

Analysis of the Need for Development of Information Literation Competency Teachers at the Vocational School, Padang City

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Through awareness of the challenges that already exist in the world of work through the 4.0 revolution, readiness for change will bring vocational education closer to the present and future conditions of employment in lifestyle changes, industrial changes, the labour market, and education. Educators must be able to respond to these changes; the role of delivering knowledge immediately changes to the role of a companion to discover and create through independent learning. The purpose of this study illustrates the needs analysis related to vocational teacher information literacy competencies. This type of research is descriptive; in this case needs' analysis needs to be done so that it can be seen as to what kind of development model will be designed to meet the needs of vocational teacher information literacy competencies. A sample is taken of 30 vocational school teachers in Padang City. Data collection techniques are through observation and questionnaires. Frequency data analysis technique is used. The results of data dissemination obtained the results of teacher knowledge about information literacy that is currently still relatively low; teachers have not provided learning material in accordance with DU / DI, and lack of link material with those in industry. Training related to information literacy competencies has never been obtained. From the data obtained it can be concluded that the needs analysis is carried out and that the competency of information literacy of vocational teachers is still relatively low.

Key words: *Need Analysis Information Literacy Competence.*

Preliminary

Anxiety in the world of education in Indonesia is strongly felt when the results of the Program for International Student Assessment (PISA) survey and the Trends in International Mathematics and Science Survey (TIMSS) show that from 1999 to 2015, the ranking of Indonesian students has not been able to occupy the top position (Facing, 2017). Teachers are an integral part of educational organisations in schools. An organisation, including an educational organisation in schools, needs to be developed as a learning organisation, in order to be able to face the changes and uncertainties that are characteristic of modern life. One of the main characteristics of a learning organisation is to always pay attention to internal and external changes followed by efforts to adjust itself in order to maintain its existence. The teacher has a very important role in the implementation of the learning process, because the teacher is a "key person" who deals directly with students in teaching and learning activities. The teacher must be able to create a conducive atmosphere so that students are willing to be fully involved in learning activities, so that learning objectives that have been set can be achieved effectively and efficiently. Competencies for all entry level employees must include the ability to: (i) acquire and use information, and (ii) work with a variety of technologies. This is information and technology literacy for all; information literacy (IL) is the set of skills and knowledge that allow us to find, evaluate, and use the information we need, as well as to filter out the information we don't know (Michael, 2008).

One very important aspect is one that must be done by the teacher. Based on these regulations, teachers must always develop professionalism in a sustainable manner. Robinson (2011) identified principal practices that shape teacher professional development experiences in schools as the highest impact path used by instructional leaders (Li, 2016). Considering the important role of the teacher in determining the success of learning, the teacher is required to have high performance, namely a set of work skills / teacher's performance in carrying out their duties, especially in carrying out activities related to the teaching and learning process in a professional manner in accordance with professional ethics teacher training. The era of the industrial revolution 4.0 is a formidable challenge for Indonesian teachers. Quoting Jack Ma in the 2018 World Economic Forum annual meeting, education is a big challenge this century. If we don't change the way we educate and teach, in the next 30 years we will experience great difficulties. Education and learning that are loaded with knowledge overriding the content of attitudes and skills as currently being implemented, will result in students who are unable to compete with machines. The dominance of knowledge in education and learning must be changed so that in the future young Indonesian children will be able to surpass machine intelligence while being able to be wise in using machines for benefit. Teachers are essential players in promoting quality education. Considering that education has become the engine room for modern economies and the teachers must have a deep foundation of factual and theoretical knowledge. The backbone for prosperity of any

nation is a massive drive on a global scale to upgrade the quality of education a nation provides to its citizens (Malik, 2013)

