least two parties involved and both need to work together for good working relationships.

The principal in the leadership dimension means that there is reliable leadership quality. Leadership is only shown by followers, therefore, if the principal has little impact on staff and students, there will be no leadership. There are many forms of leadership than the heroic 'Arnold of Rugby' model but all must have effects that cause others to move forward and have confidence that the school is in good hands. Where there is an administrative system in place that works and routine aspects of management seem to be ongoing, failure to bring about improvements in schools must involve several leadership failures. This may be a failure to diagnose the need for movement or the inability to lead improvements. Leaders need to convince others about the importance of school work and help them recognize the value and meaning in their activities. He needs to recognize and share the need for change and improvement, and to convince others that he has a strategy for the future of the school. Good leaders delegate but the leadership of the entire school cannot be delegated, this is the duty of the principal. Leadership is a place where general aspects of leadership and professional skills from leading professionals unite. Formulating an educational vision and implementing it will be a key requirement. This is the essence of instructional leadership or curriculum. This would require utilizing organizational knowledge and education to appreciate how structural components, human relations, politics and culture can be applied to improve children's teaching and learning.

3. Principal Leadership based on Higher Order Thinking Skills

High order thinking skill (HOTS) occurs when a person retrieves new information and information stored in memory and interconnects or rearranges and expands this information to achieve goals or find possible answers in confusing situations. Higher level thinking according to Bloom's Taxonomy has 3 (three) realms of thinking that are part of the ability to have a high level of thinking, namely thinking analysis, thinking evaluation and thinking of creating. Thinking skills can be defined as thinking processes which are broken down in concrete steps which are then used as guidelines for thinking. High-level thinking is a cognitive operation that is much needed in thought processes that occur in short term memory. Literacy is needed by students in completing their daily lives. A person can be said to be able to solve a problem if he is able to examine a problem and be able to use his knowledge into new situations. This ability is also known as HOTS (High Order Thinking Skills) or high-level thinking skills.

School leaders (principals) in the context of high-level thinking in dealing with and leading and managing change will be discussed later. Principals with high-level thinking must try and be able to anticipate reactive actions towards changes from school members. The contingent leadership model provides an alternative approach to the imperfections of various types of leadership, recognizes the diverse nature of the school context and the advantages of adapting style leadership to certain situations, adopting the 'one size fits all' position.

This approach assumes that what is important is how leaders respond to unique organizational situations or problems ... there are broad variations in context for leadership and that, to be effective, this context requires different leadership responses ... individuals provide leadership, usually they who has a formal authority position, is able to master many leadership practices. Their influence will depend, in large measure, on such mastery. (Leithwood et al. 1999: 15). Yukl (2002: 234) adds that 'managerial work is too complex and unpredictable to rely on a series of standard responses to events. An effective leader is to continue reading the situation and evaluate how to adjust their behavior for that.

Leadership requires effective problem diagnosis, followed by adopting the most appropriate response to a problem or situation (Morgan, 1997). This reflexive approach is very important in the period of turbulence when leaders must be able to assess the situation carefully and react more precisely than relying on a standard leadership model.

Contingency leadership emphasizes for leaders to deal with all situations and dynamics of organizational change. Related to this, Gary Yukl (2002) argues that leading change is one of the most important and difficult leadership responsibilities. Some theorists reveal that leading change is the essence of leadership and the other is secondary.

Effective leadership is needed to revitalize the organization and facilitate adaptation to a changing environment. This subject became very relevant in the 1980s when many private sector and public organizations were faced with the need to change the way things were done to survive. Leading change is built on the previous line and provides a practitioner-oriented perspective on strategy, change-oriented leadership. Major changes in an organization are usually guided by a top management team, but each member of the organization can initiate change or contribute to its success. Against change, leaders can influence organizational culture, develop, vision, implement change and encourage learning and innovation.

Efforts to implement changes in organizations are more likely to succeed if a leader understands the reasons why people accept or reject change, sequential phases in the process of change, various types of changes, and the importance of using consent to understand organizational change.

