

*Full Length Research Paper*

# **A model of continuing professional competency development by using ICT (study at senior high school teachers Padangsidimpuan, north sumatera)**

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Accepted 11 September, 2013

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**In order to solve the weakness of current status of high school teachers' professional competency in Padangsidimpuan the researcher purposed this study to implement A Model of Continuing Professional Competency Development by using Information Communication Technology (ICT). This study was conducted by using a Research and Development (R&D). Two high schools were used as pilot test to determine the effect of ICT on the professional competency development of the teachers. Findings show that: (1) there was no expert in Padangsidimpuan; lack of facilities and teaching equipment and insufficient skill in using ICT; (2) several efforts which had been conducted by the Local Department of Education such doing educational seminars; professional meeting among subject teachers (MGMP) and headmasters (MKKS); training writing scientific papers (KTI); and technical guidance (BIMTEK) were not maximized (3) the teachers were lack of motivation in using ICT; (4) the use of a model of continuing professional competency development by using ICT on the high school teachers can improve their professional competence; and (5) the implementation of a model of continuing professional competency development by using ICT in Padangsidimpuan indicated that they are strongly agreed and considered more effective, because it will be benefit to the advancement of senior high school education in Padangsidimpuan.**

**Key words:** *Professional Competence, Information Communication Technology (ICT).*

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## **INTRODUCTION**

This paper starts from a weakness of the professional competence of teachers, especially in the Teacher Competency Test (UKG). The evidence suggests that teachers in high schools in the Padangsidimpuan city that have been certified as 59.95% or 235 teachers of 387 teachers, means teachers who are considered as professional as much as 59%, but in reality when the Teacher Competency Test which followed by 226 participants only one person who is passed.

The low quality of education in Indonesia due to low qualification and competence of teachers, which tends unqualified, under qualified, and mismatch. Enactment of Teachers and Lecturers Number 14/2005 and the

Regulation of the Minister of Education number 11/2005 and also the National Standard of Education (SNP) require teachers must have Strata I (Graduate), make an emergency for teachers. Therefore, empowerment and development efforts to improve the qualifications and competence of teachers should be done on an ongoing basis. In addition, the implementation of decentralization and autonomy of education is heavy no exception for the Padangsidimpuan city that nearly 25% of teachers do not have Strata I (Graduate), and this issue becomes very complex when it comes to the professional competence of teachers. The question should be answered is how the actual qualifications and competence of teachers in

Padangsidempuan city and how its development efforts to address the Law on Teachers and Lecturers. The demands on teachers' competence continue to be done on an ongoing basis with the development of science and technology or information and communication technology (ICT). Teacher, who is one of the most important part of the learning process in schools actually require a variety of tools to optimize the use of ICT to support the required capabilities, especially in the ICT device operations. Various studies are showing that many teachers who still stutter in the use of computers in information access and utilization in the learning process.

The government of Padangsidempuan city has worked to increase the professionalism of teachers by improving the qualifications and requirements of higher education, particularly for Senior High School (SMA) in Padangsidempuan, every teachers who taught in high schools are required to have a minimum qualification of Strata I (Graduate), giving educational assistance to those who want to continue their education to a higher level, but apparently the result of the Local Government Padangsidempuan program is not satisfied.

This study is expected to answer the problem of low quality of teachers and the development of A Model of Continuing Professional Competency Development by using Information Communication Technology (ICT). This model will be an alternative answer to the demands of teachers' competence on an ongoing basis that continues to be done with the development of science and technology. Why should using ICT, because ICT in education is an obligation, like it or not ICT has flowed on every aspects of life. ICT has the potency for very large and function in improving the quality of education, it is also necessary for a cultural movement to benefit ICT for education.

The purpose of National Education is educating the nation and develop the whole person. Law of the Republic of Indonesia No. 20/2003 on National Education, being a teacher is an office professional educator. For the professionalism of the teachers are required to be developed in accordance with the changing times and science.

Teachers are often blamed for the poor quality of education, poor quality of education in terms (Slameto, 2011: 11): (1) the ability of students to absorb the subjects taught by the teachers were not optimal, (2) incomplete formation of character is reflected in the attitudes and life skills possessed by each students, and (3) lack of students' ability to read, write and count especially at the elementary level.

This is due to the diversity or lack of the teachers' ability in the learning process and the procurement of knowledge, the lack of accurate measurement tools and standards to determine the ability of teachers, the training did not yet reflect the developmental needs and welfare of teachers. One solution is the development of teachers' professionalism.

Being a teacher is a professional job, which requires a special expertise. Due to the special skills, teachers have a very important role in the strategic and learning activities, which will determine the quality of education in an educational unit. Therefore, the system of adult education and learning of teachers in the learning process cannot be replaced by any sophisticated tools or machines. Specialized expertise that is what distinguishes the teaching profession with other professions. Where "the principal difference between the teaching profession with other professions lies in its duties and responsibilities. Duties and responsibilities are closely related to the abilities required to assume that profession. Basic skill is the competence of teachers" (Saud, 2009: 44).

The responsibility and the roles of the teachers are heavy and complex, not as simple and easy as many people might imagine. Roles and responsibilities of teachers in any educational institution are not limited only to educate and teach the course. Not only in relation to the learning process of the students, but also in relation to social and national life.

