



Guidance and Counseling Teachers' Competency Perspective in the Era of Industrial Revolution 4.0

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Abstract

This study discusses the competencies that must be owned by guidance and counselling teachers in schools in this era of industrial revolution 4.0. A guidance and counselling teacher is trained in higher education to fulfil four competencies and make them integrated. The competencies are 1) pedagogical competency, 2) professional competency, 3) social competency, and 4) personality competency. In this era of industrial revolution 4.0, guidance and counselling teachers need a change of perspective in giving service to students in order to be able to have higher competitiveness and competencies. BK teachers are also expected to be able to balance the development of students in the millennial era with a more efficient, effective, and flexible approach. Therefore, guidance and counselling teachers need to develop four additional competencies namely; 1) critical competency, 2) creative competency, 3) communicative competency, and 4) collaborative competency. The development of these competencies is obtained through lecture activities, seminars, training/courses, and other relevant development activities.

Keywords: *guidance and counselling teacher, teacher competences, industry 4.0*

Introduction

The development of information technology is very fast and offers a lot of convenience to people in obtaining information. In the era of this 4.0 industrial revolution, fulfilment of needs, in the form of information, is so easy with the presence of the internet, which provides a transfer of information in a rapid way (Riyanto, 2011). As we know that the development of joint technology demands a shift from a conventional learning paradigm towards a technology-based learning paradigm. In addition, superior learning requires professional teachers.

Meanwhile, the teachers who come from the pre-digital era have found difficulties in establishing effective communication with children or students from the digital age. Habits and the way they learn are certainly very different from habits and how teachers and parents learnt in the past. This often makes both parties, students on the one hand and the teachers and parents on the other hand, became frustrated at the lack of good understanding between pupils and teachers.

In the process of teaching and learning, teachers not only act as a conveyer of science, but also are responsible for the development of the personality of the learners. According to (Ahmadi, 2010), teachers should create learning processes in such a way so it can stimulate the students to learn effectively and dynamically to meet and achieve the goals expected. With the progress achieved in the field of science and technology, it will further trigger changes that occur in various fields of human life and have an impact on the shifting cultural values and religion in the life of each individual.

These challenges that should be anticipated as early as possible so that the challenges that exist will not be threats but rather promising opportunities. Teachers should keep going on learning and being creative to make the students passionate in the learning process. Teachers can apply information technology in a fun and creative way.



In facing all of the developments that exist in the era of the 4.0 industrial revolution, a strategy is needed to increase the professionalism of teachers so that they are able to act in a professional manner when faced by the global challenges in education (Lince, 2016).

According to Bates in (Miarso, 2011), it is stated that the technology can improve the quality and range of outcomes when it used wisely for education. To achieve the ideal learning goals and directions in the achievement of the professionalism of teachers, facilities and support is also obliged to be a major concern of the government. With the demand of achieving professionalism, teachers must open up to the challenges of globalization. According to (Munir, 2010), globalization is the justification for the transformation of education and learning. Teachers should be more flexible, work harder and develop technological skills so that education can contribute more on productivity to achieve competitiveness.

At school, we know currently that professional teachers are required to master the field of science respectively. There are teachers of subjects, teachers of vocations and practices, and guidance and counselling teachers. Each teacher has a role and responsibility. In relation to this study, the author focuses on the role of guidance and counselling teachers, in Indonesia. It is believed that Guidance and Counselling teachers' profession is closely associated with the development of students. Students are currently faced with various challenges in the digital era. Therefore, it is expected that the role of guidance and counselling teachers' should be adaptive to meet students' modern needs. Conversely, guidance and counselling teachers are expected to offer comprehensive, well-balanced, developmental, evidence-base school counselling programs that target social and emotional supportive services, educational and academic planning, and vocational education, for all students (Martin and Carey, 2012). School counsellors serve in multiple, and often demanding, educational and counselling roles. In addition, school counsellors are asked to further the academic and educational missions of the school, seek teacher and administrator feedback to achieve an integrated comprehensive guidance program, and act in a

proactive manner that will enhance collaboration among all facets of the school and community (Dodson, 2009).