Resistance to change is a common phenomenon for individuals and organizations. There are a number of different reasons why people reject major changes in or

organizations (Connor, 1995), and they are not mutually exclusive. Basically, employees do not reject changes, but they refuse to change. Connor in Yukl (2010) explains several things that cause rejection, namely:

- 1) Distrust of the person who proposed the change. This will have a big effect on other sources of rejection. A high-level school principal must be able to become a trigger for change and be able to ensure that he as a leader needs strong support from all school members. The principal must be able to show himself as a person who has integrity and assures school members with confidence - sure that with the support of teachers and staff and all school members will be able to hold and respond to any changes.
- 2) Trust that change is not needed. If people in the organization feel that the methods / methods they have used so far are good, then the plan for change will make them reject. High-school principals must try to convince all school members that this school must change and respond to any type of change. Changes cannot be avoided along with the development of science and knowledge today.
- 3) Trust that change cannot be made. The process of change that will be carried out requires great effort, so that radical changes can cause people to doubt the success of change. A high-level leader will try to convince all school members that the changes that will occur can be done with commitment, support. Good motivation and coherence from all school members.
- 4) Economic threats. Changes that will be made make employees feel threatened in terms of the economy, for example change can cause loss of income due to termination of employment (PHK) or replacement of people with information technology, so they lose their jobs. High school principals will try to ensure that the changes that occur will be economically positive for all school people.
- 5) Changes are usually high-cost. Although changes usually bring big profits to the company, the amount of costs that must be incurred by the company makes the company think more deeply before deciding to make changes. In this case, the company must compare the costs and benefits that might be obtained (cost and benefit analysis). A headmaster who thinks high-level will try to convince all school members that the changes that will occur economically will be efficient and establish partnerships with other parties in efforts to fulfill funds for change.
- 6) Fear of individual failure. If people in the organization are accustomed to using old methods / methods, the change plan makes them afraid, if they cannot use new methods / methods. Principals who think high-level will be able to convince all school members that in essence a development is a joint learning process, so mistakes that occur from individuals will be the responsibility of the team work.
- 7) Loss of status and power. Major changes in the organization can cause some people to feel threatened by losing power and status due to changes. High-level principals will try to convince all school people that the changes that will occur will further strengthen school

organization, strengthen relationships between departments or departments.

- 8) Threats to the values and ideals of the organization. The existence of change causes fears of the loss of organizational values that have been adopted by the organization. High-school principals will try to convince all school people that the changes that occur will develop the values and values of the school in a better direction.
- 9) Rejection of influence (Resentment of interference). There are some people who refuse to change because they don't want to be controlled by others. High-school principals will try to convince all school people that the changes that occur will make the school climate more flexible for individual supervision.

Resistance to change is not only the result of ignorance or inflexibility; this is a natural reaction by people who want to protect their self-interest and sense of self determination, rather than seeing resistance as just another obstacle to dough or avoiding, it is helpful to see it as energy that can be directed to improve change (Ford, Ford, & D'Amelio, 2008; Jick, 1993; Maurer, 1996). Active resistance shows the existence of strong values and emotions that can serve as a source of commitment to opponents who are converted to supporters.

Here are some guidelines that explain the best way to implement major changes in an organization (based on theory and research by Beer, J 988; Connor, 1995; Jick, 1993; Kotter, 1996; Nadler et al, 1995; Pettigrew & Whipp, 1991 ; Tichy & Devanna, 1986 in Yukl, 2010) (1)creating an urgent sense of the need for change, (2) communicate the clarity of the vision of the benefits that can be obtained, (3) identify people with very important support and resistance that might occur, (4) build a broad coalition to support change,(5) fill in key positions with competent change agents,(6) use the task force to guide the implementation of changes,(7)empower competent people to help plan and implement change, (8)make it dramatically with symbolic changes that affect work, (9) prepare people for change by explaining how it will affect them,(10) helping people deal with stress and difficulties with major changes, (11) provide opportunities for initial success to build trust (12) monitor progress of changes and make necessary adjustments, (13) keep recommending the progress of changes to people, and (14) demonstrate ongoing optimism and commitment to change.

