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## REDEFINING VOCATIONAL TEACHERS COMPETENCE: IMPLICATE TO PREPARE VOCATIONAL TEACHERS CURRICULUM IN INDONESIA

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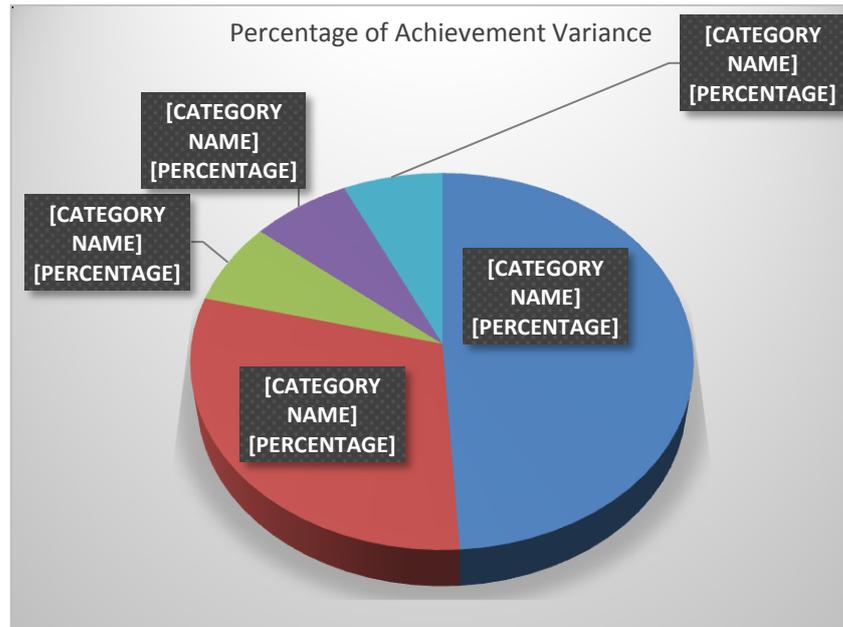
**ABSTRAC:** Indonesian regulation for teachers define four competencies: pedagogical, professional, social, and personality competence. These competencies are same to teachers in all level and type of education. Vocational education has different characteristics with general education, so they need a different spesification of competence. Redifining vocational teacher competence is importance to be guiding for planning, selecting, certification, licencing, remunerating, promoting, improving management, performance appraisal, professional developmnet, and others. In preparing vocational teacher context, redefining vocational teachers competence is importance to design effective education and relevant curriculum and learning system. There are many approaches to define vocational teachers competence: philosophy approach, introspective approach, DACUM approach, functional approach, and task analysis.

**Key words:** vocational education, teachers, competence

### I. INTRODUCTION

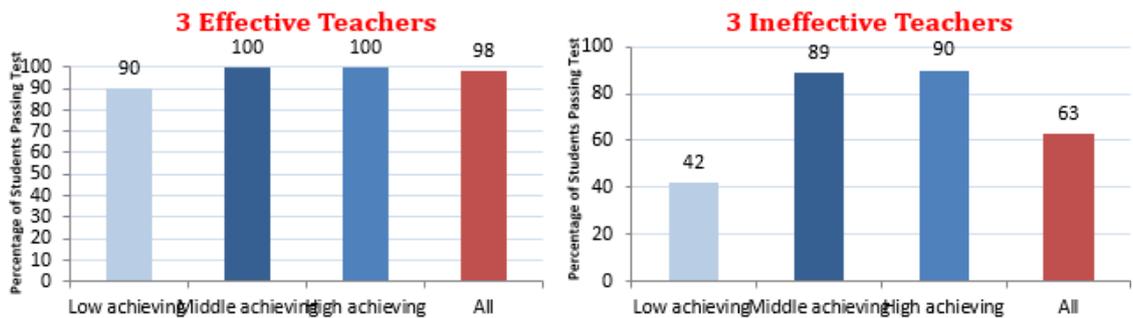
Vocational education (include Vocational High School) that prepares students primarily to work in a specific field (Undang-undang No. 20 Tahun 2003) has a strategic role in the preparing of human resources, especially middle-level manpower. Various studies (Sukamto, 1998: 110; Abbas Ghozali, 2000: 57-85; Widarto, 2007: 67-85) shows that vocational education is still a profitable investment in preparing skilled manpower intermediate level. This was reaffirmed by government policies such as the revitalization of vocational education including Vocational High School (Kompas, June 24, 2016).