Keeping these functions in mind, one can see how critical it is for school counsellors to develop particular skills in order to provide services, to promote a strong professional identity, and to obtain regular supervision and consultation (McMahon et al., 2009).

Based on the background above, the problems can be formulated as follows; 1) how are the challenges that are being faced by guidance and counselling teachers on the 4.0 industrial era; 2) what are the roles of guidance and counselling teachers on the 4.0 industrial era 4.0; and 3) what are the strategies to increase the competency of guidance and counselling teachers in the 4.0 industrial era.

Based on the formulation of the problem above, the purpose of the writing of this study is 1) to know the challenges faced by guidance and counselling teachers in the 4.0 industrial era; 2) to know the role of guidance and counselling teachers in the 4.0 industrial era; 3) to know the strategies in increasing the competency of guidance and counselling teachers in the 4.0 industrial era.

The benefits expected from this research is to provide knowledge to teachers, and prospective teachers' of guidance and counselling, about how to improve competency in the era of the 4.0 industrial revolution. In addition, it is expected that we will train teachers who are adaptive, competent, and have basic skills as well as being able to utilize digital technology in developing the potential of students.



Teachers' challenges in facing the 4.0 industrial era

This 4.0 industrial revolution brings changes from traditional life towards modern life, in which there are no restrictions on various life factors, such as; territorial boundaries, geographical, social, cultural, economic, and other aspects that are affected by advances in communication media. The essence of the 4.0 industrial age lies in the internet of things and the internet of services. This means that the 4.0 industrial era increases the connections between man and man and things and man.

The 4.0 industry revolution began in the year of 2014. The emergence of the 4.0 industry indirectly has an impact on the world of education. In this case, it is related to the fulfilment of needs and information disclosure as well as the development of the career or profession. For example, in Indonesia there is already a platform named "Ruang Guru". The existence of this platform changes the students' needs. In the beginning, tutoring would be initially carried out face to face, but these days the students can learn anytime and anywhere. The emergence of innovations in education will certainly will become a challenge in the future for the teachers, especially guidance and counselling teachers. It is crucial that teacher adapt in order to remain able to develop their potential in accordance with the ever changing needs of students.

A major challenge in the emergence of 4.0 industry is that it will bring many changes to the structure, the model and the type of work required. It will result in many jobs being diminished and erased. Gerd Leonhard estimates that, globally, the era of digitalization will eliminate approximately 1 – 1.5 million types of work throughout 2015-2025; positions will be replaced with automatic machine. The United States Department of Labor estimated that 65% of elementary school students will work on jobs that do not even exist yet.

In the context of education, the challenge is not only threatening the existence of the teacher but also in the relationship of teachers facing the new generation (Generation Y and generation Z) with their respective characteristics. The teachers nowadays, for example, will face

students who have owned gadgets and smart devices since they were babies. They are commonly known as digital natives, while many teachers are considered digital immigrants. Therefore, it is a challenge for teachers to anticipate the condition in the learning process in the classroom. Further, it also results in a difficult challenge for the guidance and counselling teachers because they will find many new problems faced by their students; for example, the massive cases of bullying in the virtual world. These emerging problems cannot only be resolved by the guidance and counselling teachers, but requires collaboration with various parties; teachers of subjects, parents of students and other education practitioners. Many school counsellors lack the confidence or competence to navigate the college counselling process effectively, thus leading to overall perceptions of incompetence in career development (Engberg & Gilbert, 2013).

Yahya (Yahya, 2018) added that the main teacher challenges in the industrial era of 4.0, are: 1). Education which focuses on character building; 2). Education which considers the climate changes; 3). Entrepreneur mindset; 4). Learning community building; 5). The power of competing, which is no more about cleverness but about creativity and brightness, is comprised of both hard skills and soft skills.

