

# **Analysis of Teaching Practice Assessment Framework in Teacher Education towards 21st Century Assessment**

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## **Abstract**

Teaching practice can be regarded as that the practical section of teacher preparation programmes and it is valued as a critical component in the teacher education which enable pre-service teachers to perform the theory acquired at their teacher training institution and put it into practice. During teaching practice, the pre-service teachers will be assessed by the institution supervisors and school mentors using formative and summative assessment to measure the development of their teaching skills as well as all the required skills to be a quality teacher according to the requirement by the teacher training institutions. The purpose of this paper is to study the assessment framework that available in the literature that can use to assess pre-service teacher during teaching practice placement in the school. This article reviewed current assessment literature on teaching practice assessment framework using a qualitative approach to analyse the result using 21st-century assessment fundamentals. Specifically, this study adopted scoping studies framework to examine the available knowledge regarding assessment framework to assess pre-service teacher during teaching practice placement. The findings from available literature reveal fourteen frameworks that will enable teacher training institutions effectively evaluate their pre-service teachers during teaching practice. This framework was further analysed using Greenstein's 21st-century assessment fundamentals to evaluate the available framework ability toward 21st-century assessment. The analysis had shown that there were two areas of fundamentals that need to be rework which is flexible and communicated.

**Key Words:** Teaching Practice Assessment, Pre-service Teacher Assessment, Assessment Framework and Teacher Education.

## Introduction

Teaching practice is a practical section of a teacher education programme for a pre-service teacher. During this period, the pre-service teachers will be placed at a school for at least eight to sixteen weeks to practice in teaching. They will be given eight till twelve periods to teach in a week alongside with several tasks to execute during their placement in the school. Throughout their teaching practice, the pre-service teachers will be observed by the mentor teacher and institution supervisor to assess their teaching practice. Despite this concept of practice in teaching, teaching practice can be regarded as that the practical part of teacher preparation programmes and valued as a critical component in the teacher education (Sedumedi & Mundalamo, 2012). The pre-service teachers undertaking the teaching practice are supposed to create their interpretation of teaching in the real context, and the theory that they have learned can be truly meaningful only when it is situated in their classroom practice. The duration of teaching practice is according to the philosophy of teaching training institutions and their model of teaching practice. According to Wong, Mohd. Hassan Abdullah, Rosnidar Mansor and Syakirah Samsudin (2014), the duration of teaching practice placement are stretched between three to sixteen weeks with placement in the school diverge from one to five times across the teacher preparation program.

Prior to the teaching practice, the pre-service teachers is subjected to undergo a microteaching class where they were provided the chance to perform the mock lessons using their fellow pre-service teachers who represent as the students (Zailani Jusoh, 2013). During the teaching practice, the pre-service teacher undertaking the teaching practice are supposed to achieve certain objectives like to prepare lessons for use in the classroom, to demonstrate an ability to conduct a lesson according to their lesson plan and also work in close collaboration with mentors from the school as well as with their institution supervisors, (Norshiha Saidin, 2011; Syed Ismail Syed Mustapa, 2012; Zailani Jusoh, 2013). Through teaching practice, pre-service teacher will have a direct experience of the nature of work that will be their career after graduation. Teaching practice will provide pre-service teachers with skills, attitudes and new responsibilities that are different from what they had experienced during their stint as a student (Zakaria Kasa & Rahman Aroff, 1995).

The teaching practice assessment framework that is used to evaluate the pre-service teacher development in a school-based environment will enable their supervisor and mentor to monitor the professional development of pre-service teacher and supervise them accordingly. It is significant to increase our understanding of how teaching practice is assessed because this may assist teacher educators to improve the preparation of future teachers where shortfalls in the teacher education programmes have been identified. The school teaching practice is essential both for the well-being and future professional successes of teachers. The effective assessment for learning can encourage the pre-service teachers to have a self-reflection to enhance their teaching method and improve their instructional strategy towards diverse learner in the school that they have deployed.