In Law the Republic of Indonesia No. 14/2005 on Teachers and Lecturers, said that "Teachers are professional educators with the primary task of educating, teaching, guiding, directing, training, assessing, and evaluating students in early childhood education, formal education, primary education and secondary education". In the teacher's main tasks contained that the teacher in the learning process is planning and implementing the learning through teaching duties. Teachers provide assistance to students in solving his problems, personality development and values formation for students, the teacher's task is done by guiding, educating, directing and training. The results of the learning process that has been going on (implemented), known through the exercise of the teacher's task to assess and evaluate students.

In a broader scope, duties and responsibilities of teachers according to Peters are: "(a) the teacher as an instructor; (b) teacher as mentor; and (c) teacher as class administrator" (Sudjana, 2005: 15). Thus, the duties and responsibilities of teachers is not limited only to educate, teach, guide, direct, train, assess, and evaluate students, but more than that, the duties and responsibilities of administrators also involves classroom teachers. Duties and responsibilities of classroom teachers as administrators essentially a link between the administration and management of teaching field in general. Correspondingly, Saud (2009: 32-34) mentions about the duties and responsibilities of teachers are: "(1) teacher serve as an instructor; (2) teacher serve as mentors; (3) classroom teacher served as administrator; (4) teacher served as curriculum developer; (5) teacher assigned to develop the profession, and (6) teacher in charge build relationships with the community".

Teachers in their duties and responsibilities as

curriculum developers implies that teachers are required to always look for new ideas, improving educational practice, particularly in the teaching practice. Duties and responsibilities of teachers for professional development is basically a call for demands and always love, cherish, maintain and improve the duties and responsibilities of the profession (Uno, 2011: 18). In other words, teachers are required to always improve the knowledge, ability in the discharge of professional duties. Duties and responsibilities of teachers in developing relationships with the community means that teachers must be able to play putting the school as an integral part of the school community and society as a reformer.

Adam and Deckey proposed the role of the teacher in a wider context, including: (a) the teacher as the instructor; (b) the teacher as a mentor (teacher as counselor), (c) the teacher as scientist; and (d) the teacher as a person (Hamalik, 2003: 123). Further noted the role of the teacher, also include: (a) teacher as communicator; (b) the teacher as modernization; and (c) the teacher as a constructor (Hamalik, 2003: 123-127). Teachers through the duties and responsibilities as scientists have to develop the knowledge and nurture it constantly, along with the development of science and technology. The teacher as a person means it must have a good personality or morality (steady). Teachers also have an obligation to connect schools and society through their duties and responsibilities as a liaison. To counteract the negative effects of the influence of science and technology as well as other influences, the teacher is obliged to deliver the science and technology to students with good examples through his role as a reformer. The role of the teacher as a constructor implies that every teacher is obliged to engage in development activities in the surrounding community.

In addition, other responsibilities assumed by each teachers are: conducting research; live, practice, and securing Pancasila, and participate and assist the creation of national unity and world peace (Hamalik, 2003: 130 - 132). Responsibility of the teacher to do research can improve the way they work through the data collected continuously and intensively. Responsibility in living up to the teacher, practice, and securing the Pancasila, requires teachers to have a personality of Pancasila, and organized learning environment in a way that allows students to develop an attitude, character, morals and behavior of Pancasila. While the teacher's responsibility to participate and assist the creation of national unity and world peace, embodied intention that teachers cultivate and instill in the students to have a spirit of nationalism, and develop international awareness.

It can be concluded that the duties and responsibilities of teachers include: (1) planning and implementing learning activities; (2) assisting students in solving his problems, personality development and values formation for students; (3) implementing curriculum development in accordance with the development; (4) assessment and

evaluation to determine the results of the learning process is executed; and (5) carrying out the administration of all learning activities. To support the implementation of the duties and responsibilities, teachers are also required to perform other duties and responsibilities, which involves: (1) development of self-sustainable through professional development, such as conducting research in the field of education, training and other; (2) having personality or good manners, spirited Pancasila and nationalism, as well as having international awareness; and (3) active in civic activity in the surrounding environment.

Competence in the teaching was originally prepared or obtained through formal teacher education institutions, before somebody took duties and responsibilities as a teacher. To get the performance of duties and responsibilities in a professional manner, not enough armed with the skills acquired through formal education. Hamalik (2003: 123) presented that basically it's not a teacher education lasted only 3 or 5 years, but lasts a lifetime (life long teacher education). Education in 3 or 5 years was compulsory education experienced by a prospective teacher formally. While education after worked in the field of teaching, such as: self-study, followed refresher courses, conducting research, writing books, active in professional organizations, share responsibility in the community, watching movies, listening to radio, television, and etc. All events are worth to develop experience, knowledge, skills of teachers so that growing professional ability.

Thus called a professional, every teacher must conduct continuous competency development. As stated by Danim (2010: 3), that "to meet the professional criteria, teachers must undergo a process of professionalization or professional degrees continuously". The demands on an ongoing basis due to increased competence "because the substance assessment and learning context is always evolving and changing according to the dimensions of space and time" (Saud, 2009: 98). In addition, every teacher must develop competence continuously in the implementation of tasks and responsibilities in a professional, driven also by developments in society, the development of educational administration and curriculum changes. This is in line with what is proposed by the Saud (2009: 98) as follow:

*To improve the quality of education at this time, the professionalization of teachers (educators) is a must, especially when we look at the current objective conditions relating to matters that encountered in implementing education, such: (1) the development of science and technology, (2) global competition for graduate education, (3) autonomy, and (4) implementation unit level education curriculum (KTSP). It has long been growing public awareness that there is no teacher, no formal education. Has emerged the awareness that there is no quality education, without the*