One of the underlying factors that determine the quality of vocational education is the teacher. United Nation with the 2030 Agenda for Sustainable Development (2015) declare: by 2030, all governments ensure that all learners are taught by qualified, professionally-trained, motivated and well-supported teachers. The teacher's role is very significant for any successful learning process (Jones, Jenkin & Lord, 2006: 1; Zamroni, 2008: 40; Zamroni 2009: 4; Indra Jati Sidi, 2000). Meta analysis done by Hattie (2005) showed that teachers are the most important external factor in determining student achievement. It is clear that teachers have a central role in determining educational quality.



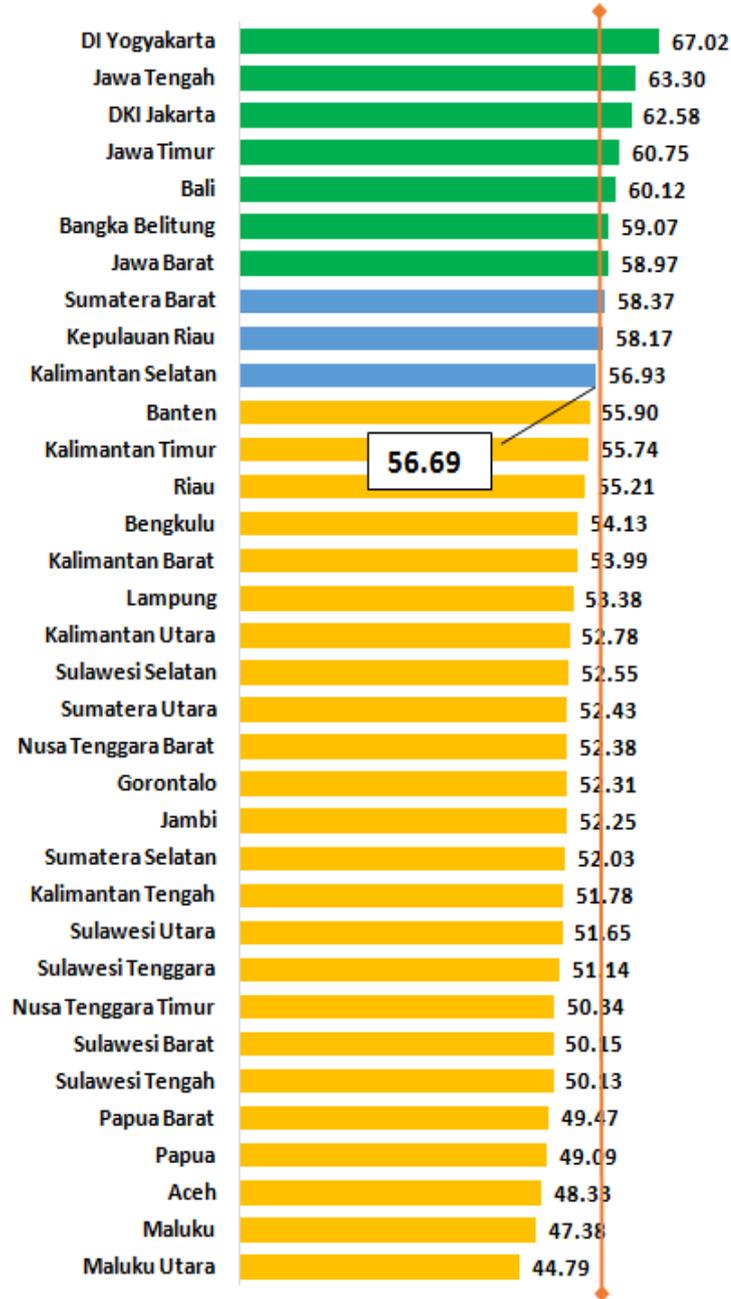
**Fig.1.** Determine factors of student achievement (Hattie, 2005)