One of the elements that determine a successful framework is an assessment. During the teaching practice, assessment of pre-service teachers' performance by the institution supervisors is the key factor in their placement (Ssentamu-Namubiru, 2010). In addition to the institution supervisors, pre-service teachers also had been evaluated by their mentor teachers as well as the school management while they undergo the teaching practice. Teachers and teacher educators involved in instruction propose that teaching has become more complicated as a result of progressively demanding curriculum expectations and increasing diversity of students and this situation suggested there is a need for changes in teacher preparation programme that enables teachers to become more practical in their understanding of the effects of context and learner variability (Darling-Hammond, 2014; Darling-Hammond & Snyder, 2000; Shulman, 1987). To prepare a quality teacher, teaching practice needed to be supervised precisely and evaluated carefully to develop teachers by the educational reform towards the 21st century. Assessment framework that has been adopted should support the development of pre-service teachers while they undergo the teaching practice. With the intention of discovering the element of an assessment framework for the pre-service teacher during teaching practice, this article aims to study the assessment framework that available in the literature that can use to assess pre-service teacher during teaching practice placement in the school.

## **Methods**

A scoping studies method was applied in this particular research. Specifically, this paper had adopted scoping studies framework that suggested by Arksey & O'Malley (2005). Scoping studies is a study that comprises a further type of literature review that can map relevant literature review in the subject of the research and also a process of analysing the literature (Arksey & O'Malley, 2005; Levac, Colquhoun, & O'Brien, 2010). As oppose to a systematic review that more stringent and rigid, a scoping study is more flexible in nature and tend to give broader sights of the subject studied. This research was conducted with the five stages methodological framework by Arksey & O'Malley (2005) which are:

### ***Stage 1: Identifying the research question***

This paper has focused on the analysis of teaching practice assessment framework in teacher education. Therefore, the main subject of this article is the teaching practice assessment framework. Often the term assessment framework had been used rapidly in teacher education but the main components of assessment framework remain unclear. In order to obtain the comprehensive analysis of assessment framework for teaching practice in teacher education, we formulate our research question as: *What are the components of assessment framework for teaching practice among the pre-service teacher?* The research question is imperative in order to define inclusion and exclusion criteria as well as research parameters for our research. From the research question, there were three significant research parameters that need to carefully observed from the data gathered which are assessment framework, teaching practice and also the pre-service teacher.

## ***Stage 2: Identifying Relevant Studies***

After the research question had been formulated, the next step is to determine the relevant studies regarding the subject of interest. To achieve this objective, we adopted several strategies for identifying relevant studies via:

### ***1. Electronic Database***

The Scopus repository search (<https://www.scopus.com/home.uri>) was utilised to obtain an index of articles that related teaching practice assessment framework. The Scopus repository search was selected as the main database because it comprises a wide selection of journal database of exceptional quality with the comprehensively reviewed article and another type of documents. After the electronic database has been selected, a string of keywords must be chosen in order to gather a broad data related to the subject in this research. In this particular research, Boolean Operators logic had been deployed in a view to capturing an extensive data that related to this study. From the previous reading and reviews that related to this study, we decided to use the search string as follow:

("teaching practice" OR "teaching practicum" OR "field experience" OR "school experience" OR "school practicum") AND assessment AND framework

As mention earlier in the introduction to this paper, the term of teaching practice was differed in usage depending on the continent or country usage of that term. In order to apprehend all the assessment framework that are available in the electronic database, all the known term for teaching practice are being included in the Boolean Operators search which ranging from teaching practicum, field experience, school experience to school practicum. This query had produced 172 documents ranging from 1977 to the latest 2017. After applying the research parameters that had been established earlier, only eight documents that can be included in the final selection.

### ***2. Reference Lists***

The reference lists are a valuable method to gather new information that could be missed by electronic database search due to the restriction that had been provided by search string that been used. After an extensive search of the reference lists, we found out another 12 documents that can be included in the final selection based on the parameters of this research.

### ***3. Hand-searching of key journal***

According to Arksey & O'Malley (2005), hand searching of the key journal is vital because it can identify the articles that have been missed in the database and reference list searches because of the problem of the incomplete database, the different context of keywords and abstracting. After a few of hand-searching for some the key journal related to teaching practice, we had found out a few handful articles that directly contribute to our research especially the article from Darling-Hammond & Snyder (2000) that regarded as a key article in the formulation of

teaching assessment framework. The entire documents that within our research parameters is four documents that will include in our final selection of data.

