



## **Decision-Making Planning to Increase Teacher Creativity By SITOREM Techniques Analysis**

**Lisa Chandrasari Desianti.**

Candidate Doctor in Department of Education Management, Postgraduate  
Pakuan University. School,

Email: [chandrasari.lisa@gmail.com](mailto:chandrasari.lisa@gmail.com)

**Prof. Dr. Ing. Soewarto Hardhienata.**

Department of Education Management, Postgraduate School, Pakuan  
University,

Email: [soewartohardhienata@unpak.ac.id](mailto:soewartohardhienata@unpak.ac.id)

**Prof. Dr. Sri Setyaningsih.**

Department of Education Management, Postgraduate School, Pakuan  
University,

Email: [sri\\_setya@unpak.ac.id](mailto:sri_setya@unpak.ac.id)

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### **ABSTRACT**

SITOREM or Scientific Identification Theory for Conducting Operations Research on Education Management is a practical optimization technique used for making decisions on action plans in the field of education management considering that management resources are limited. This study aims to determine and organize ways into an action plan so that it becomes an optimal solution to increase teacher creativity. The SITOREM method is carried out by analyzing indicators that build creativity variables and the variables that influence them: information and communication technology (ICT) literacy, work involvement, personal knowledge management, and work motivation. The results of the study found 9 indicators that must be improved to increase teacher creativity. The optimal solution

that was decided on an action plan that began with improving the indicators of the personal knowledge management variable, followed by improving the indicators of the work motivation variable, and finally by improving the indicators of the information and communication technology (ICT) literacy variable.

*Keywords: teacher creativity, ICT literacy, work engagement, personal knowledge management, work motivation.*

### 1. INTRODUCTION

To spur increased competitiveness of Indonesian people in the future and to achieve the vision and mission of Indonesian education, namely to create a golden generation in 2045, the Minister of Education, Culture, Research and Technology issued a series of policy episodes in Merdeka Learning, including the Teacher Mobilization program. The Teacher Mobilization Program creates student-oriented learning leaders. Mobilizing Teachers are expected to be able to develop themselves by reflecting, sharing, and collaborating independently; have the moral, emotional, and spiritual maturity to behave according to the code of ethics; plan, execute, reflect on, and evaluate student-centered learning with the involvement of parents; collaborate with parents and the community to develop schools; as well as fostering student leadership (Indonesian Ministry of Education Culture Research Technology, 2021).

In the learning process, the driving teacher is expected to be able to provide lessons not only in one direction, but with a variety of fun activities that contain critical, collaborative, and creative reasoning competencies. The orientation of the driving teacher program is to increase the competence of teachers to become learning leaders, so that the role of the teacher as a facilitator and inspirer is truly realized in the learning process. Then the driving teacher is a solution to answer the global challenges of education that is able to create true learning leaders

so that it has an impact on student learning outcomes. To answer all these challenges teachers are required to work more creatively.

Teacher creativity is needed to implement 21st century learning strategies, where (1) student-centered learning, (2) develop student creativity, (3) create an interesting, fun, and meaningful atmosphere, (4) develop a variety of abilities that contain meaning and value, (5) learning through doing, namely active students doing, (6) emphasizing exploration, discovery, and creation, (7) creating learning through a contextual approach; differentiated learning, namely that teachers are expected to know the characteristics and abilities of each student so that the learning approach taken can be in accordance with student abilities (Hanover Research, 2019); and increasing students' 6C competencies, namely critical thinking and problem solving, creativity, communication skills, collaboratively, computational logic/thinking, and computing; compassion, a sense of empathy (Saputri, et al., 2019, Sugianto, et al., 2022, Inganah, et al, 2023).

This research is ending part of the research by Desiati, et al (2022) which was carried out empirically using a mixed-method sequential exploratory approach from the empirical findings of 11 informans (principal) and 205 respondent teachers from Bogor private high school. At the quantitative research stage, it was found that teacher creativity was positively influenced by ICT literacy skills, work engagement, personal knowledge management, and teacher work motivation. This follow-up study aims to determine and organize ways into an action plan to increase teacher creativity through strengthening ICT Literacy, work engagement, personal knowledge management, and teacher work motivation given the limited management resources available.

### 2. METHODOLOGY

Optimization in general can be interpreted as selecting the best solution from existing solutions in a system. Meanwhile, operations research is an interdisciplinary branch of applied mathematics and science that uses mathematical models, computer models, and/or statistical models to obtain the best solution for a system to be operated, taking into account the availability of resources and the restrictions/limitations that accompany them. (Hardhienata, 2017). This study began with exploratory research on the identification of problems and factors that influence teacher creativity (Desianti, et. al., 2022). From the exploratory research, 17 variables were obtained that influence teacher creativity, namely, (1) Adaptability, (2) Emotional Intelligence, (3) Information and Communication Technology Literacy, (4) Interpersonal Relations, (5) Increased Knowledge, (6) Organizational Commitment, (7) Organizational Climate, (8) Culture Organization, (9) Professional Commitment, (10) Personal Knowledge Management, (11) School/Foundation Policy, (12) Self-Efficacy, (13) Reward and Compensation, (14) Team Work, (15) Work Engagement, (16 ) Work Motivation, and (17) Job Satisfaction.. From the 17 variables found, 4 main variables were analyzed to be followed up in quantitative research, namely modeling and optimization. The 4 main variables is ICT Literacy, work engagement, personal knowledge management (PKM), and teacher work motivation. The following are all stages of this research as shown in Figure 1.