Studies conducted by Carey (2014) also stressed the importance of teachers' role in determining the success of students (Figure 2). Comparison of the effective teachers and ineffective teachers show that there are differences achievement of students who are taught by effective teachers and ineffective teacher.



**Fig. 2.** Effective Teacher and Ineffective Teacher

The studies clearly show the teacher's role in determining educational quality. Various efforts have been made in order to improve teacher quality through education, training, apprenticeship and other programs, including certification. However, the data in the field shows there are many problems in an effort to improve the quality and performance of vocational education teachers. Condition of teachers in Indonesia can be seen from the results of teacher competency test set out in Figure 3 and



**Gambar 3.** Mean of Teacher Competence Test (Ditjen Guru dan Tenaga Kependidikan, 2015)

**Tabel 1.** Result of Teacher Competence Test (Ditjen Guru dan Tenaga Kependidikan, 2015)

NO	NILAI	PERSENTASE PER-JENJANG						TOTAL
		TK	SD	SMP	SMA	SMK	SLB	
1	1-10	0.01	0.02	0.03	0.02	0.03	0.01	0.02
2	11-20	0.04	0.08	0.13	0.12	0.08	0.06	0.09
3	21 - 30	0.43	2.06	1.93	1.72	1.23	1.14	1.77
4	31 - 40	3.82	13.23	9.69	7.79	8.26	8.08	10.66

5	41 - 50	14.21	23.79	19.29	15.38	19.24	18.33	20.75
6	51 - 60	30.80	29.21	25.10	21.42	26.64	30.20	27.57
7	61 - 70	37.51	20.02	23.10	23.40	26.30	26.81	23.18
8	71 - 80	12.08	9.07	13.84	17.95	13.56	12.84	11.57
9	81 - 90	1.08	2.24	5.86	9.48	4.26	2.35	3.73
10	91 - 100	0.01	0.29	1.04	2.72	0.41	0.19	0.66
	TOTAL	100	100	100	100	100	100	100

Based on the data in Figure 3 and Table 1, it appears that the competence of teachers including vocational high school teachers not evenly good views of the location and of each level. Various efforts to improve the competence of teachers needs to be done both in terms of qualifying and distribution.

Various problems that can arise due to the formation of teachers is not optimum. In Vocational High School context, one of the problems that need to be assessed is the competence of teachers from the formulation, assessment, coaching, and rewards. Undang-undang No. 14 Tahun 2005 tentang Guru dan Dosen are further elaborated in Peraturan Pemerintah No. 74 Tahun 2008 tentang Guru and the Permendiknas No. 16 Tahun 2007 tentang Standar Kompetensi Guru formulated that the competencies required of teachers include pedagogical competence, personal competence, social competence, and professional competence. The competency applies to all teachers in all region of Indonesia at all levels and types of education. In the context of vocational education, these formulations are not enough, and not representing characteristic of vocational education as education for work. Therefore one of the efforts to improve the quality of vocational teachers, teacher competence is crucial formulated in accordance with the characteristics of vocational education.

## II. DISCUSSION

Teacher is the instrumental input the most influence on the creation process and the quality of education (Glatthorn, Jones & Bullock (2006: 3). The best strategy for improving school achievement to be qualified and competent teachers in every classroom (Walter & Grey, 2002). Efforts to improve the quality of education will not meaningful without the support of professional and qualified teachers (Stronge, Gareis, & Little, 2006: 2).

Various studies (Sofa, 2003: 150; Sinamo, 2002: 6; Rychen and Salganick, 2003: 43) basically agreed that the competence is knowledge, skills, and attitudes required to work. Robbins (2006: 52) defines competence is the ability as an individual's capacity to perform various tasks in a particular job.