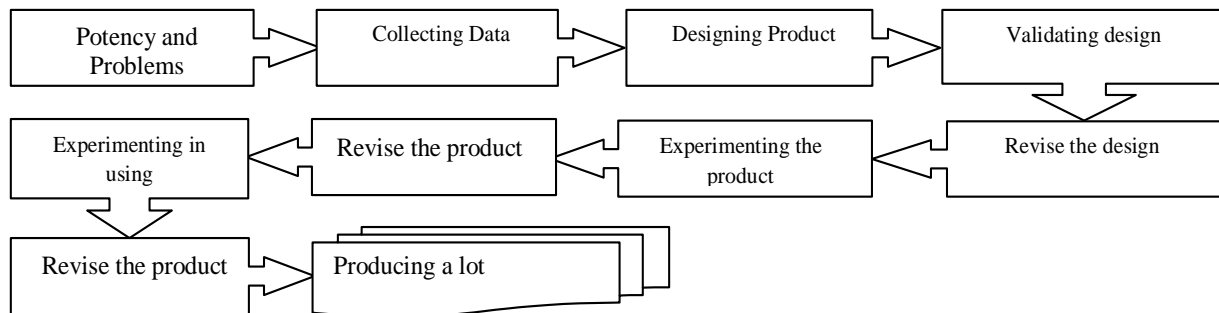


Figure 1. The Research and Development Steps based on Sugiyono's Model.

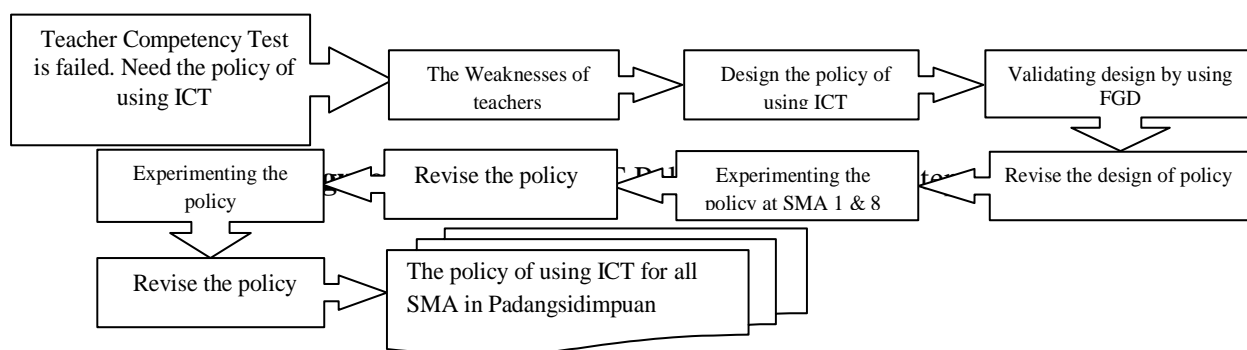


Figure 2. The Use of ICT Policy Development Steps.

presence of a professional teacher (Danim, 2011: 2).

Competence is an ability that absolutely must be owned by a person in any profession is practiced. Competence basically shows skill or ability to do the job (Saud, 2011: 44). It also cannot be separated in the teaching profession, in which the professional competence of teachers to carry out their duties and responsibilities well. Therefore, competence is something that cannot be separated from education and teaching activities in an educational unit.

Competencies required by each teacher based on Government Regulation No. 74/2008, "Teachers' competencies are pedagogic competence, personal competence, social competence, and professional competencies acquired through professional education".

Increased demands on teachers' competence continue to be done on an ongoing basis with the development of science and technology. Teacher who is one of the most important part of the learning process in schools actually require a variety of tools to optimize the use of ICT to support their skills needed especially in the ICT device operations. Various studies show are still many teachers who still stutter in the use of computers to access the information and its use in the learning process is also evidenced by the failure of the Teacher Competency Test

(UKG), particularly in Padangsidimpuan.

The teacher must encourage and support students in using ICT absolutely should be implemented. Therefore, the role of the teacher is needed for balance control and packaging of information that will be exposed and presented to students. Depart from it seems we have to remember a message of Prophet Muhammad SAW "teach your children according to their era and not your era".

**RESEARCH DESIGN**

This research belongs to Research and Development (R&D) and leads to the use of ICT policymaking. This method is used to develop and test certain products. The study was conducted in two stages, the first stage with qualitative method to obtain the product design and the second stage with quantitative method (experimental) was used to test the effectiveness of the product (Sugiyono, 2011: 494). The design followed sugiyono's model as shown in (Figure 1).

This study measures a model of continuing professional competence development by using ICT which is performed with the following stage (Figure 2).

This study starts from a weakness of the professional competence of teachers, especially in the Teacher Competency Test (UKG). The evidence suggests that teachers in high schools in the Padangsidimpuan city that have been certified as 59.95% or

235 teachers of 387 teachers, means teachers who are considered as professional as much as 59%, but in reality when the Teacher Competency Test which followed by 226 participants only one person who is passed.

The government of Padangsidempuan had worked to increase professionalism teachers by improving the qualifications and requirements of higher education, particularly for Senior High School (SMA) in Padangsidempuan, every teachers who taught in high schools are required to have a minimum qualification of Strata I (Graduate). Then the Local Government gave educational assistance to those who want to continue their education to a higher level, but the efforts of local government has not been able to improve the professional competence of teachers, it showed at UKG failure, because the teacher is still stuttering technology.