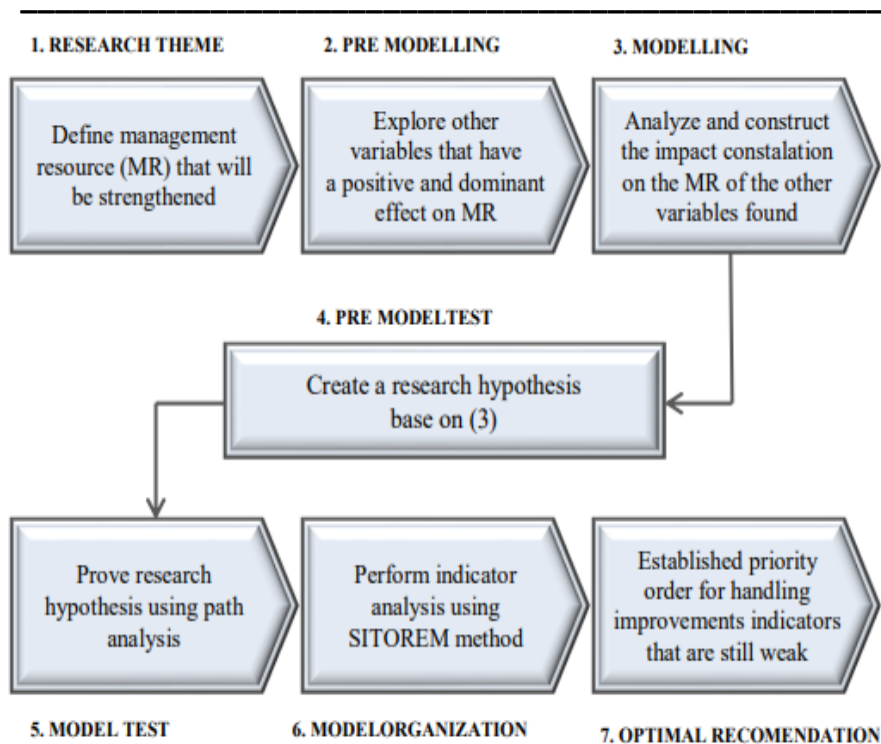


Figure 1. Stages in modeling and optimizing management resources

(Setyaningsih and Hardhienata, 2019)

This report is the final stage of the mixed method series above, which is to determine the optimal solution for increasing teacher creativity with the SITOREM technique. SITOREM or "Scientific Identification Theory to Conduct Operations Research in Education Management", is a scientific method that is generally used to identify variables (theory) to carry out "Operation Research" in the field of Education Management. The basic concept of optimization is to find the best solution among existing solutions to a problem. The best solution can be a maximum solution or a minimal solution depending on the research objectives. Operationally, this concept can be used as an approach to finding ways how organizational resources can be used in the most economical way. The optimization process starts

from the planning stage, which is a systematic process using design and criteria to enable researchers to find optimal solutions (Hardhienata, 2017).

SITOREM is a practical optimization technique that can be used in education management research. Often educational management research with a quantitative approach in a regression equation only aims to prove whether an independent variable affects increasing the dependent variable in a model constellation without proceeding with optimal steps involving research indicators to strengthen the construct variables studied. This technique is needed because improving weak indicators cannot be done all at once, priority steps are required considering the limited management resources.

In the SITOREM method, researchers can take advantage of the results of the regression equation test so that it is known which variable has the most significant influence on increasing the theme variable, as well as obtaining an assessment from experts in the field of the theme variable studied. Furthermore, by analyzing respondents' answers through research instruments, researchers can determine the characteristics of the ability or behavior of respondents to the construct variables studied. Are there indicators that are still weak that need to be repaired and improved, or are all the indicators strong enough to be maintained?

The SITOREM concept consists of an assessment process using several criteria to prioritize variable indicators from the highest to the lowest level. The criteria used are in terms of Cost, Benefit, Urgent, and Important (CBUI Criteria). This means that indicators that meet the criteria of Cost, Benefit, Urgent, and Important will receive high priority for optimization when implemented in an organizational environment (Sunaryo et al., 2021).

The SITOREM technique is a combination of regression equation analysis, scoring of the results of the respondents' answers, and assessing the weight of the CBUI criteria by experts. The following is a schematic of the stages of the SITOREM optimization technique as shown in Figure 2.