According to Kristiawan and Rahmat (2018) one of the efforts that can be done to improve teacher professionalism is to learn innovation. Learning innovations can improve previous learning in a better direction, give ideas to others about the application of innovation, and others can also try innovations that are made, and encourage them to continue to develop knowledge. Increasing the professional quality of teachers will improve the quality of education in both process and outcome. According to Irham and Wiyani (2013: 142) the main roles and functions of a teacher include the following: a) planner, namely as a planner, b) an organiser, namely as an implementer and manager, and c) evaluator, as an appraiser. The teacher has a very central role, both as planners, implementers, and evaluators of learning. Teachers are encouraged to have the sense of responsiveness and open-mindedness as well as to be reflective teachers. Some important characteristics to embrace comprise: professionalism as a lifelong learning, adaptive to the changing situations and responsive to the diverse students' characteristics (Lubis, 2018). It was concluded that in this case the teacher's ability to create quality learning is very important in determining the overall success of education.

The problem of teachers in Indonesia is either directly or indirectly related to the problem of inadequate professional quality of teachers, even though it is very clear that this will determine the quality of national education. As to the low quality of national education, one of the reasons is the low quality of teachers. Teachers' problems in Indonesia must be comprehensively resolved with regard to all related aspects, namely, welfare, qualifications, coaching, professional protection, and administration. The problem of improving teacher quality can not only be solved by providing adequate salary and welfare, but efforts to foster teacher competency also need to be done; this is very important because changes in science and technology are very fast, thus requiring teachers to continually "update" themselves so that they can follow or make technological engineering that is useful for the life of the wider community. In addition to teacher efforts to renew themselves, the government is obliged to develop teachers to have adequate (professional) competence. It is time we have some reliable teacher coaching that can anticipate future needs. In answering these questions, the best choice or priority is to innovate or update the education and training system for teachers.

Teachers who have competencies become the desire of every student and will result in high or low quality of education in the educational institution. However, the reality now, is that many teachers have not completed the various competencies required, so that the implementation of teaching and learning results in low quality education. Therefore, it is only natural that education currently faces quality issues. 2015 BPS data records several problems that must be resolved, namely: 1) only 22.3% of vocational school teachers teach according

to their field of competence (productive teachers); and 2) Vocational education (SMK) has not been linked-and-matched with DUDI. On the other hand, the enactment of Law Number 23 of 2014 raises several important issues, including the difficulty of getting competent teachers, especially those having competency of skills (Suharno, 2015). Based on the results of the teacher competency examination in 2015 the number of participants was 10,900 teachers; 42% of them scored below the specified standard, which is 55 and as many as 831 of them were vocational teachers (Farida Retno Wardhani 2017). Based on the above problems, it can be seen that Vocational School Teachers are the main elements that must receive attention to develop their competencies, because the availability of competent teachers can improve the quality and relevance of Vocational School graduates. In an effort to improve the competence of productive vocational teachers, the President has issued Presidential Instruction of the Republic of Indonesia Number 9 of 2016 concerning Revitalisation of Vocational High Schools in the framework of Improving the Quality and Competitiveness of Indonesian Human Resources. Through this, the Ministry of Education and Culture is instructed to increase the number and competence of Educators and Education Personnel (CAR) in SMK.

Several questionnaires were disseminated to 15 teachers about the trainings that have been followed, such as supervision, training, but in this case it is seen that 7 teachers stated that the training provided had not contributed much in increasing the competency of teachers, especially vocational teachers; 3 teachers stated that the training that was carried out was sometimes unsustainable so that the competence of teachers was difficult to improve; 2 people stated that the training that was carried out was just the basics in the training provided, so the application in the field was not well realised and 3 teachers stated that the training that was done needed to get attention and be adjusted with the current situation and technological development. The needs' analysis examines how the ability of vocational school teachers to apply information literacy will later be related to teacher competencies in delivering learning in class; productive teachers must be able to be technology literate and be able to apply from every aspect of change.