Teacher competence can be defined as a set of minimum essential characteristic of all teachers are required to perform the work (The Evaluation Center at Western Michigan University, www.wmich.edu). Peklaj (2006: 4) formulated five components of teacher competence: effective



instruction, life-long learning, classroom management and communication, assessment and evaluation of individuals' learning progress, and professional competencies in a more general sense. National Project on the Quality of Teaching and Learning / NPQTL (McLeod, 2001: 2) reveals that competence can also be interpreted as a set of mastery of abilities that must exist within the teacher in order to realize the performance professional appropriately and effectively. Rosenshine and Furst (Robert, et.al, 2006: 1-2) synthesize various research identified five basic characteristics of effective teachers are: clarity, variability, enthusiasm, student opportunity to learn the material, and task oriented.

In an effort to assessment and certification of vocational teachers, there are various formulations of competencies that must be owned by a teacher (Wagiran, 2013). Some attribute the formulation of the competence of teachers, among others:

. American Association for Vocational Instructional Metrial (AAVIM). Fourteen teacher competence:

- a. Program Planning, Development, and Evaluation
- b. Instructional Planning
- c. Instructional Execution
- d. Instructional Evaluation
- e. Instructional Management
- f. Guidance
- g. School-Community Relations
- h. Vocational Student Organization
- i. Professional Role and Development
- j. Coordination of Cooperative Education
- k. Implementing Competency-Based Education (CBE)
- l. Serving Students With Special/Exceptional Needs

. the National Project on the Quality of Teaching and Learning (Marsh, C., 2004: 361).

Five areas of teacher competence:

- a. Using and developing professional knowledge and values,
- b. Communicating, interacting and working with students and others,
- c. Planning and managing the teaching and learning process,
- d. Monitoring and assessing student progress and learning outcome
- e. Reflecting, evaluating and planning for continous improvement.

. Milanovich (1986), being an effective vocational teacher today means having knowledge and/or experience in four areas: (a) a specific skill area; (b) instructional planning, implementation, and



evaluation; (c) classroom and laboratory management; and (d) occupational experience

Muclas Samani (2006). New South Wales teacher's competence:

- a. Know their subject content & how to teach that content to students.
- b. Know their students & how they learn
- c. Plan, assess & report for effective learning.
- d. Communicate effectively with their students.
- e. Create & maintain safe & challenging learning environments through the use of classroom management skills.
- f. Continually improve their professional knowledge & practice.
- g. Actively engaged members of their profession & the wider community.

Vocational Teacher Competence in Slovenia:

- a. Cooperation/interaction/team work. Good relationship with all social partners, to communicate and interact at many different levels and co product the learning process with all partners
- b. Project and development work. Daily participate in different projects and development work which should include cooperation with different social partners nationally and internationally
- c. Continuous learning. a teacher must have the ability and motivation for self-evaluation and reflection
- d. Creation of learning environment for individuals and groups and facilitating learning process. to create and develop save, supportive, flexible and innovative learning, environment for individuals and groups
- e. ICT. Integrate information and communication technologies to enhance student learning
- f. School administration. Supposed to be up to date on school administration processes, national education regulations and main national and international documents for vocational education development and to implement them into his work
- g. Other personal characteristics of teachers. supposed to be communicative, sensible and motivated enough to observe and lead constructive dialogue with his students in purpose to find best options for supporting their personal development
- h. Competences of school community and management

The TT-TVET Trans-national Standards for TVET Teacher Education (*Spöttl, Kämäräinen, and Dittrich, in, 2008*). The curricular emphases of the educational sciences during teacher training are:

- a. Scientific qualification in a specialist science;



**b. Vocational educational qualification in the fields of**

1) Education and pedagogics

Justification and reflexion of education and pedagogics in institutional processes.

2) Profession and role of the teacher

Professionalisation of teachers; dealing with conflicts and decision making situations linked to the profession.