#### *4. Relevant organisations and government's recommendation*

Apart from articles in journal and conference proceeding, relevant organisations and government's recommendation also is critical to be considered because these reports were formulated by a group of experts in their field toward providing a quality framework for the assessment of teaching practice among pre-service teacher. After an extensive search using internet databases for available documents within our research parameters, two papers from Queensland Government (2001) and Teacher Education Ministerial Advisory Group (2014) were selected to be included in our final selection data.

#### **Stage 3: Study Selection**

After all the relevant documents had been gathered, the articles and materials that had been collected will be reviewed toward inclusion and exclusion criteria. This step is crucial to ensure that only document that related to this study will be included in the final list. The parameter stated in stage 1 assembled the inclusion and exclusion criteria which are the assessment framework must be for pre-service teacher only and not applicable for in-service teacher and also assessment framework that been collected must be for teaching practicum or school experience only and not applicable for another type of assessment. After this inclusion and exclusion criteria had applied, the entire documents had been reduced from 26 frameworks to only 14 frameworks to be included in this study.

#### **Stage 4: Charting the Data**

After wide selections of documents were selected in stage 3, the next stage will be charting the data. In this stage, data that had been collected earlier were abstracted and stored into the list of the framework. This step is critical stage whereby all the assessment frameworks' criteria were extracted and charted or mapped to categories the important criteria of assessment framework. Data were recorded in term of Author(s) name, year of publication, study location and also the framework that been proposed.

#### **Stage 5: Collating, Summarising, and Reporting the Results**

The last stage of scoping studies was involving collating, summarising and reporting the results. The final stage of scoping studies were critical elements that distinguish scoping studies from systematic reviews. Contrasting to systematic reviews, scoping studies did not try to synthesises the data and differentiate it with other findings. The scoping studies pursue to present a broader overview of the subject of research. Thus, in this stage, all the data that had been charted in stage 4 were compiled, summarised and furthered reported in this paper.

**Table 1**

*Teaching Practice Assessment Framework Analysis*

No.	Author(s)	Type of Article	Location	Framework Suggested
1.	Sylvia Yee Fan Tang, May May Hung Cheng & Winnie Wing Mui So (2007)	Research-Based (qualitative)	Hong Kong	<ol style="list-style-type: none"> <li>1. Intention: Articulating a standards-referenced assessment framework that focuses on supporting professional learning</li> <li>2. Instrumentation: Designing assessment tasks that support professional learning.</li> <li>3. Interpretation: Developing a shared interpretation of standards-referenced assessment to support professional learning.</li> <li>4. Implementation: Creating conditions that facilitate the use of standards-referenced assessment to support professional learning</li> </ol>
2.	Newby (2012)	Research-Based (qualitative)	Europe	<ol style="list-style-type: none"> <li>1. Fostering teacher autonomy;</li> <li>2. Supporting a reflective mode of teacher education</li> <li>3. Underpinning of rationales and approaches to learning and teaching;</li> <li>4. Making the scope and aims of teacher education transparent;</li> <li>5. Helping to make competences explicit;</li> <li>6. Providing a tool for self-assessment;</li> <li>7. Supporting coherence in teaching practice.</li> </ol>
3.	Hiebert, Morris, Berk, & Jansen (2007)	Research Review	United States of America	<ol style="list-style-type: none"> <li>1. Skills 1: Specify the learning goal(s) for the Instructional Episode</li> <li>2. Skills 2: Conduct Empirical Observations of Teaching and Learning</li> <li>3. Skills 3: Constructing hypotheses about the impact of teaching on students' learning; and</li> <li>4. Skills 4: using analysis to propose improvements in teaching</li> </ol>
4.	Tigelaar & van Tartwijk (2010)	Research Review	Netherlands	<ol style="list-style-type: none"> <li>1. An expanded notion of validity</li> <li>2. Defining constructs and assessment tasks and criteria</li> <li>3. Consequential validity</li> <li>4. Reliability</li> </ol>
5.	Danielson (2014)	Research Review	United States of America	<ol style="list-style-type: none"> <li>1. Domain 1: planning and preparation               <ol style="list-style-type: none"> <li>a. 1A: demonstrating knowledge of content and pedagogy</li> </ol> </li> </ol>