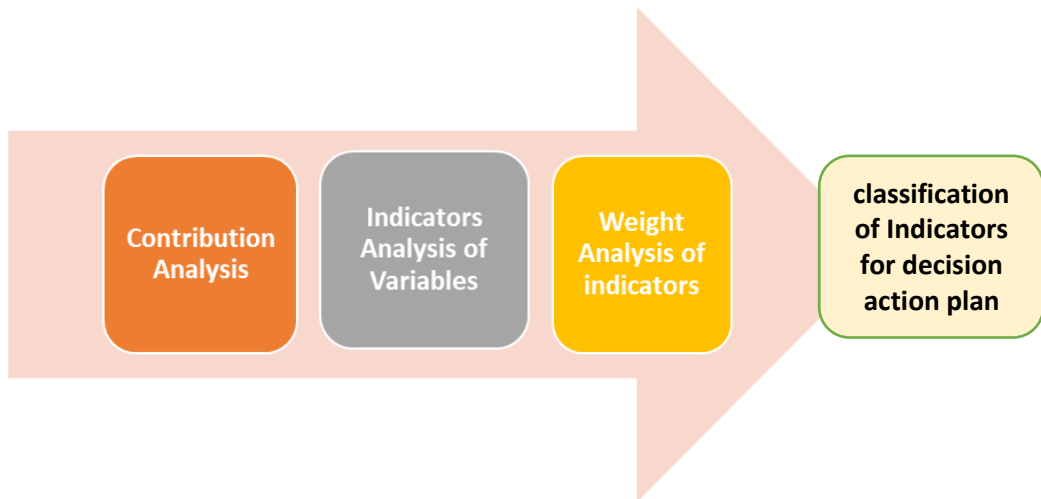


Figure 2. Stages of SITOREM technique

### 3. RESULT AND ANALYSIS

#### 3.1. Contribution Analysis

Analysis of the contribution of each independent variable to the dependent variable (teacher creativity) is carried out by looking at the value of the correlation coefficient and the coefficient of determination partially on each path to see the strength of the correlation of each variable; so that it can be determined which variable has the strongest contribution in increasing teacher creativity.

Table 1. Partial Analysis of Independent Variable Contribution

Correlation Path	Correlation Coefficient	Determination Coefficient	Percentage Contribution	Rank of Contribution
ICT literacy -> Creativity	0.169	0.028	2.8%	4
Work Engagement -> Creativity	0.569	0.324	32.3%	2
PKM-> Creativity	0.606	0.367	36.7%	1
Motivation -> Creativity	0.426	0.182	18.2%	3

Based on Table 1, the value of the correlation coefficient between each independent variable and the dependent variable (teacher creativity), it shows that personal knowledge management has the highest influence, followed by work engagement, work motivation, and ICT literacy. This shows that the priority for strengthening independent variables must start from strengthening personal knowledge management, then work engagement, work motivation, and ICT literacy if weak indicators are found to be repaired or enhanced. The way to find weak



indicators of each variable is to calculate the average score of the respondents.

### 3.2. Indicator Analysis of Research Variables.

Analysis of indicators of each research variable was obtained by calculating the average value of respondents' answer scores for each indicator of each independent variable and dependent variable. This is to get an idea of the actual condition of research indicators from the point of view of research subjects. Furthermore, based on the average score of respondents for each indicator, they are divided into two categories, namely (1) indicators that are still weak and need to be repaired for indicators that have a score value  $< 4.0$ , and (2) indicators that are already strong and are still maintained or developed for indicators that have a score  $> 4.0$ . shown in Table 2 as follows.

Table 2. Research Variable Indicator Score

Variables	No.	Indicators	Score Average
<b>Teacher Creativity</b>	1	Habit : independent behavior in solving problems.	4.4
	2	Interest: behavior in observing and interested in complex things.	4.1
	3	Openness: open behavior in accepting new ideas and ideas.	4.5
	4	Smart: act cleverly in looking for opportunities.	4.1
	5	Persistent: act persistently in trying	4.3

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	6	Originality: effort in developing something new and different	3.9
<hr/>			
<b>ICT Literacy</b>	7	Understanding of computers	4.1
	8	Ability to operate a computer	3.8
	9	Understanding of operational systems	4.0
	10	An understanding of computer application programs	4.2
	11	Knowledge of data communication	3.8
	12	The ability of users to access, store, process, utilize data and information	3.4
	13	Efficiency and usage capacity	4.4
	14	Effectiveness and sustainability of use.	2.9
<hr/>			
<b>Work Engagement</b>	15	Vigor: Passion for work	4.3
	16	Dedication: Dedication to employees	4.3
	17	Absorption: enjoy the work	4.3
	18	Passion: love of work	4.2
<hr/>			
<b>Personal Knowledge</b>	19	Knowledge acquisition	4.2
	20	Knowledge gathering	4.3