Research Methods

This type of research is descriptive research. This illustrates the analysis of the need to develop vocational teacher information literacy competency training models. The trial subjects were 30 vocational school teachers. The data in this study consisted of qualitative and quantitative. Quantitative data concerns the validation and implementation of the model. Initial qualitative data were collected using interview sheets and classroom observations. The interview covers 3 aspects of planning, conducting training and evaluating. Data were analysed descriptively by describing the results of the needs' analysis.

Research Results

The teacher has a very important role in learning, as students really need the role of a teacher to help them in the process of self-development and optimising the talents and abilities possessed by students. Students without a teacher will not be able to realise their life goals in an optimal way. Teacher professionalism is an important determinant in the pursuit of educational excellence. Academic qualifications, professional training, teaching experience and professional development, all affect teacher professionalism. The required model must be designed, based on the needs' analysis stage related to the learning process regarding information literacy competencies, that will be developed in the model book, references used as relevant references and preparation of module assessment instruments to assess the developed model. The results of the product design phase include (1) an introduction that explains the background of the problem, competency targets, learning objectives, module position map, and how to use the module; (2) learning activities 1 that describes the definition, benefits, criteria, weaknesses and characteristics of the model book to be developed which includes (a) learning objectives, (b) indicators of achievement of objectives, (c) material, (d) summaries, (e) practice questions, (f) feedback, and (g) answer key; (3) learning activities 2 outlining the principles of scientific writing which include (a) learning objectives, (b) indicators of goal attainment, (c) material, (d) summaries, (e) practice exercises, (f) feedback back, and (g) answer key; (4) learning activities 3 that describe the types of scientific papers which include (a) learning objectives, (b) indicators of goal achievement, (c) material, (d) summaries, (e) practice exercises, (f) feedback back, and (g) answer key; (5) learning activities 4 that describe techniques for writing scientific papers that include (a) learning objectives, (b) indicators of goal achievement, (c) material, (d) summaries, (e) practice questions, (f) feedback, and (g) the answer key (Nurrahmat, 2019).

There are several questions raised by teachers as participants and training providers in West Sumatra. The question raised is related to: First, the reason for the low competency of vocational teacher training that has been conducted so far is not sustainable so that the knowledge gained is complete at the training venue. Second, the learning methods and media used in coaching are less varied and are only limited to less applicable theories. Third, training materials that are relevant to the needs of vocational teachers. The results of interviews of several SMK teachers found that the cause did not carry out the results of the training in their respective assignments because the teacher did not understand the material theoretically and practically. The SMK teacher stated that the material received during the training was not fully understood, and there were doubts about practising it.

Table 1: The results of interviews of several SMK teachers found that the cause did not carry out the results of the training

Instrument	Result
The teacher did not understand the material theoretically and practically	25%
The SMK teacher stated that the material received during the training was not fully understood and there were doubts about practising it	20%
The material in the training had not been fully discussed, so it could not be carried out in their duties as supervisors	15%
There was no follow-up from the training providers that were ever followed. It is known that the program only helps participants to learn material at the venue.	15%

The experience of several vocational school teachers stated that sometimes the material in the training had not been fully discussed, so it could not be carried out in their duties as supervisors. There was no follow-up from the training providers that were ever followed. It is known that the program only helps participants to learn material at the venue. The training manager does not guide participants in implementing the results of the training in their respective assignments. The West Sumatra Provincial Office needs to take follow-up actions by providing participants with guidelines for implementing the results of the training. The learning method used in training is by lectures. This was confirmed by several speakers, they said the same thing. There are computer-assisted instructions while the participants are trained to make learning media. This training requires participants to produce media that can be used in learning. This was confirmed by one of the training providers. It aims to create a type of information-based learning media that can be used after training.