Teachers who are capable of facing the challenges are those teachers who have professional academic qualifications and competencies. Such qualification include, qualified professional competency, pedagogic competence, personality competence, and social competence.

The roles of guidance and counselling teachers in the 4.0 industrial era

The experts say that this century is one where the attempt to transport all forms of knowledge will become the main aspect of life. Naisbitt (Naisbitt, 2008) mentioned ten big trends that will occur in the education in this era of the 4.0 industrial revolution. These are: (1)



from the industrial society to the information society, (2) from a forced technologists to the high-tech one, (3) from national economy to world economy, (4) from short-term planning to long term planning, (5) from centralized to decentralized, (6) from institutional assistance to self-assistance, (7) from representative democracy to participatory democracy, (8) from hierarchy to another hierarchy, (9) from North to South, (10) from or/or to compound options. With regards to these trends, the attitude and professionalism of a teacher will be challenged where teachers are required to prepare the human resources of tomorrow, without losing the values of personality and culture.

Education in the era of the industrial revolution 4.0 demands the existence of modern and professional management with an education nuance. The educational institutions are expected to embody its role effectively with excellence in leadership, staff, teaching and learning, staff development, curriculum, goals and expectations, school climate, self-assessment, communication, and parent/community involvement. Further, the mark of a good teacher is measured by the appearance of excellence in nationalism and fighting soul, faith and devotion, the mastery of science and technology, work ethic and discipline, the professional attitude, cooperation, and studied with a variety of disciplines, insight about the future, good career, and welfare. The Attitude and professionalism of teachers plays an important role and they are required to be very strategic to prepare the younger generation who will have skills, high emotional intelligence, control capabilities and expertise.

The roles of professional teachers or educational personnel are: 1). Educational personnel must have the emotional stability, intention to promote learning, are realistic, honest and open, and are sensitive to the development innovation; 2). Educational personnel have to master the social psychology, have knowledge of the relationships between human beings and other members of society, should have the skills in building groups, and skills in working together; 3). Educational personnel need to master the science of personality leadership, master

the human relations principles, techniques of communicating as well as various aspects of the organization's existing activities in the school; 4). Educational personnel are the teaching and learning-process conductor, in which they need to master any kind of teaching method while also being able to control the teaching and learning situation in and outside the classroom.

Guidance and counselling teachers' competencies in the 4.0 industrial revolution

As was stated in his speech, (Kartadinata, 2019), the benefits which are gained in this 4.0 industrial revolution era are: 1). Fee optimization, which is related to efficiency or fee and human power deduction; 2). New opportunity in occupancy world, in which there will be new professions emerge; 3). Higher operational efficiency, which is related to the use of big data, cloud data, and artificial intelligence; 4). High internal factor of competency power.

This results in new question appearing about how to drive new skills to face those new challenges. Teachers are expected to develop their new skills, which are: 1). Proficiencies; the proficiencies that should be mastered by the teachers are cognitive, physical, and system proficiencies; 2). Basic skills; the basic skills which should be acquired by the teachers are: content, process, and complex problem solving skills; 3). Close functional skills; this skill is related to the ability in social interaction, communication, resources management, and technical skill.

Further, in facing the challenges of this 4.0 industrial era, the teachers are expected to have three main competencies in order to be able to give practical direction in developing the students' potential. These competencies are: 1). Career resiliency; a teacher is expected to provide interventions to students so that they are able to survive all changes and developments of careers in the future; 2). Career planning and maintenance; a teacher is expected to be able to direct and develop the potential of students to plan mature career paths and develop skills in maintaining

and developing their careers; 3). Identity career; a teacher is expected to be able to stimulate students to find careers which suit their passions.