<b>Management</b>	21	Knowledge store	4.3
	22	Processing knowledge into new	4.3
	23	Utilization / application of knowledge	<b>3.8</b>
	24	Knowledge sharing and distribution	4.1
<b>Work Motivation</b>	25	Desire to act	4.4
	26	Commitment to work	4.3
	27	Compensation expectations	<b>3.7</b>
	28	Recognition of the results of work	<b>3.3</b>
	29	Purpose of work	<b>3.9</b>

Based on Table 2, it is obtained that 9 indicators have scores below 4.0 and 20 indicators have scores above 4.0. So it can be concluded from this research that there are 9 indicators that need to be improved, namely (1) Originality in developing something new and different; (2) Ability to operate a computer; (3) Knowledge of data communication; (4) User's ability to access, store, process, utilize data and information; (5) Effectiveness and sustainability of use; (6) Utilization/application of knowledge; (7) Expectations of compensation; (8) Recognition of work results; (9) Purpose of work; and the rest are indicators that can be maintained or developed.

### 3.3. Analysis of The Weights of Indicators.

Analysis of the weight of each indicator is calculated based on expert judgment. Expert judgment is needed to determine the priority handling of indicators regardless of the magnitude of the score of each respondent and the magnitude of the coefficient

correlation value between variables. This is necessary because in general the available management resources are limited.

The selected expert is a person who has educational competence (minimum Doctor) in the field of education management and has high experience in research development or research in the field of education management, teacher competence, and teacher performance including teacher creativity. This expert judgment is purely based on the "Cost, Benefit, Urgency and Importance" (CBUI) criteria for each indicator for the variable, which is as follows:

- 1) The "Cost" aspect, namely the effort, cost, time, or other resources required for that indicator. The higher the "cost" of an indicator, means the greater the role of the indicator in a variable.
- 2) The "Benefit" aspect, namely the contribution, benefit or usefulness given by the indicator to the variable. The higher the "benefit" of an indicator, means the greater the role of the indicator in a variable.
- 3) The "Urgency" aspect, namely how much the need, encouragement or pressure is from the indicator in a variable. The greater the "urgency" of an indicator, the greater the role of the indicator in a variable.
- 4) The "Importance" aspect, namely how important is an indicator in the variable to be measured or constructed. The higher the level of "importance" of an indicator, the greater the role of the indicator.

The following is a recapitulation of the assessment of the average weight of indicators by two experts on each research variable. The range of expert weight values is between 1 to 4 (from lowest until highest). A high expert weight value indicates that the indicator has an important level of urgency to be

corrected immediately if the indicator has an average score of respondents below 4.0. The following is a recapitulation of the expert's assessment of the CBUI criteria as shown in Table 3.

Table 3. Recapitulation of the Weighted Value of the Indicator by Experts

<b>Teacher Creativity</b>							
<b>No</b>	<b>Indicators</b>	<b>Cost</b>	<b>Benefit</b>	<b>Urgency</b>	<b>Importance</b>	<b>Total</b>	<b>Weight</b>
1	Habit	3.5	3.5	3.0	4.0	14.0	15%
2	Interest	4.0	4.0	3.5	3.5	15.0	16%
3	Openness	3.5	4.0	3.5	4.5	15.5	17%
4	Smart	4.0	4.5	4.0	5.0	17.5	<b>19%</b>
5	Persistent	3.5	4.0	4.0	4.0	15.5	17%
6	Originality	3.0	4.5	3.5	4.5	15.5	17%
<b>Total expert score</b>		<b>21.5</b>	<b>24.5</b>	<b>21.5</b>	<b>25.5</b>	<b>93.0</b>	<b>100%</b>
<b>ICT Literacy</b>							
1	Understanding of computers	3.0	4.0	3.5	4.5	15.0	13%
2	Ability to operate computer	4.0	4.0	3.5	4.5	16.0	<b>14%</b>
3	Understanding of operational	3.0	3.5	3.5	4.5	14.5	12%
4	Understanding of computer	4.0	3.5	4.0	4.0	15.5	13%

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	application programs	0					
5	Knowledge of data communication	4.0	4.0	3.5	3.5	15.0	13%
6	User Capability	3.5	4.0	4.0	4.5	16.0	14%
7	Efficiency and capacity usage	2.5	3.0	3.0	3.0	11.5	10%
8	Effectiveness and sustainability of use	3.5	3.5	3.0	3.0	13.0	11%
<b>Total expert score</b>		<b>27.5</b>	<b>29.5</b>	<b>28.0</b>	<b>31.5</b>	<b>116.5</b>	<b>100%</b>

### Work Engagement

1	Vigor	4.0	4.5	4.0	4.0	16.5	27%
2	Dedication	4.0	4.0	3.5	4.0	15.5	25%
3	Absorption	3.0	3.5	3.0	4.0	13.5	22%
4	Passion	3.0	4.0	4.0	4.5	15.5	25%