3) Didactics and methodology

Design of instruction and learning environments.

4) Learning, development and socialisation

Learning processes of young people in school and in companies.

5) Motivation for performance and learning

Motivational basics of the development of performance and competencies.

6) Differentiation, integration, promotion

Heterogeneity and variety of conditions in schools and companies.

7) Diagnostics, assessment and counselling

Diagnosis and support of individual learning processes; performance measurement and assessment of performance.

8) Communication

Communication, interaction and conflict management as basic elements of teaching and education.

9) Media education

Handling of media in terms of concepts, didactics, and practical aspects.

10) School development

History of the educational system; structures and development of the educational system and the development of the individual school.

11) Educational research

Aims and methods of educational research; interpretation and application of the results.

Quality indicators and shaping measures as a basis for standard-setting in TVET teacher education ((*Spöttl, Kämäräinen, and Dittrich, in, 2008*).

a. Standards for lecturers' activities (in TVET teacher education) as support for teachers' practice in TVET

b. Standards for supporting students and their learning processes within TVET teacher education



- c. Standards for evaluation (of curricula) and for assessment (of students' achievements)
  - d. Standards for developing curricula and learning contents
  - e. Standards for developing methods for instruction and training
  - f. Standards for developing the organisational frameworks for learning environments
4. Hangzhou Declaration (2004)
- a. TVET should be developed into an internationally acknowledged scientific community;
  - b. Sustainable, reproductive and innovative national scientific systems be developed and integrated into national systems of innovation;
  - c. International exchange of learners and educators be accelerated;
  - d. The expertise in pedagogy of TVET should be linked to the vocational disciplines and to integrative perspectives on school-based and work-based learning;
  - e. An improvement in vocational skills for employability and citizenship can only be realized if there is an improvement in the quality, effectiveness and relevance of teaching, and that
  - f. An effective interaction between teacher/trainers and learners lies at the centre of quality TVET.
5. Teacher Training in Spain. "The Functions of Teachers" (2/2006: 17183) which are specified under Article 91 of the Education Act 2/2006 May 3, of Education.
- a. Planning and education of all areas, subjects, and modules that have been entrusted to them.
  - b. Evaluation of students' learning process, as well as evaluation of educational processes.
  - c. Guardianship of students, direction and orientation of their learning, and their support in their educational process in collaboration with families.
  - d. Educational, academic, and vocational orientation of students, in collaboration with specialized departments or services.
  - e. Attention to students' intellectual, affective, psychological, social, and moral development.
  - f. Promotion, organization, and participation in complementary activities, inside and outside the educational enclosure, programmed by the school.
  - g. Contribution to the development of schools' activities in a climate of respect, tolerance, participation, and freedom in order to promote the values of democratic citizenship within students.
  - h. Periodic report to families of learning process of their daughters and sons, as well as to provide guidance to the families of how they can cooperate.
  - i. Coordination of educational activities, management, and direction that have been entrusted to them.



- j. Participation in the general activity of the school.
  - k. Participation in the evaluation plans determined by educational Administrations or schools.
  - l. Research, experimentation, and continuous improvement of corresponding learning processes.
0. On the other hand, most of the studies define the role of teacher training according to four competency fields (Bunk, 1994; Liepmann, 1992, cited by Ferrández *et al.*, 2000):
- a. Technological competencies
  - b. Teaching competencies (psychopedagogical)
  - c. Work competencies
  - d. Social competencies
1. Bandung Declaration on TVET Teacher Education (2008). Structure university-based TVET teacher education studies based on four pillars, namely:
- a. vocational discipline including work process, curriculum and qualification analyses,
  - b. vocational pedagogy / educational sciences,
  - c. a second subject studies in cross-cutting key competences to support the specialisation in vocational disciplines,
  - d. research competences in vocational disciplines/vocational pedagogy including a thesis at the end of the study
2. Yu ([jszg@bnu.edu.cn](mailto:jszg@bnu.edu.cn)) Study on Establishing National Standard of Vocational Teachers' Training in China, describe two competence of Vocational Education Teacher:
- a. The First Standard of the Specialization for Secondary Vocational Teachers: Professional field
  - b. The Second Standard of the Specialization for Secondary Vocational Teachers: Teaching Field (the Sino-Australian cooperation research project "the competence standard for the secondary teachers") :
    - 1) Professional Ethics and Conduct
      - (a) Model professional and ethical behavior
      - (b) Teach professional ethics
    - 2) Industry Liaison
      - (a) Conduct industry liaison
      - (b) Provide training services for industry
    - 3) Curriculum Design
      - (a) Design and develop teaching and learning programs.
      - (b) Design and develop teaching / learning materials