4. Millennial Generation

When you hear the term "millennial generation" surely what will cross our mind is a group of responsible teens who always hold a smartphone in their hands. However, the true generation which is often referred to as Generation Y according to social researchers is grouped in the generation born between 1980-2000. So to say, the people who fall into this category are young people who are currently 15-34 years old. Studies of millennials continue to be carried out to understand their characteristics and behavior. The Pew Research Center also released a research report entitled Millennials: A Portrait of Generation Next which suggests

that generation, like people, has personality, and Millennials - teenagers have begun to forge them: confident, self-expressive, liberal, cheerful and open to change. They are more ethnically and racially diverse than older adults. They are less religious, less likely to serve in the military, and are on track to be the most educated generation in American history. Great recession, but they are more optimistic than their parents about their own economic future and about the whole country and nation. On the other hands, Gerry McGovern (2017) argues about millennials' attitude namely: (1) flexible and controlled. More than anything, the Millennials - those born from the early 1980s to the early 2000s - wants to control their lives, so the task of parents, principals and teachers is to build the tools that give them control. The Millennial is not just a generation. This is an attitude that reaches across generations. Millennials are poorer than their parents' generation. In the US, millennial wages actually fell in various industries between 2007 and 2013. This was especially true in retail and hospitality, where wages fell by an average of 10% and 16%, according to the US Census Population Survey, (2) Millennials are highly educated and have far better connections. They feel strong among themselves. They are less religious and marry later and have fewer children when they get married. They are as optimistic as the previous generation. They don't look up to brands or institutions or doll figures. The future, they know, they must build for themselves with their friends and colleagues. They know they have to control their own careers. That they must think independently. Lifetime work is a fairy tale for them. It's all about lifelong learning, moving, in control. They know that they live in a digital world that is impermanent and always changing, (3)the Millennium doesn't take or buy bullshit. Millennials value privacy and many of them see Edward Snowden as a hero, according to a 2015 poll by the American Civil Liberties Union. A 2014 poll by the Harvard Political Institute found that "millennial cynicism towards the political process was never higher. It's clear for some time now that young people are growing more disappointed and cut off from Washington, "said Harvard Institute of Politics Polling Director John Della Volpe. "There is an erosion of trust in individuals and institutions that make government work." The core message here is that customers have changed radically. We can't do the old model design that focuses on beautiful big images and visuals from actors who pretend to be customers, and emit content that talks about how concerned the organization is and how easily they make things for customers. There is no blind belief with Millennials. They will try and use the things you have designed, and if it is not fast and easy ... Next!, (4) Millennials want to do something for themselves because often when they interact with employees their organizations have to wait long, and often they don't even solve their problems, (5) Millennials "will not tolerate waiting in line, repeat their problems to five different people or be treated like a number," Joe Gagnon and Jason Dorsey stated in a 2015 survey of the Millennium. "Companies that do not adapt to risk obsolescence because this new generation is an economic power,(6)unfaithful generation. "Millennials are independent and dependent on technology, but don't have to understand technology, and they expect instant gratification," said Jason Dorsey, Chief Strategy Officer at the Center for Generational Kinetics. "They don't

just like speed and ease of use, they expect it." The Millennium is unfaithful. According to a 2014 survey of Millennials by Aspect Software, more than half dropped at least one brand in twelve Last lan because of poor customer service. A study by McCarthy found that 84% of them did not like advertising. A 2014 study of telecommunications providers found that Millennials were twice as likely to switch service providers as other groups. Not surprisingly, the Millennium is aware of the costs. They are "less interested in top brands and more about creating their own unique style," the Washington Post wrote in 2015. Millennials want to create a unique look and do it at a lower cost, (7)the Millennium is about finding rather than remembering. Their smartphone is their second brain, and their property is the most valuable and the Web is their memory. They search quickly and cruelly. The Millennium uses four different devices every day and checks their smartphones on average 43 times a day, according to research from SDL. For 9 out of 10 of them smartphones never leave their side. Nearly 80% of their telephone coverage is to fill pauses or gaps or moments of inactivity. Only 10% of those over 65 do the same, (8)the Millennium is about finding rather than remembering. Their smartphone is their second brain, and their property is the most valuable and the Web is their memory. They search quickly and cruelly. The Millennium uses four different devices every day and checks their smartphones on average 43 times a day, according to research from SDL. For 9 out of 10 of them smartphones never leave their side. Nearly 80% of their telephone coverage is to fill pauses or gaps or moments of inactivity. Only 10% of those over 65 do the same, (9) look for work life balance. Millennials are the least involved entities in the US workforce. Nearly 80 percent of the millennials surveyed are part of a double income couple where both work full time, "Brigid Schulte wrote for the Washington Post in 2015, citing reports from Ernst & Young. "The desire for flexibility or work life balance is the number one thing we hear all the time from candidates," said Heidi Parsont, who runs Torchlight, a recruitment company. "This is number one reason why people are looking for new jobs, so far. But the company still sees it as an exception. That's still not the norm. "A Pew Research Study reveals that of the last four generations, Millennials are the first to not put work ethics on their list that makes them unique. Not that the Millennials do not want to work. That's because they do not want to work only for someone who is not loyal. They wonder why they have to work hard and be loyal and obedient to organizations that do not show loyalty to them. They always ask "why" and they want feedback because they know they must continue to grow, keep learning, keep moving, stay connected. According to them, the use of their technology so far is the most significant thing that makes them unique. This Millennium attitude caused a revolution in the workplace.