<b>Total expert score</b>		<b>14</b>	<b>16</b>	<b>14.5</b>	<b>16.5</b>	<b>61</b>	<b>100%</b>
<b>Personal Knowledge Management</b>							
1	Knowledge acquisition	3.5	4.0	3.5	4.5	15.5	16%
2	Knowledge gathering	3.5	4.0	3.5	3.5	14.5	15%
3	Knowledge storage	3.5	3.5	4.0	4.5	15.5	16%
4	Processing knowledge into new knowledge	3.5	4.5	3.5	5.0	16.5	17%
5	Utilization of knowledge	4.0	4.5	5.0	4.0	17.5	<b>19%</b>
6	Knowledge sharing and distribution	3.5	4.0	3.0	4.5	15.0	16%
<b>Total expert score</b>		<b>21.5</b>	<b>24.5</b>	<b>22.5</b>	<b>26</b>	<b>94.5</b>	<b>100%</b>

<b>Work Motivation</b>							
1	Desire to act	3.5	4.5	3.5	5.0	16.5	21%
2	Commitment to work	3.5	4.5	4.5	5.0	17.5	22%

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3	Expectations of compensation	3.0	3.0	4.0	4.5	14.5	18%
4	Recognition of work results	4.0	4.0	3.0	3.5	14.5	18%
5	Work goals	3.5	4.0	4.0	4.5	16.0	20%
<b>Total expert score</b>		<b>17.5</b>	<b>20.0</b>	<b>19.0</b>	<b>22.5</b>	<b>79.0</b>	<b>100%</b>

Based on table 4, shows that according to expert assessment, work engagement is the most important variable to pay attention to in increasing teacher creativity. The weight of CBUI's assessment on all work engagement indicators is above 20 percent. Furthermore, indicators of work goals, desire to act, and commitment to work motivation variables must also be a major concern considering that the CBUI weight is 20 percent and above. On the creativity variable, the smart indicator is the indicator that has the highest weight, then on the personal knowledge management variable, the utilization of knowledge indicator gets the main attention from experts, and on ICT literacy, the ability to operate and user capability gets the main consideration from experts.

### 3.4. Analysis of Indicator Classification Assignment

After obtaining the weight value from the expert for each indicator, then each indicator is classified according to the average score of the empirical data. If the average score is  $< 4.0$  then the indicator is included in the category of indicators that need to be repaired, whereas if the average score is  $> 4.0$  then the indicator is included in the category of indicators that are strong enough that it only needs to be maintained and developed. The



following is the classification of the indicator assessment of each variable.

Table 4. Determination of Indicator Classification Repaired and Maintained

<b>Teacher Creativity</b>				
<b>No</b>	<b>Indicators</b>	<b>Weight</b>	<b>Score</b>	<b>Decision Plan</b>
		<b>Ranking average</b>		
1	Smart	19%	4.1	Maintained or developed
2	Persistent	17%	4.3	Maintained or developed
3	Originality	<b>17%</b>	<b>3.9</b>	<b>Repaired Indicator</b>
4	Openness	17%	4.5	Maintained or developed
5	Interest	16%	4.1	Maintained or developed
6	Habit	15%	4.4	Maintained or developed
<b>ICT Literacy</b>				
1	Ability to operate	14%	4.2	Maintained or developed
2	User Capability	<b>14%</b>	<b>3.6</b>	<b>Repaired Indicator</b>
3	Understanding of computers	<b>13%</b>	<b>3.5</b>	<b>Repaired Indicator</b>

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4	Understanding of computer application programs	13%	4.4	Maintained or developed
5	Knowledge of data communication	<b>13%</b>	<b>3.8</b>	<b>Repaired Indicator</b>
6	Understanding of operational systems	12%	4.0	Maintained or developed
7	Effectiveness and sustainability of use	<b>11%</b>	<b>3.1</b>	<b>Repaired Indicator</b>
8	Efficiency and capacity usage	10%	4.6	Maintained or developed

### Work Engagement

1	Vigor	27%	4.3	Maintained or developed
2	Dedication	25%	4.3	Maintained or developed
3	Passion	25%	4.2	Maintained or developed
4	Absorption	22%	4.3	Maintained or developed

### Personal Knowledge Management

1	Utilization of knowledge	<b>19%</b>	<b>3.8</b>	<b>Repaired Indicator</b>
2	Processing knowledge into new knowledge	17%	4.3	Maintained or developed
3	Knowledge acquisition	16%	4.2	Maintained or

				developed
4	Knowledge storage	16%	4.3	Maintained or developed
5	Knowledge sharing and distribution	16%	4.1	Maintained or developed
6	Knowledge gathering	15%	4.3	Maintained or developed
<b>Work Motivation</b>				
1	Commitment to work	22%	4.3	Maintained or developed
2	Desire to act	21%	4.4	Maintained or developed
3	Work goals	<b>20%</b>	<b>3.9</b>	<b>Repaired Indicator</b>
4	Compensation expectations	<b>18%</b>	<b>3.7</b>	<b>Repaired Indicator</b>
5	Recognition of work results	<b>18%</b>	<b>3.3</b>	<b>Repaired Indicator</b>