Meanwhile, those teachers' development characteristics should be in line with four stages of teacher professional development (Hargreaves, 2000):

1). Pre-professional era. In this era, teaching was considered as a job that only required simple technical skills but was full of administrative demands. Therefore, a person could become a teacher only through internships and "trial and error" efforts, or through teaching observation and entering teacher education. A good teacher was a teacher who had high enthusiasm and was able to manage the class well. Continuous teacher professional learning was only conducted when the teacher carried out his or her limited work in the classroom. Teachers learned independently to use their own abilities. Coaching was still limited to encouragement and also practical management tips;

2). Autonomous professional era. This era began in the 60s, when the teaching profession was better developed compared to the pre-professional era. The teacher was seen as professional and autonomous worker. In fact, in the 70s and early 80s, the key characteristic of a teacher who stood out was individualism. An individual teacher was mostly focused on his class and isolated from his colleagues. Autonomous professionals improved teacher status and teacher salaries. However, this characteristic inhibited innovation because teachers rarely shared experiences, knowledge and skills between each other. Teachers faced the challenges of teaching individually-not coordinated with the efforts of other teachers; teaching was based more on their own knowledge and skills. Guidance was given only to those who need help, for example a new teacher;

3). Collegial professional era. This era began when there was an explosion of knowledge in the 80s, the widespread demands of the curriculum, the increasing number of students with special needs in ordinary classes, and rapid environmental changes. These factors raised the

urgency of developing a collaborative culture. It was considered that autonomous professionals were unable to help teachers to face the increasing complexity of schools. The implication for teacher development was that teacher professional learning became a continuous process directed at developing and solving complex issues. Teacher development was not only an individual responsibility but also responsibility of the institution. Teachers taught each other and learned from each other and practiced teaching referred to as professional teaching standards;

4). The professional era has just began in the 21st century when schools were required to pay more attention to the market and consumers and were driven to be more competitive. Teacher's work is more complex now, not only in terms of teaching but also in developing relationships with parents and the school community. Professionalization of teachers through teacher competency standardization is increasingly strengthened, along with flexibility in learning that seeks to link theory with practice, university and school. The implications for teacher development include: the ability to effectively manage relationships between teachers and parents is an important material in pre-education and in teacher positions, improving teaching and learning skills is not only needed by new teachers but all teachers, teacher education and teacher professional learning are continuous and sustainability is an integrated part.

The derivative of the educator's new mindset is the emergence of an effort to adjust their teaching and learning approaches. In other words, today's teachers are expected to come up with some novelty and or innovation in their teaching. In this context, one of the movements proclaimed by the government is that the implementation of a new literacy movement. The new literacy movement is intended to focus on three main literacies namely, 1) digital literacy, 2) technology literacy and 3) human literacy (Aoun, 2017 in (Yahya, 2018)). These three skills are predicted to be skills that are badly needed in the future or in the 4.0 Industrial Revolution era. Digital literacy is aimed at increasing the ability to read, analyze, and use information in the digital world (Big Data). Technology literacy aims to provide an understanding of the workings

of machinery and technology applications. Human literacy is directed at improving communication skills and mastery of design science (Aoun , 2017 in (Yahya, 2018). The new literacy movement is expected to create competitive graduates; surpassing the old literacy movement which only focuses on improving the ability to read, write and perform mathematics.

Adaptation of the new literacy movements can be integrated and adjusted to the curriculum and learning system. This is in line with the 21st-century learning principles and approaches presented by (Trilling, B & Fadel, 2009), as shown in Figure 1.

According to (Trilling, B & Fadel, 2009), 21st-century learning focuses on the formation of an ICT-based digital lifestyle, learning ability and innovation, and the development of life skills. More specifically, the learning done by the teacher must be oriented to the development of four core skills: critical thinking and problem-solving skills, communication skills, collaboration skills, and the ability to create new things (creativity).