- (c) Review and evaluate teaching and learning programs
  - 4) Teaching and Learning organization and Conduct
    - (a) Plan training sessions
    - (b) Organize and deliver teaching and learning activities
    - (c) Evaluate teaching effectiveness
  - 5) Assessment
    - (a) Plan and organize assessment activities
    - (b) Develop assessment tools
    - (c) Conduct assessment
  - 6) Communications and Cooperation
    - (a) Communicate effectively with students and peers
    - (b) Work effectively in a team
  - 7) Occupational Health and Safety
    - (a) Ensure a safe teaching and learning environment
    - (b) Conduct Occupational Health and Safety Education
  - 8) Services to Students and Welfare Management
    - (a) Manage students in the teaching and learning environment
    - (b) Provide vocational guidance service
  - 9) Professional Development
    - (a) Improve professional knowledge and practice
    - (b) Research teaching practice
3. the Victorian Institute of Teaching (VIT) describe The eight Professional Standards are:  
Professional Knowledge:
  1. Teachers know how students learn and how to teach them effectively
  2. Teachers know the content they teach
  3. Teachers know their studentsProfessional Practice:
  4. Teachers plan and assess for effective learning
  5. Teachers create and maintain safe and challenging learning environments
  6. Teachers use a range of practices and resources to engage students in effective learningProfessional Engagement:
  7. Teachers reflect on, evaluate and improve their professional knowledge and practice
  8. Teachers are effective members of their profession
4. Oklahoma Panhandle State (2008). Candidate vocational education teacher attributes:  
Knowledge
  1. General areas of liberal arts and sciences



2. Target subject area(s)
3. Pedagogy
4. The manner in which all students learn and develop
5. Types of diverse learners
6. Developing multiple assessment measures
7. Sources and uses of technology

#### Skills

- a. Classroom and behavior management
- b. Methods and advantages in collaboration
- c. Multiple methods of communication
- d. Design and use of effective instructional strategies that include all student populations
- e. The use of technology for teaching and learning.
- f. Assessment designed to evaluate student learning and instructional effectiveness

#### Dispositions

1. Good work habits
  2. A positive attitude and love of learning
  3. Confidence in their own knowledge and skills
  4. Honesty and trustworthiness
  5. Self-reliance and problem-solving behavior
  6. An appreciation and empathy for the worth and diversity of all humans
  7. An awareness of ethical, political, social, and environmental issues and obligations.
5. New Mexico Teacher Competencies for Licensure Levels I, II, and III Assessment Criteria:
- a. The teacher accurately demonstrates knowledge of the content area and approved curriculum
  - b. The teacher appropriately utilizes a variety of teaching methods and resources for each area taught.
  - c. The teacher communicates with and obtains feedback from students in a manner that enhances student learning and understanding.
  - d. The teacher comprehends the principles of student growth, development and learning, and applies them appropriately
  - e. The teacher effectively utilizes student assessment techniques and procedures
  - f. The teacher manages the educational setting in a manner that promotes positive student behavior and a safe and healthy environment.
  - g. The teacher recognizes student diversity and creates an atmosphere conducive to the promotion of positive student involvement and self-concept
  - h. The teacher demonstrates a willingness to examine and implement change, as appropriate.