Furthermore, for optimal solutions in increasing teacher creativity through strengthening ICT literacy, work engagement, management of personal knowledge, and work motivation, classification of indicators is carried out, namely weak indicators that must be repaired are indicators that have an average score of respondents  $< 4.0$  and indicators which is already strong which has an average score of respondents  $> 4.0$ . These indicators are sorted based on the variable that has the highest path correlation

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coefficient value and the indicator that has the highest CBUI weight value for each variable, as follows in Table 5.

Table 5. Optimal Solution Recapitulation by SITOREM

Variables	Priority number for Repair	Weak indicators that need to be fixed	No.	Strong indicator to Maintain or Develop
<b>Personal Knowledge Management</b>  $(r_{pkm} = 0.606)$	1 <sup>st</sup>	Utilization / application of knowledge	1	Knowledge acquisition
			2	Knowledge gathering
			3	Knowledge storage
			4	Knowledge processing become new knowledge
			5	Knowledge sharing and distribution
<b>Work Engagement</b> $(r_{wk} = 0.569)$		No indicators to repaired	6	Vigor: Passion for work
			7	Dedication: Dedication to employees
			8	Absorption: enjoy the work
			9	Passion: love of work

<b>Work Motivation</b>	2nd	Work goals	10	Desire to act
( $r_{wm} = 0.426$ )				
	3rd	Expectations of compensation	11	Commitment to work
	4th	Recognition of work results		
<b>ICT Literacy</b>	5 <sup>th</sup>	Users' capability to access, store, process, utilize data and information	12	Computer operating skills
( $r_{ict} = 0.169$ )				
	6 <sup>th</sup>	Understanding of computers	13	Understanding of operational systems
	7 <sup>th</sup>	Knowledge of data communication	14	Understanding of computer application programs
	8 <sup>th</sup>	Effectiveness and sustainability of use n	15	Efficiency and capacity usage
<b>Teacher Creativity</b>	9 <sup>th</sup>	Originality: develop something new and different.	16	Habit: Independent behavior in solving problems
			17	Interest: Behavior interested in complex things.

- 18 Openness : open behavior  
in accepting new ideas  
and concepts.
- 19 Smart : doing smart in  
search of opportunities.
- 20 Persistent : doing  
persistently  
  
in trying
- 

Optimization of increasing teacher creativity was obtained based on the results of the SITOREM analysis in the form of developing strategies and methods for increasing creativity which were carried out based on the priority of handling improvements to weak indicators. The priority for handling indicators for each variable is based on the weight of the indicators that have been assessed by experts. The indicator weight values are sorted from the highest to the lowest for each variable.

## 4. DISCUSSION

Creativity is a field of research that needs to be continuously developed in education, because creative teaching will have an impact on effective teaching and improving the quality of learning (Lawrence, 2016; Sawyer, 2011; Reilly et al., 2011; Rinkevich, 2011). Teacher creativity in teaching is useful for increasing students' interest in learning, arousing their curiosity, inspiring students to actively ask questions and give their opinions, and fostering a sense of love for the knowledge they are learning. Teacher creativity is needed starting from presenting learning with imaginative concepts, carrying out learning that stimulates original ideas and work, presenting various learning, and direct assessment of learning skills (Humaidi & Sain, 2020).

Various studies have shown that creativity begins with creative thoughts and when the teacher exemplifies a creative thought, it will encourage creative thinking in students (Lawrence, 2016; Nickerson, 2010; Horng et al., 2005). Furthermore, research proves that creativity can operate in conditions with various limitations and creative expression arises from experiences that are structured with uncertainty. (Beghetto, 2019; Kasirer & Meirovich, 2021). How challenging conditions serve as a support structure for creative thought and action in educational settings (eg. during a pandemic). The importance of teachers experimenting with getting out of conservative behavior and applying creative behavior continuously has an impact on creative teaching results and builds students' creative power (Leroy & Romero, 2021).