From the problems above there is the potency of using ICT policy as a solution to solve the problem of teachers' professional competency weaknesses in Padangsidempuan city. Then conducting the data collection related to the weakness of teachers.

Having found the data related to the weakness of teachers, then do the analysis which is used as the basis for designing the policy of continuing professional competency development by using ICT. Design activities using ICT policy adapted to the local budget Padangsidempuan city which were validated by a team of experts as well as a promoter and contributor (Prof. Dr. Rusdinal, M.Pd., Prof. Dr. Mukhaiyar, Prof. Dr. Gusril, M.Pd., Prof. Jalius Jama, M.Ed, Ph.D. and Prof. Dr. Sufyarma Marsidin, M.Pd.) through Focus Group Discussion.

Design a model of continuing professional competency development by using ICT is intended for teachers senior high school 01 and 08 which then progressed to all teachers in high schools Padangsidempuan city. In designing the model also made from the preparation, implementation, and evaluation, then conducted a revised and improved as needed.

The next activity is to test a model of continuing professional competency development by using ICT for teacher senior high school 01 and 08. After testing the model later was revised as needed. Then conducted trials using ICT usage policy. Then be revised again in the parts that need to be improved and perfected.

A model of continuing professional competency development by using ICT for teacher senior high school 01 and 08 was later developed into all teachers high schools in the Padangsidempuan city. In the development of programs, technical guidance (BIMTEK), Seminar, Workshop, ICT-based training.

## FINDING AND DISCUSSION

### **Current weakness Happens In Teachers' Professional Competency Development High School (SMA) Padangsidempuan City**

The findings indicate the field is necessary to build a policy of continuing professional competency development to develop professional competence of teachers Senior High School in Padangsidempuan. The findings concluded that the implementation of the policy of continuing professional competency development by using ICT for teachers senior high school in Padangsidempuan more effective in developing the professional competence of teachers. Then the steps to develop a model of continuing professional competence of teachers of high school (SMA) Padangsidempuan by using ICT which was originally intended only for SMA 1 and SMA 8 will be progressed for all teachers senior high schools in Padangsidempuan.

The findings about the professional competence of teachers are supported by the research conducted by Sahiddin (2012: 81) entitled *Improving Teachers' Competency of Mathematics Designing and Using Power Point Presentation Media through Sustainable Guidance*. His research stated that the competence of teachers of Mathematics in designing a power point presentation media before the implementation of continuing guidance at senior high school 8 Padangsidempuan less in the category with an average value of 61.25.

Weaknesses such as lack of expertise should be resolved by giving the budget to bring a speakers in order to provide training for teachers; then the lack of teachers who have academic qualifications S2 and S3 should be addressed by giving the opportunity to study; then the lack of facilities and infrastructure owned by the school addressed by allocating budget or find funds to the central and provincial governments for the construction and maintenance of school facilities; then the teachers who have not been able to operate the computer, and there are many who do not have a computer coped with the policy of continuing professional competency development by using ICT; and the teachers who are not trained to use the electronic media and laboratory, resolved by the training programs based on ICT.

Weakness that occurs in the development of professional competence of teachers of senior high school according to the researcher should be addressed immediately. Need for cooperation between government and teachers to improve the professional competence of teachers. The development of professional competence of teachers according to the researcher should be resolved by improving facilities such as a laptop or a computer, LCD, VCD and other media so that teachers can learn and use. Then immediately give an information and communication technology education for teachers to use the LCD as a medium of learning, using audio-visual (VCD), using blog and word press, open an email and presents the material in the form of power point.

One of the most immediate efforts is issued a policy of continuing professional competency development by using ICT. Then, provide training to utilize information and communication technology for teachers to use the LCD as a medium of learning, using audio-visual (VCD), using blog and word press, open an email and presents the material in the form of power point.

### **Efforts had done by the Government of Padangsidempuan in the Framework of Developing Teachers' Professional Competency At Senior High School Padangsidempuan**

Efforts that had done by the government of Padangsidempuan in order to develop professional competence of teachers of senior high school in Padangsidempuan is doing educational seminars, professional meeting among subject teachers (MGMP) and headmasters

(MKKS), training writing scientific papers (KTI) and technical guidance (BIMTEK).

Efforts had made the by the government of Padangsidempuan in order to develop professional competence of teachers such as educational seminars and training writing scientific papers in line with the Directorate General of Primary and Secondary Education Management (2005) which states by the development of information and communication technology now, the Indonesian government through the ministry of education and culture the ICT program is designed, developed and implemented in order to provide maximum benefit for all parties. Thus the responsibility of educational institutions (schools) in entering the era of globalization is preparing students to face all challenges are rapidly changing, the school must always be able to produce a superior human resources capable of competing in the global competition. Efforts had done by the government of Padangsidempuan in order to develop professional competence of teachers such as educational seminars and training writing scientific papers according to researcher is not maximized. Efforts must be made at this time, according to researcher is developing educational facilities such as internet networks in schools; increase synergy stakeholders to unite the perception of development finance education and other support agencies to encourage the creation of professional competence of teachers senior high school in Padangsidempuan; and develop a culture of innovation and creativity of teachers in Padangsidempuan through empowering computer media centers such as cafes.