				<ul style="list-style-type: none"> <li>b. 1B: demonstrating knowledge of students</li> <li>c. 1C: setting instructional outcomes</li> <li>d. 1D: demonstrating knowledge of resources</li> <li>e. 1E: designing coherent instruction</li> <li>f. 1F: designing student assessments</li> </ul> <ul style="list-style-type: none"> <li>2. Domain 2: the classroom environment               <ul style="list-style-type: none"> <li>a. 2A: creating an environment of respect and rapport</li> <li>b. 2B: establishing a culture for learning</li> <li>c. 2C: managing classroom procedures</li> <li>d. 2D: managing student behavior 2</li> <li>e. 2E: organizing physical space</li> </ul> </li> <li>3. Domain 3: instruction               <ul style="list-style-type: none"> <li>a. 3A: communicating with students</li> <li>b. 3B: using questioning and discussion techniques</li> <li>c. 3C: engaging students in learning</li> <li>d. 3D: using assessment in instruction</li> <li>e. 3E: demonstrating flexibility and responsiveness</li> </ul> </li> <li>4. Domain 4: professional responsibilities               <ul style="list-style-type: none"> <li>a. 4A: reflecting on teaching</li> <li>b. 4B: maintaining accurate records</li> <li>c. 4C: communicating with families</li> <li>d. 4D: participating in a professional community</li> <li>e. 4E: growing and developing professionally</li> <li>f. 4F: showing professionalism</li> </ul> </li> </ul>
6.	Balla & Boyle (1994)	Research Review	Australia	<ul style="list-style-type: none"> <li>1. Identify and describe the purpose(s) of the evaluation and the properties which will be assessed.</li> <li>2. Identify and describe the information required, and the types of instruments and techniques that will be necessary to collect information.</li> <li>3. Specify details of how the assessment is to be administered.</li> <li>4. Describe bases for and methods of deriving</li> </ul>

				<p>results. This would generally include descriptions of marking criteria and methods, moderation procedures and approaches to forming composite or overall results.</p> <p>5. Describe the approach taken to reporting results.</p>
7.	Dwyer (1991)	Research Review	United States of America	<ol style="list-style-type: none"> <li>1. What models of teaching do we subscribe to for assessment purposes?</li> <li>2. What is the universe of relevant teacher actions and knowledge?</li> <li>3. Which of these are relevant to licensing decisions?</li> <li>4. What aspects of teaching are fairly and practically assessable?</li> <li>5. What aspects of teaching are assessable now, as opposed to at some future date when we have more data, more time, and/or more money?</li> </ol>
8.	Peterman (2005)	Research Review	United States of America	<ol style="list-style-type: none"> <li>1. <i>Situated and responsive.</i> The assessment system entails articulated, localized mission, vision, and/or goals and criteria that are consistent with and responsive to the complexity and politics of urban settings—in particular, the settings in which most candidates may find future employment.</li> <li>2. <i>Longitudinal, reflective, in-action.</i> The assessment system must require a variety of representations of teacher candidate performance, including student work samples, over time and in multiple contexts.</li> <li>3. <i>Capacity building.</i> Assessments-in-action, when enacted in contextually rich, supportive environments, provide opportunities for capacity building, an important characteristic of urban assessment systems.</li> <li>4. <i>Activist.</i> Socioculturally based assessment systems promote advocacy and community activism simply because they require teacher candidates and others in their community to engage in critical and reflective dialogue</li> </ol>



				about teaching, learning, and learning to teach.
9.	Darling-Hammond & Snyder (2000)	Research Review	United States of America	<ol style="list-style-type: none"> <li>1. Assessments sample the actual knowledge, skills, and dispositions desired of teachers as they are used in teaching and learning contexts, rather than relying on more remote proxies</li> <li>2. Assessments require the integration of multiple kinds of knowledge and skill as they are used in practice.</li> <li>3. Multiple sources of evidence are collected over time and in diverse contexts</li> <li>4. Assessment evidence is evaluated by individuals with relevant expertise against criteria that matter for performance in the field.</li> </ol>
10.	Goos & Moni (2001)	Research Review	Australia	<ol style="list-style-type: none"> <li>1. Collaboration between Lecturers from Different Disciplines</li> <li>2. Criteria and Standards Drawn from Professional Education Practice</li> <li>3. Collaboration between Students on Assessment Tasks</li> <li>4. The Design of Assessment Tasks with Multiple Purposes and a Range of Outcomes</li> <li>5. The Use of Formal and Informal Peer Assessment</li> </ol>
11.	Queensland College of Teachers (2012)	Relevant organisations and government's recommendation	Australia	<ol style="list-style-type: none"> <li>1. Presage Considerations <ul style="list-style-type: none"> <li>• It reflects the overall goals for education in Australia as currently agreed and elaborated in the Melbourne Declaration, focussing specifically on excellence and equity.</li> <li>• It aligns with current national (AITSL) and state (QCT) professional standards, focussing on practices, knowledge, and value commitments.</li> </ul> </li> <li>2. Process Features <ul style="list-style-type: none"> <li>• It is based on principles of authentic assessment.</li> </ul> </li> </ol>