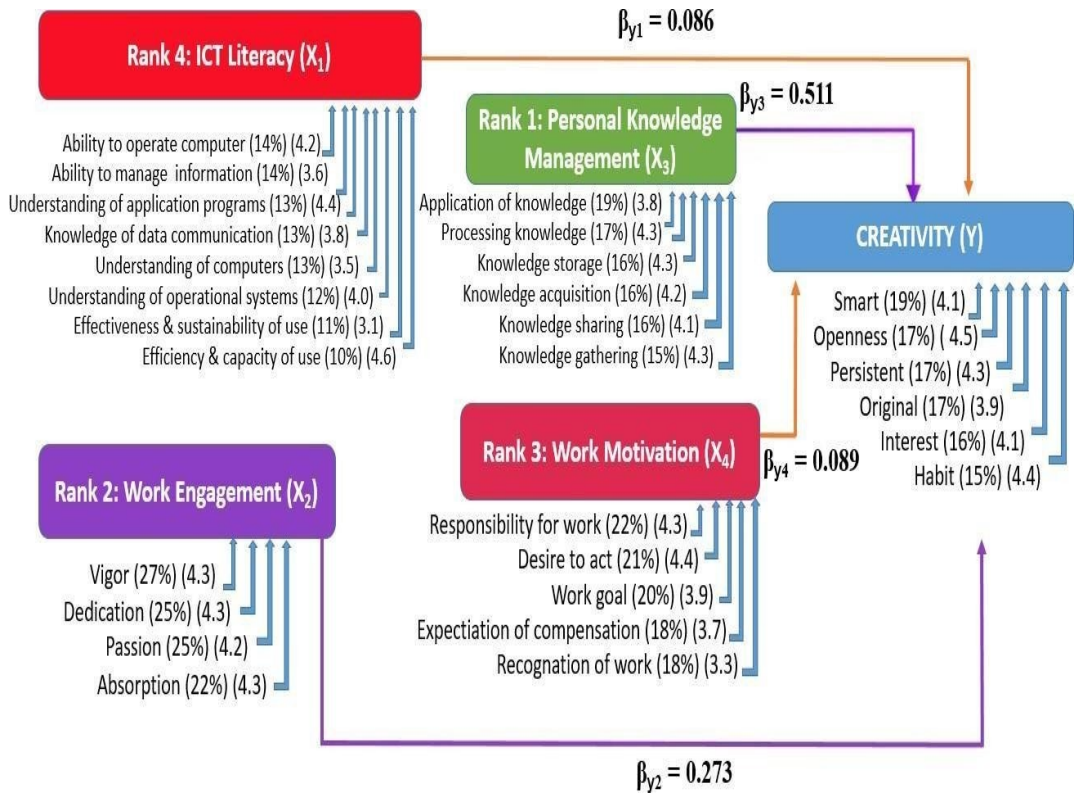
Creative teaching is an important component in nurturing teacher creativity (Grainer, Barnes & Scoffham, 2004; Beghetto & Kaufman, 2010; Cheng et al., 2010; Sternberg, 2015). Creativity and independent learning require critical abilities that are important to be fostered in formal educational settings (Morris, 2020). Elements of creativity can be developed in the dynamics of interaction between teachers and students when completing assignments in class (Kupers & Van Dijk, 2020). Different strategies were tested to encourage students to generate more ideas and ask questions related to idea generation. In the process, the teacher can provide support to students in three different ways, namely (1) by helping them find appropriate information, (2) the teacher directs the learning process, such as determining learning goals and means, and (3) the teacher is involved in the process of building and infers meaning (Morris, 2020).

The effectiveness of creativity itself is manifested in the novelty and shared benefits of a product or service that can be assessed and felt by other people (students) (Kinicki and Fugate, 2016). Meanwhile, creative thinking is produced by those who

are accustomed to creative behavior, such as being open to new experiences, tending to learn new things easily, having cognitive abilities, and thinking smart (Colquitt et al. 2019). Creative behavior (creating performance behavior) is strongly influenced by personality factors (personal factors) and environmental characteristics (Kinicki and Fugate, 2016).

Based on Table 5, shows the findings from the SITOREM technique in the form of optimal solutions to increase teacher creativity through strengthening personal knowledge management, work motivation, and ICT literacy variables, by improving weak indicators and prioritizing indicators that have the highest weight as initial solutions from follow-up plans to improve weak indicators. The optimal solution is obtained in the form of priority handling of weak indicators starting from the variable that has the largest regression coefficient (coefficient of determination) and the highest CBUI weight value. So it can be concluded that the priority for improving weak indicators starts from (1<sup>st</sup>) the Personal Knowledge Management variable, by improving indicators of Utilization/application of knowledge; (2<sup>nd</sup>) the Work Motivation variable, by improving the indicators: (a) work goals; (b) expectations of compensation; and (c) recognition of work results; (3<sup>rd</sup>) the ICT Literacy variable, by improving the indicators: (a) Users' capability to access, store, process, utilize data and information; (b) Understanding of computers; (c) Knowledge of data communication; and (d) Effectiveness and sustainability of use; and (4<sup>th</sup>) Creativity variable by improving the originality indicator, namely create or develop something new and different. The following is a recapitulation chart of indicator values based on the highest indicator weights for each variable presented in Figure 3.





**Figure 3. Chart of Sitorem Analysis Results**

The following is a way in the form of an action plan that schools can implement to create optimal solutions to increase teacher creativity based on the the SITOREM results.