### **Factors Hinder Efforts in Developing Teachers' Professional Competence of Senior High School in Padangsidempuan City**

Factors that hinder teachers' professional competence development efforts are the unavailability of facilities of development such as computers, internet facilities and other learning media. In addition there are inhibiting factors contained in the teachers themselves like no time, lack of motivation, and there is no interest in developing their professional competence.

Factors inhibit primarily the facilities for the low professional competence of teachers is supported by the research which was conducted by Nilmasda (2012: 76) entitled *The Influence of Media Learning VCD and Early Knowledge toward Science Learning Outcomes at Class V SDN 001 West Minas, Minas District* stated that the learning outcomes of students who are taught science by the VCD were higher than the students were taught by the conventional teaching. This shows that students who use VCD media in learning is better than learning by conventional methods, as well as the teachers also need the supporting facilities in the development of professional competence.

The finding also supported by the research conducted by Teemu Leinonen (2005) *History of ICT in Education and Where We Are Heading*. The research found that information communication and technology has enabled to accomplish the effective learning and fun. This shows that the facilities and infrastructure are very influential in developing the professional competence of teachers. In the field of education, information, communication and technology change the paradigm of delivering materials to learners. Computer or ICT is not only able to assist teachers in teaching, but has been able to be stand alone in facilitating the learning process.

Our analysis here in tune with the results of the research, the factors that hinder the development efforts of professional competence of teachers is not the availability of the facility of development such as computers, internet facilities and other learning media. Related to the terms, building the policy of continuing professional competency development by using ICT will be very useful for the development of professional competence of teachers in senior high schools in Padangsidempuan. Then, inhibiting factors contained in the teachers themselves like no time, lack of motivation, and there is no interest in developing their professional competence will be reduced when the results of the use of ICT policies provide satisfactory results.

### **Steps to Develop A Model of Continuing Professional Competency Development by Using ICT for Teachers Senior High School In Padangsidempuan.**

Steps to develop the professional competence of teachers of high school (SMA) in Padangsidempuan are done after looking at the data and information that there is a weakness that is currently happening in the development of professional competence of teachers of senior high school in Padangsidempuan. Then the efforts of the government of Padangsidempuan in order to develop professional competence of teachers of senior high school in Padangsidempuan is not maximized, and the persistence of the factors inhibiting teachers' professional competence development efforts primarily a learning tool, it gives birth to the use of ICT policies.

Step in the development of this study based on the model of Sugiyono (2012). Here are the steps in the development of this research as shown in Figure 3.

The finding supported by the research conducted by Maisondra (2012) *The Development Model of Human Resource Management in Training Agency of West Sumatra Province*. The study reported that human resource management model designed to meet the needs of supply-demand, where the needs of management training positions and lecturers should start from the needs. Requirement is based on an analysis of the position qualifications and competence elements as the basis of the fulfillment of those needs.