The material overlaps, repeatedly trained from year to year. This finding was confirmed by the training provider of the West Sumatra Provincial Office stating that training was sometimes not based on a needs' analysis. This statement is from the provincial government. This resulted in training not being captured by the participants' needs. The ability of the main speaker in learning and the ability of the instructor in mastering the material were also complained of by the participants. This is conveyed by the participant 'if the participant's question is very profound, the main speaker does not focus on answering the question, sometimes tells more about things other than the training material'. It was requested to the manager of the training activities, and he replied that for each training, the training organiser always provided an evaluation instrument for the main speaker to the trainees to assess the ability of the main speaker. The results of the analysis on the ability of the keynote speaker are known to be above 70. This score states that the ability of the keynote speaker is quite good. The results of the coaching identification can be concluded that 1) SMK teachers have not been able to carry out training results in their respective assignments because the training material has not been mastered theoretically and practically by the participants; 2) the

learning methods and media used are not attractive; 3) there is a mismatch between the training material and the needs of the supervisor; 4) there is a lack of ability of the main speaker in teaching trainees.

Teacher training and capacity building is important to improve organisational performance; other findings previously said that employee performance is an important factor to improve overall organisational performance (Qaiser Abbas and Sara Yaqoob). Work performance depends on many factors such as job satisfaction, knowledge and management, but there is a link between training and performance (Amisano, 2010). The competency of school supervisors in carrying out school supervision tasks is very important in improving the quality of education implementation in schools. These supervisors' competencies must of course be built through the accuracy of the program developed by school supervisors through the needs assessment process and the results of previous monitoring analysis, program planning, program implementation, and accurate evaluation procedures. Supervisory competencies also need to be supported by adequate facilities and infrastructure. Specific training on information literacy competencies has never been obtained, so use in the field is very difficult to do; creative teachers in the application of information literacy are relatively difficult. Most teachers, especially vocational teachers, are already in the comfort zone so that to make a change is very difficult to do.

A professional teacher is required to fulfill a number of minimum requirements. These criteria include having adequate professional education qualifications, having scientific competence in accordance with their field of expertise, having good communication skills with their students, having a creative and productive spirit, having a work ethic and high commitment to their profession, and always continuing to develop themselves continuously - continuous improvement through professional organisations, the internet, books, seminars and the like (McLaughlin, 2006).

Difficulties in identifying sources of information create a tendency to guess the existence of these sources; this is experienced by informant B. Similarly, experienced by students according to informant I. The teacher only uses books to meet his/her information needs. Their knowledge of other sources of information, especially reference books, is still lacking. Information literacy is intended as a liberal art, in order to know how to use computers, access information and think critically in their information, technological infrastructure in social contests, culture, philosophical contexts and their impact (Riche Cynthia Johan, 2012). The results of data dissemination obtained the results of teacher knowledge about information literacy is currently still relatively low; teachers have not provided learning material in accordance with DU / DI, lack of link / matc material with those in industry; training related to information literacy competencies has never been obtained. From the data obtained it can



be concluded that the needs' analysis is carried out, so that the competency of information literacy of vocational teachers is still relatively low.

Information literacy is the ability possessed by someone in searching, finding, analysing, evaluating, and communicating information that functions in the fulfillment of information needs that will solve various problems. Information literacy is also supported by the role of libraries to introduce the term information literacy and obtain information literacy capabilities. Mastery of information technology will also greatly facilitate a person to have information literacy. Therefore information literacy is a process lifelong learning that will be a provision for someone in finding information not only in education. Information literacy will make it easier for a person to study independently wherever and with various information. Apart from that, by having information literacy students are able to think critically and logically and do not easily believe in the information obtained so that it is necessary to evaluate first.

Understanding information literacy informants can be known from their opinions about the concept of information literacy that is applied by mastering and being able to convey information literacy material. For this reason, researchers ask general questions about how informants understand information literacy. Effective instructors can understand the subject or the content of what will be conveyed (Webb & Powis, 2004, p. 6). Therefore the librarian as an instructor before delivering information literacy material, needs to understand the concept of information literacy. Information literacy is a set of abilities needed by individuals to recognise when information is needed and has the ability to find, evaluate and effectively use the information used.