Judging from work ethics, moral values and race relations, of the four generations namely gen xers, then boomers, then silents, then millenials (gen Y), the millennial generation is the only one who does not call "work ethos" one of the main claims they are against uniqueness. The national Pew Research Center survey taken in 2009 can help explain why. This one focuses on the differences between young and old

rather than between certain age groups. Nevertheless, the findings are instructive. This research finds older adults have an advantage in terms of their moral values and respect for others. Millennials may be a generation that is confident, but they show little desire to claim moral superiority. The 2009 survey also found that the public - young and old - considered the younger generation to be more tolerant of racism than their parents. More than two decades of the Pew Research survey confirmed that assessment. Millennials are the most open to change from any generation, closely followed by Gen Xers, then Boomers, then Silent. Based on the above criterion might be in Indonesia, the millennial generation can be characterized - characterized as,(1)psychologically, the millennial generation is a generation that is confident, expressive, millennial generation feels that their self-esteem is too high, but their personality is not mature, (2) Millennials have a low level of trust in information delivered conventionally,(3) Millennials are more dominant using social media for communication and information centers (4) Millennials have a low conventional reading interest, millennials are more interested in reading electronically on their gadgets or cellphones on their smartphones, laptops or computers. The information source for the millennial generation is located on their smartphone, (5) Millennials are very responsive and open to the development of science and technology (6). Millennials are more interested in instant ways to get things done, (7) Millennials are less interested in responding to the political dynamics that occur around them (8) On the other hand, the millennial generation experiences moral decline and social values, (9) Lazy, spoiled, selfish, and instant behavior is a number of negative attitudes inherent in the majority of millennial humans.

Based on those characteristics, it appears that the millennial generation with all its dynamics has advantages and disadvantages. With regard to its strengths, it is one of the school's responsibilities to prepare generations so that future generations of millennials will be generations that are able to adapt to changes and developments in science and technology positively. Whereas the shortcomings, especially in the aspects of moral and social values, are also one of the school's responsibilities to realize generations who are moral, have good character, are able to adapt to changes with good value stake it conventionally

5. Principal Leadership Management is based on Higher Order Thinking Skills to Improve the Quality of Education in the Millennial era

The discussion of principals' leadership management based on level thinking skills to improve the quality of education in the millennial era will explore 6 (six) aspects, namely aspects of moral leadership, aspects of leadership involving teachers, leading change, learning organizations, aspects of learning improvement and aspects of innovation. Brubaker and Colbe (2005) in Brent Davies (2005) explain that in discussing the components of moral culture using research by Josephson (1990) to describe the core values found by respondents desired by respondents from ethical leaders,

namely, (1)honesty - that co-workers can rely on what is said is the truth, (2)integrity - words and actions are harmonized, (3)Maintain Promises - the ability to fulfill what is approved, (4) Loyalty - to the organization where you work and the people you work with, (5) Justice - has the same expectations from all staff, (6)concern for others - in their work and personal lives, (7)respect others - respect their individual differences and differences, (8)comply with the law - operate in accountability and regulatory framework,(9)pursuing excellence - striving for high achievement by all staff and students, and (10)personal accountability - being responsible, acknowledging mistakes and sharing success.