				<ul style="list-style-type: none"> <li>• It captures the complexity of teaching.</li> <li>• It captures the multifaceted nature of teaching in a comprehensive manner.</li> <li>• It is a system that enhances the capacity of preservice teachers for self-assessment and reflection on their levels of developing knowledge and practice.</li> </ul> <p>3. Quality Assurance Features</p> <ul style="list-style-type: none"> <li>• It is a system of assessment that is moderated within programs, informed by sharing quality assessment practices across the sector and meets the requirements of reliability and validity.</li> <li>• It has support from key stakeholders.</li> </ul>
12.	Teacher Education Ministerial Advisory Group (2014)	Relevant organisations and government's recommendation	Australia	<ol style="list-style-type: none"> <li>1. Higher education providers assess all pre-service teachers against the Graduate level of the Professional Standards.</li> <li>2. The Australian Institute for Teaching and School Leadership develop a national assessment framework, including requirements for a Portfolio of Evidence, to support higher education providers and schools to consistently assess the classroom readiness of pre-service teachers throughout the duration of their program.</li> <li>3. Pre-service teachers develop a Portfolio of Evidence to demonstrate their achievement of the Graduate level of the Professional Standards.</li> <li>4. Higher education providers and schools work together to assist pre-service teachers to develop and collect sophisticated evidence of their teaching ability and their impact on student learning for their Portfolio of Evidence.</li> <li>5. The Australian Institute for Teaching and School Leadership undertake a review of the Graduate level of the Professional Standards to ensure that the knowledge, skills and</li> </ol>

				capabilities required of graduates align with the knowledge, skills and capabilities beginning teachers should have.
13.	Al-malki & Weir (2014)	Research-Based (qualitative)	Australia	<ol style="list-style-type: none"> <li>1. Objectivity and explicit assessment: using criteria by national teacher standards to develop the assessment criteria for pre-service teachers' classroom performance.</li> <li>2. Professional engagement: social, professional relationships in and outside schools should be integrated into the assessment criteria, as this would raise the status of pre- service teachers in schools and enable them to be recognised by their community as trustworthy, accountable and almost ready to teach.</li> <li>3. Self-assessment and monitoring: Producing graduate teachers who can be reflective practitioners will assist in self-assessing and monitoring their progress during the professional experience and throughout their teaching profession. Giving pre-service teachers a voice in the assessment processes will help achieve that goal; and</li> <li>4. Professional learning progress: Implementing a more authentic assessment system that includes a portfolio, in addition to the observational assessment tool, will enable pre- service teachers' to not only demonstrate their progress but provide a valuable record of their achievements and enhance their critical reflective thinking.</li> </ol>
14.	Merç (2015)	Research-Based (qualitative)	Turki	<ol style="list-style-type: none"> <li>1. Planning and being prepared for teaching are at the heart of practice and needed to be assessed and evaluated for the well-being of the student teachers' practicum experiences.</li> <li>2. Cooperating teachers, excluding the good examples, need better professional qualifications to be trustworthy and reliable sources for assessing student teacher performance.</li> <li>3. Peer teachers are valuable sources of feedback, but not appreciated for</li> </ol>

				<p>assessment or evaluation.</p> <ol style="list-style-type: none"> <li>4. Observation is useful, but writing reports is not that effective as a performance evaluation measure. Supervisors and mentors should approach those reports in caution as they may not provide the complete or accurate information about the experiences.</li> <li>5. Punctuality, attendance, and portfolio keeping are very important and should be graded.</li> <li>6. University supervisors must be very careful at all stages of practice teaching: placing, observing and assessing student teachers. Assessment criteria need to be internalized by especially the university supervisors because differences in the expectations and values would harm the student teachers rather by demotivating them resulting in frustration.</li> </ol>
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### **Discussion**

Assessment is an important aspect of higher education stage in which universities have been diminished behind professional practice in other educational sectors (Goos & Moni, 2001). The assessment process is the most important element in ensuring that all the objectives or guiding principles formulated in the teaching practice programme are reached. This situation is because the output from the assessment will be a benchmark for assessing how far the pre-service teacher is ready and confident to engage in real teaching career after graduating. The evaluation process of pre-service teachers during teaching practice should have the integrity in order to assess the readiness of the pre-service teachers to be the trained teachers.