The ability to identify potential sources that can meet information needs is one of the skills in information literacy. Individuals know how information is obtained, how to access it, how its format is, and when it is used (Armstrong, 2004, p. 4). Informants E and J said to get the information needed, they had to understand the topic so they could identify potential sources of information. Furthermore, informants E and K said that sources of information could be obtained, among others, in the library or the internet. Informant L added that apart from the library and the internet, sources of information can also be obtained from people who are competent in certain fields. Informants G, J, and K added that the format of the information source can be in the form of books, journals or online sources. One example, as stated by Armstrong (2004, p. 5), is that journal articles can be available in printed, electronic or available in a database of full-texted articles.

According to the standard, it requires the ability to implement search strategies in a variety of information retrieval systems using different user tools and search engines, with different command languages, protocols and search parameters. Teacher professionalism development

is based on the needs of educational institutions, teacher groups, and individual teachers themselves. Teachers must always develop themselves continuously through professional organisations, the internet, books, seminars and the like (Kelchtermans, 2013). Professional competence can be obtained through professional education (Kristiawan, et al, 2017) and understanding computer-assisted instruction (Kristiawan, 2014). Menurut Rice (2015); diversity in education calls for increased awareness of individuals using a relational stance. As teacher education moves online, there is an increasing need for teacher educators who subscribe to relational stances that attend to and enact liberating pedagogies for professional development. When someone finds information that is deemed able to meet their needs, he/she will store it in various formats so that it can be used and create a system of his/her own to organise information. After the information is obtained from various sources, an evaluation is carried out to find out whether the information really suits the needs. Evaluating information is an important part that must be done critically. One indicator in the standard is to follow laws, regulations, institutional policies and ethics related to how to access and use information sources. Individuals who are information literate will state the source of information used in their work and use it appropriately.

Conclusion

Based on the results of the study, vocational teachers did not implement the final training results in their respective assignments; they did not understand the material theoretically and practically. There was no follow-up from the training organiser led by the West Sumatra Provincial Office. The learning methods used in training are only lectures. The material overlaps, repeatedly trained from year to year. Therefore the development of competency-based training models for primary school supervisors must be applied. To access the information needed, a strategy that is suitable with the source must be used, so that the best results are obtained from that source. Information literate individuals will also understand the purpose of the search. Information can be obtained by looking at, observing, and researching information sources. This is a picture of the ability to find the right source effectively and be able to find out relevant information (Armstrong, 2004, p. 5). Performance indicators for this competency, revealed in this study include: the ability to select information retrieval systems, the ability to use search strategies and the ability to find and store information used.

REFERENCES

- Agus, S. (2007). Model-model Pembelajaran Efektif, Modul Disampaikan Pada Pendidikan dan Pelatihan Propesi Guru. Rayon 7 Universitas Lampung Bandar Lampung.
- Arif, R. (2009). *Memahami Pendidikan dan Ilmu Pendidikan*. Yogyakarta: LaksBang Mediatama.
- Armstrong, M. (2004). *Performance Management*. Tugu. Jogjakarta. Ciptomulyono,
- Dacie, L. (2010). Practical haematology. 9 th ed. Churchill Livingtone. 391-413.
- Djamarah, S.B. (2000). Guru dan Anak Didik dalam Interaksi Edukatif. Jakarta: Rineka Cipta.
- Dobbs, L. (2002). Human development: Children, youth, and adult maltreatment on human development. California social Work Educaation Center, University of California, Berkeley
- Eripidawati, D. (2017). Need analysis of developing competency based training model for primary school supervisors. *International Conference on Indonesian Islam, Education and Science (ICIIES) 2017*.
- Ibda, H. (2018). Penguatan Literasi Baru pada Guru Madrasah Ibtidaiyah dalam Menjawab Tantangan Era Revolusi Industri 4.0. *Journal of Research and Thought of Islamic Education*, Vol. 1, No. 1. pp. 1-6 Diakses pada 6 Maret 2019. (<http://jurnaliainpontianak.or.id/index.php/jrtie/article/download/1064/534>).
- Kristiawan, M. & Rahmat, N. (2018). Peningkatan profesionalisme guru melalui inovasi pembelajaran. *Jurnal Iqra' : Kajian Ilmu Pendidikan*, Vol. 3, No. 2. pp. 373 - 390.
- Kristiawan, M. (2014). A model for upgrading the teacher competence on operating computer as assistant of instruction. *Global Jurnal of Human Social Science Research*, Vol. 14. No. 5, Version I.
- Kristiawan, M., Safitri, D. & Lestari, R. (2017). *Manajemen pendidikan*, deepublish. Yogyakarta.
- Malik, R. S. (2013). Strengthening education to generate educational graduates (Teacher Preparation And Certification In Australia). *International Journal of Education*, Vol. 7, No. 1, pp. 43-58.