It is possible that the success of efforts to change an organization depends on when, where, and how various aspects of change are implemented, and who participates in the process. Large scale changes in an organization may not be successful without the support of top management. However, contrary to common assumptions, change is not always initiated by top management, and they may not be involved until the process is underway (Beer, 1988; Belgard, Fisher & Rayner, 1988 in Yukl 2010).The major changes suggested by the lower level can be challenged by top managers who are very committed to the traditional approach and do not understand that the old ways of doing things are no longer appropriate. Instead of specifying detailed guidelines for change at all levels of the organization, it is far better to encourage middle and lower level managers to change their own units in ways that are consistent with their vision and strategy. Top management must provide the encouragement, support, and resources needed to facilitate change, but do not have to try to dictate details about how to do it (Yukl, 2010).

Successful implementation of changes in organizations requires a variety of leadership behaviors. Some behaviors involve political and administrative aspects, and others involve people's motivation, support, and guidance. Even people who initially support change will need support and assistance to maintain their enthusiasm and optimism. Big changes are dizzying and painful for people, especially when it involves a transition period of prolonged adjustment, disruption and dislocation. The following are some guidelines that explain the best way to implement major changes in an organization. The environment in the world of organization is very dynamic and competitive. Competition that occurs becomes very frequent and covers all fields in the organization. Increased growth in consumer expectations for products. Whereas only a little time is available to develop these products and services. Therefore, in order to survive in this environmental turmoil, companies need organs - people who can learn quickly and continue to develop. Organization learning involves the acquisition and use of new knowledge. Where new knowledge can be made internally or obtained from outside the organization (Nevis, DibelJa, & Gould, 1995 in Yukl 2010). Organizations must be able to create internally about knowledge - new knowledge and make external acquisitions of knowledge - new knowledge.

In an effort to create internally about new knowledge, organizations have formal subunits with primary responsibility for research and development of new

products and services, and some organizations also have subunits with the responsibility to continue to assess and improve the work process. These dedicated subunits can be an important source of innovation in organizations, but they are not the only internal source, many innovations are developed informally by employees outside of their routine work activities. Efforts to help employees find better ways to do work or make improvements in products usually only require a small investment of resources at the development stage. Many good ideas die before they have the opportunity to be tested, because the impossibility of getting their approval in an organization is taken into account in applying traditional methods, to facilitate the development and approval of innovation that requires sponsors who will feed these new ideas through long reviews and boring. Approval of processes in organizations is also important for reviewing and evaluating new ideas suggested by individual employees or teams.

6. Conclusion

Some things that can be concluded in writing this paper are as follows:

- a) The development of science and technology in the 21st century, together with the industrial revolution 4.0. in which the identity of the millennial generation is a challenge for education leaders (school principals) to respond to any changes so that the impact of these changes gives a positive value, both in the provision of educational services in schools and in student competencies or graduate competencies
- b) The principal must be able to integrate the needs, quality and profiles of 21st century leaders, including the principal must be able to respond and adapt to any changes
- c) High-level thinking which consists of analyzing, evaluating and creating is a level of thinking that must always be a guideline for principals in carrying out their leadership duties in the 21st century era in welcoming 4.0 education, especially in analyzing and responding to changes and trying to create a positive response so that the impact of these changes can bring a positive climate towards educational inputs, processes and products especially to create millennial generations that have competencies in attitudes and noble attitudes, sufficient knowledge and skills to deal with the dynamics of change that occur as a result of the development of science and technology
- d) The identity of the millennial generation in the 21st century has become one of the strategic issues that must be prepared in a planned manner, because in it there are identities which tend to show negative things, especially in attitude, ethics and moral aspects, so the moral leadership of the principal becoming one of the important things to always be strengthened, improved which is expected to create a climate of good example from the principal to teachers, students and all school members
- e) Management of principals' leadership based on high order thinking skills must be implemented in order to improve the quality of education in this millennial era.

7. Suggestion

The things that must be done by a school leader in implementing principal leadership management based on High Order Thinking Skills (HOTS) is to change the conventional mindset into a modern digital mindset based, prepare and always improve self-competence to respond to the development of science and technology, to role models in exemplary leadership, showing an optimistic attitude and never giving up on change and being a creative and reliable innovator leader, becoming a leader of change by making high order thinking skills a guide to thinking.

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