According to (Morgan, Greenwaldt, & Gosselin, 2014), the technology-based career development programs appeared to be used more readily by the counsellors than any other counselling tool. Some of the benefits of technology-based programs include the following: Students can access information independently (autonomy), students can access career information from any computer at the school or from their homes (accessibility), and counsellors can provide answers to students' questions quickly (time-sensitivity). The computer-based, Internet programs gave confidence to the counsellors that the information was up-to-date and accurate. Teachers used the computer and Internet-based programs to work more efficiently and provide students with consistent, research-based career development programming. This resource provided school counsellors with confidence in their work where they lacked it prior to using these tools.

A US-based Partnership for 21st Century Skills (P21), identifying competencies that are needed in the 21st century as "The 4Cs" - communication, collaboration, critical thinking, and



creativity. Communication is a skill to express new thoughts, ideas, knowledge, or information either in writing or verbally (National Education Association, 2012). Collaboration is the skill to work together effectively and show respect for diverse teams, train fluency and a willingness to make decisions needed to achieve goals together (National Education Association, 2012)(Greenstein, 2012). Critical thinking skills are skills to carry out various analysis, assessments, evaluations, reconstruction and decision making steps which leads to rational and logical actions (National Education Association, 2012)(King, F.J., Goodson, L., M.S. & Rohani, 2010). The activity of thinking about a subject, content, and/or any problems is done by using a variety of skilled analysis, assessment and reconstruction (Papp, K., 2014). Creativity is a skill to find new things that don't exist yet; to develop various new solutions for problems, and involves the ability to generate new, varied and unique ideas (Leen, C. C., Hong,h., Kwan, F. F. H., & Ying, 2014).

Conclusion

Professional teachers are no longer just teachers who are able to teach well but teachers who are able to become learners and school change agents. Professional teachers are also able to establish and develop relationships to improve the quality of learning in their schools. Therefore, professional teachers in general, and specifically guidance and counselling teachers, always adapt to the times. Currently, in the industrial 4.0 era, it is a requirement for teachers to have four competencies in accordance with applicable regulations, namely pedagogical competence, professional competence, social competence and personality competencies. Therefore, BK teachers need to develop four additional competencies, namely; 1) critical competencies, 2) creative competencies, 3) communicative competencies, and 4) collaborative competencies in facing challenges presented by the disruptive industrial 4.0 era. According to Hill (2012), it is

important to emphasize counsellor-initiated strategies for college and career readiness; something this group of school counsellors found challenging.