- i. The teacher works productively with colleagues, parents and community members.
6. North Carolina Teacher Evaluation Process (2008). A New vision of Teaching
- The different demands on 21st century education dictate new roles for teachers in their classrooms and schools. The following defines what teachers need to know and do to teach students in the 21<sup>st</sup> century:
- a. Leadership among the staff and with the administration is shared in order to bring consensus and common, shared ownership of the vision and purpose of work of the school. Teachers are valued for the contributions they make to their classroom and the school.
  - b. Teachers make the content they teach engaging, relevant, and meaningful to students' lives.
  - c. Teachers can no longer cover material; they, along with their students, uncover solutions. They teach existing core content that is revised to include skills like critical thinking, problem solving, and information and communications technology (ICT) literacy.
  - d. In their classrooms, teachers facilitate instruction encouraging all students to use 21st century skills so they discover how to learn, innovate, collaborate, and communicate their ideas.
  - e. The 21st century content (global awareness, civic literacy, financial literacy, and health awareness) is included in the core content areas.
  - f. Subjects and related projects are integrated among disciplines and involve relationships with the home and community.
  - g. Teachers are reflective about their practice and include assessments that are authentic and structured and demonstrate student understanding.
  - h. Teachers demonstrate the value of lifelong learning and encourage their students to learn and grow.

From the various formulations of competence above it appears that vocational education has different characteristics with general education, so they need a different competence. In education policy context, redefining vocational teacher competence is importance to be guiding for planning, selecting, certification, Licensing, remunerating, promoting, improving management, performance appraisal, professional development, and others. In preparing vocational teacher context, redefining vocational teacher competence is importance to design effective and relevant education curriculum and learning system. There are two steps to formulate vocational teacher competence:

1. Formulate general competence of vocational education teachers. In this context, we can refer the 21st century skills (Fig. 4). From Fig.4 we know that in the 21st century we need a human resources have life and career skills; learning and innovation skills; information, media, and technology skills, and mastery in core subject. Education has support standards and assessment; curriculum and instruction, professional development, and learning environment.

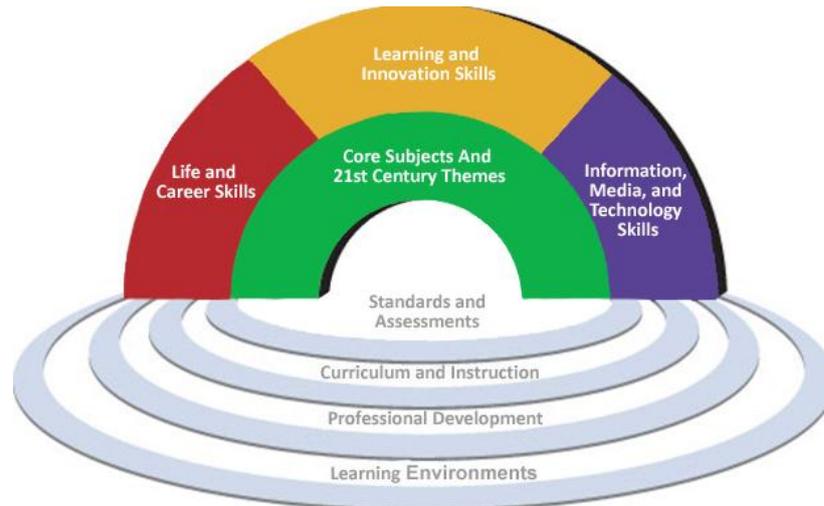


Fig. 4. 21<sup>st</sup> Century Skills (<http://www.21stcenturyskills.org>)

2. Formulated specific competence of vocational teacher. We need a needs assessment to define vocational teacher competence. We can do with philosophical approach, introspective approach, DACUM approach, functional approach, or task analysis.

### III. CONCLUSION

Vocational education have a different characteristic with general education, so they need a different formula about teacher competence. Redefining vocational teacher competence is importance to the make right judgment in educational policy and curriculum design for vocational education teacher candidate.



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