Undoubtedly, the assessment was a crucial element in teacher education especially during teaching practice or teaching practicum. However, a successful teacher education programme must be underpinning with a quality assessment framework to ensure that the teacher that will be produced are well prepared to be a trained teacher. From the scoping studies that had been done, there was no single definition of assessment framework that been provided to clearly explaining the word itself. However, Nilsen (2015) had defined framework as a statement that denotes a structure, overview, outline, system or plan consisting of various descriptive categories, similar to concepts, constructs or variables, and the relations between them that are presumed to account for a phenomenon (p.2). Thus, assessment framework for teaching practice must be derived from assessment component integrated with the pedagogical component to develop an assessment framework for producing quality teacher.

Hence, using the Greenstein's 21st-century assessment fundamentals (2012), the analysis of teaching practice assessment framework will be discussed. Greenstein (2012) had formulated 21st-century assessment fundamentals which encompass responsive, flexible, integrated, informative, multiple methods, communicated, technically sound, and systematic. All of the frameworks that have been found in scoping study were mapped against this fundamentals. The results of this mapping were listed in Table 2 below:

**Table 2**

*Teaching Practice Assessment Framework Mapping Using Greenstein's 21<sup>st</sup> Century Assessment Fundamentals (2012)*

Greenstein's Assessment Fundamentals	Articles	No. of articles	Geographical location
Responsive	Al-malki & Weir (2014) Danielson (2014) Goos & Moni (2001) Merç (2015) Newby (2012) Peterman (2005) Queensland College of Teachers (2012)	7	Australia (3) USA (2) Europe (1) Turki(1)
Flexible	-	-	-
Integrated	Danielson (2014) Peterman (2005)	2	USA (2)
Informative	Newby (2012) Hiebert et al. (2007) Balla & Boyle (1994) Peterman (2005)	4	USA (2) Australia (1) Europe (1)
Multiple Methods	Goos & Moni (2001) Peterman (2005) Darling-Hammond & Snyder (2000) Queensland College of Teachers (2012) Teacher Education Ministerial Advisory Group (2014) Al-malki & Weir (2014) Merç (2015)	7	Australia (4) USA (2) Turki (1)
Communicated	-	-	-
Technically Sound	Tigelaar & van Tartwijk (2010) Queensland College of Teachers (2012)	2	Netherlands (1) Australia (1)

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Systematic	(Balla & Boyle, 1994) (Queensland College of Teachers, 2012)	2	Australia (2)
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### ***Responsive***

The 21st-century assessment fundamentals have outlined that feedback is an essential element in the measurement at this century. The pre-service teachers should be informed about their performance earlier during formative assessment so that they can receive the feedback and make an amendment to their teaching style. This fundamental included peer feedback and self-reflection. Conversely, the responsive fundamental were aligned with the framework suggested by Al-malki & Weir (2014), Danielson (2014), Goos & Moni (2001), Merç (2015), Newby (2012), Peterman (2005) and Queensland College of Teachers (2012). Most of them are encouraging the use of self-assessment and peer-assessment as tools for responsive. However, teacher educator also should be responsive towards their pre-service teacher so that they were are which area of practice that they still need to enhance.

### ***Flexible***

Flexibility is a key component in Greenstein's 21<sup>st</sup> Century Assessment Fundamentals because, during the 21st-century, assessment should be more adaptive towards students and setting rather than a standardised assessment that fit everyone like traditional assessment (Greenstein, 2012). Consequently, it is imperative for assessment framework to have flexibility included in its general framework so that it can capture the diversity in teaching practice assessment. From the assessment framework that was found in this scoping study, none of them had featured flexible in its framework.