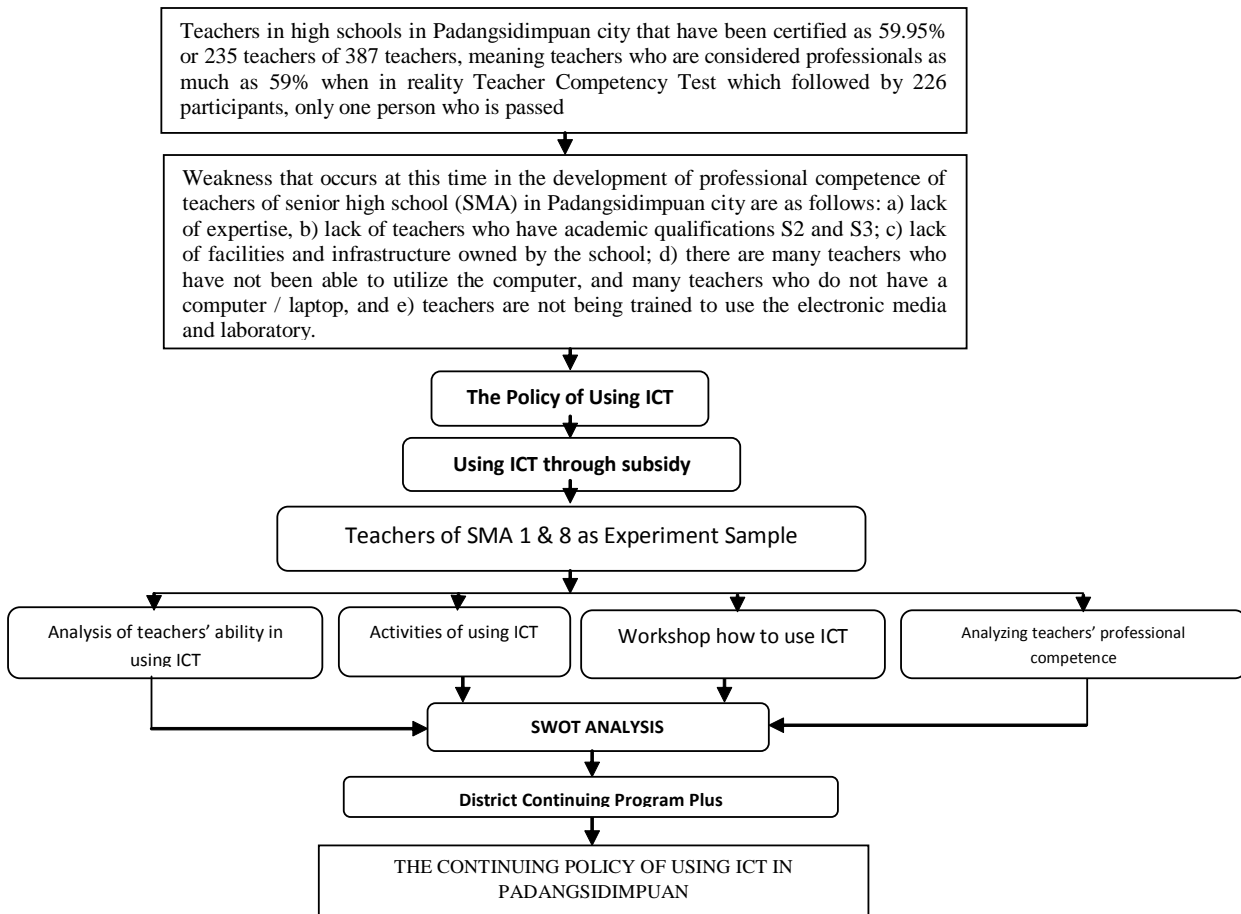


Figure 3. Steps in Using ICT Policy Development.

**A Model of Continuing Professional Competency Development by Using ICT for Teachers Senior High School in Padangsidempuan**

Implementation of the policy of continuing professional competency development by using ICT for teachers senior high school in Padangsidempuan showed that they are strongly agreed, as would be beneficial to the progress of the high school education in Padangsidempuan, as well as a proportionate measure because the teachers in high school in the Padangsidempuan competence will be increased as well as the use of ICT will be done.

**Policy Direction**

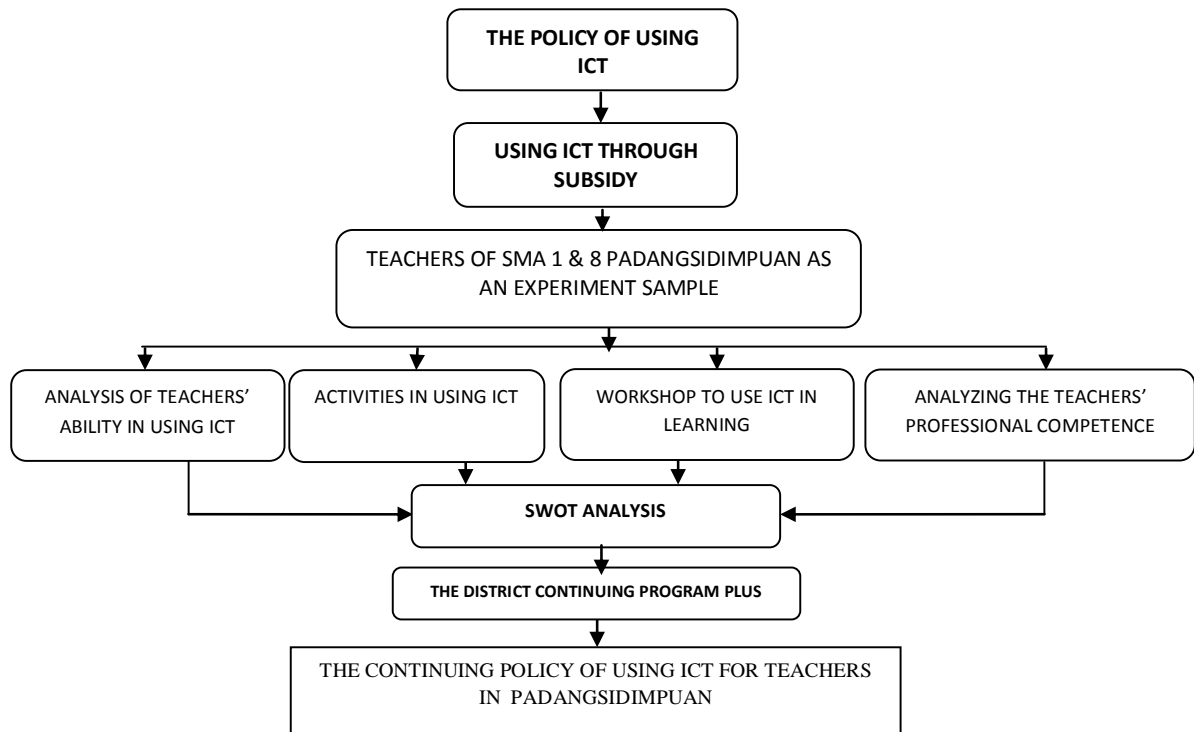
Policy towards continuing professional competency development by using ICT for teachers senior high school in Padangsidempuan are as follows.

a) Develop and implement professional management of State Senior High School teacher Padangsidempuan to increase the productivity and utilize the educational

resources that are responsive in supporting progress Padangsidempuan area;  
 b) Develop intermediary institutions that professionals to facilitate the process of transforming the ability of teachers to the professional teacher in Padangsidempuan;  
 c) Develop educational facilities such as the Internet in the school environment;  
 d) Enhance synergy stakeholders to unite the perception of development financing education and other support agencies to encourage the creation of professional competence of teachers in Padangsidempuan, and  
 e) Develop a culture of innovation and creativity of teachers in Padangsidempuan through empowering computer media centers such as cafes.