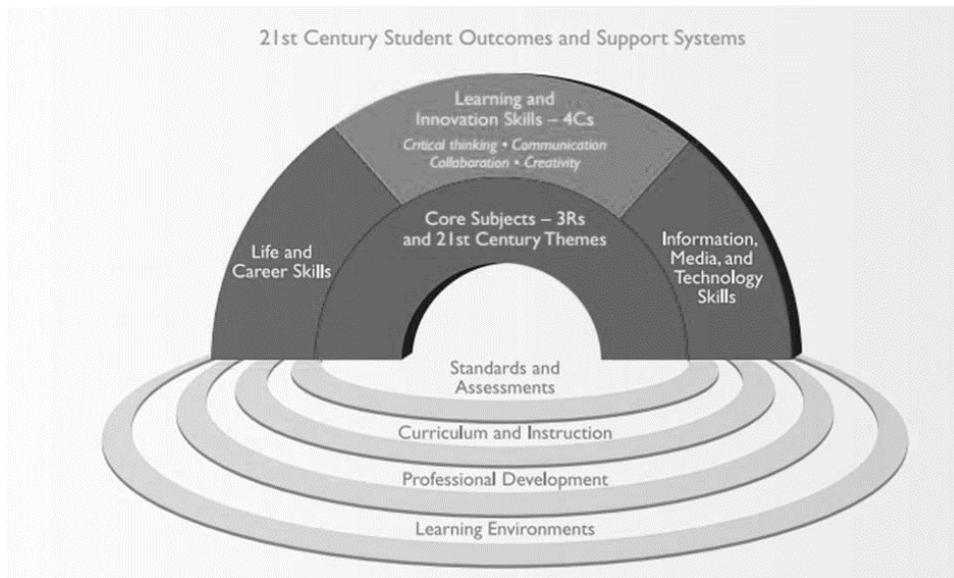


Figure 1. 21st Century Student Outcomes and Support System

References

- Ahmadi, A. et al. (2010). *Psikologi Belajar*. Jakarta: Rineka Cipta.
- Dodson, T. (2009). Advocacy and Impact: A Comparison of Administrators' Perceptions of the High School Counselor Role. *Professional School Counseling*, 12(6), 480-487. Retrieved from <http://www.jstor.org/stable/42732771>
- Engberg, M. E., & Gilbert, A. J. (2014). The counselling opportunity structure: Examining correlates of four-year college-going rates. *Research in Higher Education*, 55, 219–244. doi:10.1007/s11162-013-9309-4
- Greenstein, L. (2012). *Assessing 21st Century Skills: A Guide to Evaluating Mastery and Authentic Learning*. California: Corwin.
- Hargreaves, A. (2000). *Four Ages of Professionalism and Professional Learning*. 6(2).



- Hill, L. D. (2012). Environmental threats to college counselling strategies in urban high schools: Implications for student preparation for college transitions. *The Urban Review*, 44, 36–59. doi:10.1007/s11256-011-0181-2
- Kartadinata, S. (2019). *Guidance And Counseling Profession In The Industry 4.0 Era: Challenges And Opportunities*.
- King, F.J., Goodson, L., M.S. & Rohani, F. (2010). *Higher Order Thinking Skills. Assessment & Evaluation Educational Service Program*.
- Morgan, L. W., Greenwaldt, M. E., Gosselin, K.P (2014). School Counselors' Perceptions of Competency in Career Counseling. *The Professional Counselor*, 4(5), 481-496. doi: 10.15241/lwm.4.5.481
- Leen, C. C., Hong,h., Kwan, F. F. H., & Ying, T. W. (2014). *Creative and Critical Thinking in Singapore Schools, Education Research*. Nanyang University, Technological, National Institute of Education.
- Lince, R. (2016). *Strategi Peningkatan Profesionalisme Guru dalam Menghadapi Tantangan di era Digital*. Ambon: UPBJJ UT.
- Martin, I., & Carey, J. (2012). Evaluation Capacity within State-Level School Counseling Programs: A Cross-Case Analysis. *Professional School Counseling*, 15(3), 132-143. Retrieved from <http://www.jstor.org/stable/42732932>
- McMahon, H., Mason, E., & Paisley, P. (2009). School Counselor Educators as Educational Leaders Promoting Systemic Change. *Professional School Counseling*, 13(2), 116-124. Retrieved from <http://www.jstor.org/stable/23801092>
- Miarso, Y. H. (2011). *Menyemai Benih Teknologi Pendidikan*. Jakarta: Kencana Pranada.
- Munir. (2010). *Pembelajaran Jarak Jauh Berbasis Teknologi Informasi dan Komunikasi*. Bandung: Alfabeta.
- Naisbitt. (2008). *Megatrend Asia: Delapan Megatrend Asia yang Mengubah Dunia (Alib bahasa oleh*



Danan Triyatmoko dan Wandi S. Brata). Jakarta: Gramedia.

National Education Association. (2012). *Preparing 21st Century Students for a Global Society*.

Washington, D.C.: NEA.

Papp, K., et al. (2014). *Milestones of Critical Thinking: A developmental model for medicine and nursing*.

Riyanto. (2011). *Teknologi Informasi Pendidikan Membahas Materi Dasar Teknologi informasi yang wajib*

dikuasai pemula IT. Yogyakarta: Gava Media.

Trilling, B & Fadel, C. (2009). *21st-century skills: learning for life in our times*. US: Jossey-Bass A Wiley

Imprint.

Yahya, M. (2018). *Era Industri 4.0: Tantangan Dan Peluang Perkembangan Pendidikan Kejuruan*

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