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Table 6. Plan Action in the Strengthening way PKM variable, Work Motivation, and ICT Literacy to Increasing Teacher Creativity

No	Variable/Indicators	Plan Action
<b>A. Personal Knowledge Management</b>		<b>Strengthening way</b>
1 <sup>st</sup>	Utilization/application of knowledge	<p>Procurement of training and workshops for teachers in-house (inside the school) and ex-house (outside the school) which is carried out regularly, integrated, and comprehensively according to the needs of teachers.</p> <p>Periodically evaluate the development of teacher competence in managing knowledge that has been trained and taught on an ongoing basis (sustainable).</p> <p>Implementation of new knowledge through the development of best practices in schools in groups (teams of teachers of similar subjects) and individually.</p> <p>Developing personal knowledge management as a personal network or called personal knowledge network which emphasizes the knowledge ecology approach in each school area (Chatti, 2012).</p>
<b>B. Work Motivation</b>		<b>Strengthening way</b>
2 <sup>nd</sup>	Work goals	Strengthening the teacher's goals at work.

		The purpose of work is the teacher's intrinsic motivation that cannot be influenced by external factors. However, this can be corrected by educating teachers in understanding the meaning of life, the purpose of life, and the meaning of being a teacher.
3 <sup>rd</sup>	Expectations of compensation	Meet the expected compensation teacher.  This should be of concern to foundations and school leaders who have the authority to increase teacher compensation (salary) to foster teacher external motivation at work which has an impact on teacher creativity.
4 <sup>th</sup>	Recognition of work results	Give recognition of teacher performance from fellow teachers, leaders, and the community. This is the external motivation needed by the teacher. Therefore a planning program is needed to provide real recognition of teacher performance. Implementation of the program can be in the form of awards, career advancement, or the opportunity to attend school to a higher level of education.

<b>C. ICT Literacy</b>		<b>Strengthening way</b>
5 <sup>th</sup>	Users' capability to access, store, process, utilize data and information	Provision of ICT facilities in schools and support for internet facilities for teachers to practice at home;
6 <sup>th</sup>	Understanding of computers	Organize regular, integrated, and comprehensive in-house (inside the school) or ex-house (outside the school) training, and workshops tailored to the needs and developments of information and
7 <sup>th</sup>	Knowledge of data communication	

communication technology.

Integrate individual ambidexterity and dynamic abilities to develop individual digital transformation capabilities into the organizational level by balancing exploratory and exploitative learning in the context of digital transformation (Nikolina, et al., 2022)

Effectiveness and sustainability of use

8<sup>th</sup> Furthermore, an evaluation of the use of ICT Literacy is carried out in the learning process at school both individually and as teamwork.

<b>D. Teacher Creativity</b>		<b>Strengthening way</b>
9 <sup>th</sup>	Originality	<p>Creative skill training methods are needed in terms of appropriate instructional techniques and strategies to teach creative thinking. One method or technique that can be trained to improve the originality of teachers in their work is to use the SCAMPER method.</p> <p>SCAMPER stands for Substitute, that is, component, material, material, human; Combine, namely the process of mixing, combining, and unifying; Adapt, which is implemented by changing the function, using only a part, pairing or adding appropriate new elements; Magnify/Modify, namely modifying by looking for adding, reducing the scale, changing the shape; Put to other uses or add other uses; Eliminate, namely removing elements that are not suitable, reducing, or returning to their original function; Rearrange/Reverse, i.e. try to rearrange. This technique is an experimental</p>

activity that can be done repeatedly in stages. This will give maximum results if the teacher is good at getting feedback or feedback from students on the creation of teaching materials/simulation works/new teaching methods (Wu & Wu, 2020).

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The phenomena of the last 2 decades have shown the importance of knowledge and intangible resources as intellectual capital, increasing rapidly. Intellectual capital as an intangible factor has a dominant role and gradually replaces physical resources for organizational success. The results of empirical research prove that organizational leaders can find several directions that are useful for manage intellectual capital efficiently and recognize the linkage of knowledge resources and their importance to organizational reform (Radakovic, 2020). Likewise, this study proves the importance of managing personal knowledge as capital in school organizations that needs to be managed properly to increase teacher creativity.

## 5. CONCLUSION

The results showed that the variable personal knowledge management (PKM) was the variable that had the greatest influence on increasing teacher creativity, followed by work engagement, work motivation, and ICT literacy. Based on the indicatore analysis there are 9 indicators priority for improving weak indicators starts from (1<sup>st</sup>) utilization/application of knowledge; (2<sup>nd</sup>) work goals; (3<sup>rd</sup>) expectations of compensation; (4<sup>th</sup>) recognition of work results; (5<sup>th</sup>) users' capability to access, store, process, utilize data and information; (6<sup>th</sup>) understanding of computers; (7<sup>th</sup>) knowledge of data communication; (8<sup>th</sup>) effectiveness and sustainability of use; and (9<sup>th</sup>) the originality indicator.

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