- Mclaughlin, D. (2006). Who is to retrain the teacher trainers? A papua new guinea case-study. *Teaching and Teacher Education*, Vol. 12, No. 3, pp. 285- 301.
- Muhibbin, S. (2000). Psikologi pendidikan dengan pendekatan baru. Bandung: Remaja Rosdakarya.
- Musfah, J. (2011). *Peningkatan kompetensi guru*. Jakarta: Kencana.
- Mustari, M. (2014). *Nilai karakter refleksi untuk pendidikan*. Jakarta: PT RajaGrafindo Persada.
- Noe, R. A. John, R. H., Barry, G. and Patrick, M. W. (2005). Human resource management: Gaining and competitive advantage. Fourth Edition. USA : McGraw-Hill.
- Nurfadhilah, I. (2015). Hubungan kecerdasan emosional dan keterampilan interpersonal dengan interaksi sosial di sekolah pada siswa kelas XI SMK Negeri 1 Seyegan. *E-Journal Bimbingan dan Konseling*, Vol. 4, No. 12.
- Riche, C.J. (2012). Analisis kebutuhan pelatihan untuk memenuhi kompetensi literasi informasi pengelola perpustakaan sekolah. *EduLib*, Vol. 2, No. 2.
- Rivai, V. (2011). *Manajemen sumber daya manusia untuk perusahaan dari teori dan prakti*. Jakarta: PT. Raja Grafindo Persada.
- Robertson, I. T., Birch, A. J. & Cooper, C. L. (2012). Job and work attitudes, engagement and employee performance: Where does psychological wellbeing fit in? *Leadership & Organization Development Journal*, Vol. 33, No. 3, pp. 224-232.
- Saepudin, A. D. (2009). *Gemar belajar matematika: Untuk kelas V SD/MI*. Jakarta: Pusat Perbukuan, Departemen Sanjaya, W. (2009). *Kurikulum dan Pembelajaran*. Jakarta: Prenada Media Group.
- Santoso, S. (2010). *Teori-teori Psikologi Sosial*, Bandung: Refika Aditama.
- Slamet. (2010). *Belajar dan Fakto-Faktor yang Mempengaruhi*. Jakarta: Rineka. Cipta.
- Subadi, T. (2010). *Lesson Study Berbasis PTK*. Surakarta.
- Suharno Pawirosumarto, P. K. (2017). The effect of work environment, leadership style and organizational culture towards job satisfaction and its impication towards employee performance in parador hotels and resorst Indonesia. *International Journal of Law and Management*, Vol. 59, No. 6, pp. 1337-1358.
- Thoha, M. (2002). *Kepemimpinan Dalam Manajemen*, edisi 1, PT RajaGrafindo.



Ye-weon, J. D. (2017). Developing the competencies of vocational teachers in the age of 4th industrial revolution, the 13th AASVET annual conference 22 Oktober 2017, Seoul.