**Design A Model of Continuing Professional Competency Development by Using ICT**

Trial policy of continuing professional competency development by using ICT for teachers' senior high school in Padangsidempuan implemented in SMA 1 and SMA 8 Padangsidempuan (figure 4). Selecting test sites



**Figure 4.** A Model of Continuing Professional Competency Development by Using ICT for Teachers Senior High School in Padangsidimpuan.

was based a few things that SMA 1 Padangsidimpuan as favorite in the region Padangsidimpuan, including human resources, school facilities, geographical location of the school at the heart of the city, the average teacher is certified and quality education in Senior High School 1 is categorized either by alumni who entered the State University through students' achievement and selection through State College Entrance Examination. SMA 8 Padangsidimpuan is geographically located on the outskirts of the city, which is still less resources and fewer teachers who have been certified when compared with SMA 1.

Time implementation is in November 2012. This is due to using ICT subsidy funds are sourced from the Preparation Regional Budget Amendment (PAPBD) defined at the end of October 2012.

Implementation of the test, first make an agreement between the Regional Working Units (on education) Padangsidimpuan Regional Office of Education with teachers' subsidy recipients containing ICT usage rights are owned by the Local Government Padangsidimpuan (regional assets). Second, carry out workshops using ICT as a tool to improve the professional competence in accordance with their respective subjects. Workshop held for 10 days. Third, there is progress shown by the performance of the teacher in the learning activities after using ICT as a learning tool.

### **Evaluation of Policy**

The evaluation is done as a reflection on the use of ICT policy model. Evaluation is done by giving a questionnaire instrument to determine statistically the development and improvement of teachers' competence after using ICT. Then do a descriptive analysis of the questionnaire data that has been distributed to teachers, so it can be described professional competence development of teachers using ICT.

Through the application of ICT, teachers have been able to do a standard mapping ability students (SK) and basic competence (KD) for subjects which they teach. Teachers increasingly rapid identified difficult learning material, planning and implementation of learning and thinking about the necessary time allocation.

Teachers give appropriate recent information in the planning and implementation of learning. The arrangements of learning materials can be applied in the learning process based ICT which includes information quickly and accurately, and then assist students in understanding the concept of learning materials.

In addition, ICT has motivated teachers do archiving of learning materials well equipped with a good carrying capacity. Archiving learning materials accumulated by supporting materials so that the process of elaboration of the subject matter more deeply. Moreover, students can



**Table 1.** SWOT Analysis of Using ICT Policy Evaluation.

<b>PROGRAM</b>	<b>STRENGTH</b>	<b>WEAKNESS</b>
The policy of using ICT for teachers in SMA 1 and 8 Padangsidempuan	APBD Padangsidempuan and Teachers are certified	Teachers are not able to use ICT
<b>OPPORTUNITY</b>	<b>STRATEGY (S-O)</b>	<b>STRATEGY (W-O)</b>
Teachers who are certified higher. The government give support	Celebrating the training based on teachers' professional competence	Upgrading the commitment of teachers to teach professionally
<b>THREAT</b>	<b>STRATEGY (S-T)</b>	<b>STRATEGY (W-T)</b>
Development of ICT rapidly and the demand of output.	Improving the program based on the development of ICT.	Upgrading the commitment of government to follow and implement the development of ICT in learning activities

interact with teachers outside of formal learning, because teachers are encouraged to document the learning material through the WEB-owned schools.

Implications of teachers' motivation through self-evaluation is known specifically, complete and supported by self-experience. In unpretentious teacher assessing the learning process which is doing by himself, so that no special instruction through the school principal, teachers have done creations ICT based learning.

According to the assessment of colleagues, teachers who use computers in the learning process appreciated satisfactory, because teachers use computers more easily make a learning journal. So that the journals are made by teachers, teachers are more motivated to expand repertoire of learning materials through utilizing internet.

Assessment based colleagues; teachers were able to assess its performance computers, so it is easier to develop teachers' planning and implementation of future learning in a continuing professional development program (CLA) which leads to the follow-up.

The teachers are motivated to conduct scientific activities such as mini seminar with a friend. Each teacher seeks to actualize its capabilities through mini seminars without any difficulty. Thus, teachers can utilize ICT to communicate the subject matter accurate, rapid as one of continuing professional development efforts (PKB).

The description above is based on a SWOT analysis in Table 1.

**Reflection toward Policy:** 1). The policy of continuing professional competency development to develop professional competence of teachers' senior high school Padangsidempuan is good to develop and improve the quality of learning.

2). The policy of continuing professional competency development to develop professional competence of teachers' senior high school Padangsidempuan has measured the effectiveness and efficiency.

3). The policy of continuing professional competency development to develop professional competence of teachers' senior high school Padangsidempuan is one of the policies that respond and talk back science and technology development.

4). Policy development of continuing professional competency development to develop professional competence of teachers' senior high school Padangsidempuan can be used as government policy in Padangsidempuan.

5). The policy of continuing professional competency development to develop professional competence of teachers' senior high school Padangsidempuan can be used as an ongoing national policy.

### **Supporting Theory**

The findings on the implementation of the policy of continuing professional competency development to develop professional competence of teachers senior high school Padangsidempuan are considered more effective in developing teachers' professional competence in line with the study which is conducted by Zaidatun Tafsir (2012) in *The Turkish Online Journal of Educational Technology*, entitled *Relationship Between Teachers' ICT Competency, Confidence Level, and Satisfaction Toward ICT Training Programmes*. Tafsir research revealed that professional competence of teachers not only includes the ability teach students, but also the ability to manage information and environment (which includes a place to learn, methods, media, assessment systems, and facilities) to facilitate students' learning activities, so that it becomes easier. The study reported that there is a positive relationship between teachers' abilities and satisfaction with information and communication technology in learning activities. The discovery of teachers reported that the level of satisfaction towards information and communication technology in learning activities affect the

ability of the teacher.