### ***Integrated***

Assessment should be integrated into everyday practice rather than additional segments that added during the end of the lesson. This statement means that assessment should assess the day to day practice of pre-service teacher while undergone their teaching practice. Danielson (2014) had formed a framework that enables teacher educator to assess the pre-service teacher integrated with their everyday practice during teaching in the classroom. Peterman (2005) also included integration in her framework that requires assessment in-action of the pre-service teacher so that they can represent their actual performance during practice.

### ***Informative***

In the 21st-century, the assessment goal and objective should be clearly stated and represent the skills that are needed in this new century. Furthermore, learning objective, instructional strategy, assessment methods and reporting processes must be aligned so that each component can provide useful information for each other. In teaching practice, these components are very crucial because many institutions are having different objective and goals while placing their pre-service teacher for the field experience. Newby (2012), Hiebert et al. (2007), Balla & Boyle (1994) and Peterman (2005) had included the requirement of goal and

objectivity in their framework. Balla & Boyle (1994) further added that after the purpose of assessment for pre-service teacher has been identified, teacher educator also needs to carefully select appropriate properties that will be evaluated, type of instruments that were necessary and how the assessment will be administered. This suggestion clearly represents the informative fundamentals that suggested by Greenstein (2012).

### ***Multiple Methods***

Multiple methods is an assessment continuum that includes a spectrum of strategies (Greenstein, 2012, p. 44). Multiple methods are the components that were needed in this new century to balance the advantages and disadvantages of every type of assessment methods or strategies. In teaching practice, most of the framework that was found were encouraging the use of self-assessment (Al-malki & Weir, 2014; Danielson, 2014; Newby, 2012), peer-assessment (Goos & Moni, 2001), performance-based (Peterman, 2005), observational assessment (Al-malki & Weir, 2014; Danielson, 2014; Merç, 2015) and also portfolio assessment (Al-malki & Weir, 2014; Merç, 2015; Teacher Education Ministerial Advisory Group, 2014). Despite that teacher educator also encouraged to collect multiple sources of evidence to assess pre-service teacher during teaching practice (Darling-Hammond & Snyder, 2000; Goos & Moni, 2001; Peterman, 2005).

### ***Communicated***

During this new 21<sup>st</sup> century, the transparency element was much emphasized to gain confidence in the assessment system. Greenstein (2012) had included this transparency element in her fundamentals in the element of communicated. Greenstein (2012) added that communication of assessment data should be clear and transparent for all the stakeholders that involved including pre-service teacher themselves. In this scoping study, the were no framework that emphasises this fundamental. Therefore, there is a need to review the currently available framework to comply the need to 21st-century assessment fundamentals.

### ***Technically Sound***

When assessment discoursed, the term validity and reliability are the most important points that should be discussed. To produce valid assessment in this 21<sup>st</sup> century, Greenstein (2012) advised that the assessment must measure the objective stated for the assessment together with 21st-century skills while for reliability, the assessment must be precise and technically sound. In teaching practice assessment, the reliability and validity also are essential elements that should be taken care of. Queensland College of Teachers (2012) suggested that the assessment system should meet the requirements of reliability and validity. Moreover, Tigelaar & van Tartwijk (2010) had suggested the use of Messick's extended notion of validity to provide learning opportunities for the pre-service teachers during teaching practice.

### **Systemic**

Aligned to the fundamental of communicated, systematic in assessment is crucial to ensure all of the fundamental components can contribute to each other and all the data are kept organised. This fundamental is important to ensure all the stakeholders can access the information on assessment easily when are needed. In teaching practice framework, Balla & Boyle (1994) had stressed the important on how the assessment had been administered in their framework. Queensland College of Teachers (2012) further added that system of assessment should meet the requirement of quality assurance features that include a well-connected system within the programs and across the sector.

### **Conclusion**

The scoping study in this paper has prevailed fourteen frameworks that available in the literature in order assess pre-service teacher during teaching practice at school placement. From the analysis that had been done using Greenstein's 21<sup>st</sup> Century Assessment Fundamentals (2012), currently available teaching practice assessment framework is still lacking in term of flexible and communicated; the important features for this fundamental that may have an impact toward current assessment. This study adopted scoping studies framework that suggested by Arksey & O'Malley (2005) that may provide a shift from systematic review method because the result was discussed in more broader view rather than thematic in the systematic review. To successfully generating the components that should have in assessment framework for teaching practice, we recommend that a systematic review should be done with a pedagogical and assessment thematic to generate the important elements available in current teaching practice assessment framework

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