The findings are also supported by the study which is conducted by Ginanjar Fajar Mukti (2012) *Effectiveness of Using Web-Based Learning Applications to Improve Student Learning Competence*, The Journal of Asynchronous Learning Network. Southwest Missouri State University. This research found that web-based learning application was effective to be used to improve student's competency who's studying Curriculum and Study lecture subject.

The findings are also supported by Me Virgoana, Pipih Dewi Purusitawati (1998) *Application and Utilisation The Technology Watch and Competitive Intelligence on Banking Sector*, The International Journal of Information Sciences for Decision Making, Volume 1 page 1. This research found that the method of monitoring technology on the banking sector can be used to anticipate problems that arise as a result of the competition faced by banks in business. The user of monitoring methods of banking technology can be used to monitor the emergence of new banking products, to monitor the development of new technologies that can be applied in the fields of banking, to get the client and the client's type of business that is expected to get the benefit. By the method of monitoring technology it is expected to solve the competition problems and can run their business more efficiently and effectively

The findings are also supported by Wegner B. Scott, Holloway C. Ken and Garton M. Edwin (1999) from Southwest Missouri State University by the title *The effects of Internet Based Instruction on Student Learning*, The Journal of Asynchronous Learning Network. The study reported that the effects of internet-based learning in students' learning have a very significant contribution of the four approaches why a student learn: 71% achievement orientation, 36% technology, 36% skill, and 21% comfort.

The findings are also supported by Smeets (1999) *The Impact of Information, Communication and Technology on the Teacher*. The study reported that there is influence of ICT on the professional development teacher. The use of ICT in relation to the professional development of teachers reached 66%, efficiency teachers' work up to 52%, motivate teachers 50%, learning preparation 41%, interaction with students 34%, overseeing students' achievement 30%, social relationships with students 26% and the workload of teachers 36%.

These findings proved that in achieving professional teachers, the role of ICT was considered quite large, and the use of ICT would be maximized when supported by the teachers' personality.

### **Analysis**

According to the researcher, the interaction with ICT can be done anytime and anywhere without being limited by

space and time. In addition, by using ICT, delivery process and the presentation of learning materials and ideas can become more interesting and fun. On the other hand, the presence of ICT as new technologies present challenges to teachers and lecturers to be able to master it in order to select and utilize ICT effectively and efficiently in the learning process management.

Teachers according to the researcher is central of the school, they are even more important. They are expected grow to teach and learn how to make students more active in learning (student center). Teachers are the most strategic component in the educational process. Many people have great hopes in the professionalism of teachers in improving the quality of education. The teachers have to teach according to the development of information and communication technology.

From the exposure findings and discussion above, it is clear that the policy of the use of ICT is very useful and can be used to develop the professional competence of teachers SMA 1 and SMA 8 Padangsidempuan. Especially when compared to the Teacher Competency Test results before and after ICT usage policies. Teacher competency test results independently after being given the opportunity of using and training ICT was increased and the average graduating satisfactory. From this data it is clear that the policy is excluded from the results of research conducted by Sarmadan Hasibuan is very useful for the development of teachers' professional competence in senior high school in Padangsidempuan city.

### **CONCLUSION**

Weakness that occurs at this time in the development of professional competence of teachers of senior high school (SMA) in Padangsidempuan are as follows: a) lack of expertise, b) lack of teachers who have academic qualifications S2 and S3; c) lack of facilities and infrastructure owned by the school; d) there were many teachers who had not been able to utilize the computer, and many teachers who do not have a computer/laptop, and e) teachers were not being trained to use the electronic media and laboratory.

1. Efforts had been done by the government of Padangsidempuan city in order to develop professional competence of teachers of senior high school (SMA) in Padangsidempuan is doing educational seminars, professional meeting among subject teachers (MGMP) and headmasters (MKKS); training writing scientific papers (KTI) and technical guidance (BIMTEK).
2. Factors that hinder efforts to develop professional competence of teachers of senior high school (SMA) Padangsidempuan is the unavailability of facilities or means of development such as computers, internet facilities and other learning media. In addition there are

inhibiting factors contained in the teachers themselves like no time, lack of motivation, and there is no interest in developing their professional competence.

3. The steps to develop a model of continuing professional competency development by using ICT intended for teachers senior high school 01 and 08 Padangsidempuan were done after looking at the data and information that there is a weakness that is currently happening in the development of professional competence of teachers of senior high school (SMA) in Padangsidempuan, then the efforts that have been made by the Government of Padangsidempuan in order to develop professional competence of teachers of senior high school (SMA) is not maximized, and the persistence of the factors inhibiting teachers' professional competence development efforts primarily a learning tool, it gives birth to the use of ICT policies. The ordinance applies to SMA 1 and SMA 8 in Padangsidempuan, then mass-produced for all senior high schools in Padangsidempuan city.

4. Implementation of the policy of continuing professional competency development by using ICT in Padangsidempuan indicated that they are strongly agreed and considered more effective, because it will be benefit to the advancement of senior high school education in Padangsidempuan.

## ACKNOWLEDGEMENT

This journal is written from the author at the graduate dissertation State of Padang University with the supervisor Prof. Dr. Mukhaiyar, Prof. Dr. Gusril, M.Pd., and Prof. Dr. Rusdinal, M.Pd.

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