

# The Utilisation of Portfolios in Demonstrating Nurses' Clinical Competence and Professional Development: A Review of the Literature

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## Abstract

**Background:** The advancement in the nursing profession requires combining knowledge and clinical skills. The term portfolio in nursing denotes learning from experience and allowing staff members to bridge the theory practice gap in order to demonstrate their clinical competence and professional development. It functions as a tool for reflective thinking and shows critical analytical skills and proof of proficiency. However, in Saudi Arabia portfolio is not a requirement for nurses to demonstrate their professional status or to showcase their clinical competence. Scholars from the UK, USA, and Australia suggest that portfolio acts as an inclusive collection of evidence which might be used to demonstrate individual's competence and its components could be used to enhance nurses' skills.

**Objective:** The current review aims to evaluate the utilisation of a portfolio as a tool to demonstrate nurses' clinical competence in the UK, USA, and Australia. The review then aims to determine whether the result of this review could be applied to nurses in Saudi Arabia.

**Methods:** A number of databases, including MEDLINE, CINAHL, ERIC, Cochrane, and Science Direct, were searched using suitable search terms, such as portfolio and nursing competence. The search was conducted for studies on portfolios and nurses' clinical competence from the UK, USA, and Australia over the last 16 years. The target population is limited to qualified nurses and/or student nurses, and the studies searched were those written in the English language only. PRISMA checklist was used to extract the data from the included studies.

**Results:** Sixteen papers were found to be relevant to this review. In this literature review two main themes were identified included: the different approaches to portfolios utilisation in the UK, USA and Australia, and portfolio as a tool for nursing assessment. The included studies suggest that a professional portfolio is a broader declaration of nurses' competence and should be used to better encourage reflection and bridge the practice-theory gap in nursing practice for nurses' staff and students. However, portfolios may raise concerns such as time consuming, dishonesty in the written report, or misrepresenting the individual's level of competence.

**Conclusions:** Professional portfolio in the UK, USA, and Australia represents an appropriate and achievable manner of competence demonstration and it can be said that portfolio can be potentially applied in Saudi Arabia. However, a professional portfolio may need validity testing to support this evidence and further research to investigate its applicability in Saudi Arabia.

**Key Words:** nursing – competence – portfolio – professional development

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## I. Introduction

The reason for this review firstly, is to investigate the use of portfolios as a tool to demonstrate registered nurses' clinical competence in the UK, USA, and Australia. Then, to discuss and analyse factors that might affect the application of portfolio in these countries in order to determine whether the result of this review could be applied to nurses in Saudi Arabia.

In Saudi Arabia, the formal nursing profession in hospitals commenced at Riyadh in 1958, when the Health Institute started to enrol only male nurses. In subsequent years, more nursing programs were introduced in Jeddah and Riyadh, as a result of a collaborative effort between the World Health Organization (WHO) and the Saudi Arabian Ministry of Health (MOH). By 1961, more nursing programmes were introduced to include female students. Men and women that graduated were recruited as nursing assistants. The continued development of Saudi nursing programs was further extended in the 1980s to admit post-graduate students for a three year course. This first began in 1987 at the College of Nursing at King Saud University, Riyadh. The MOH continued upgrading post-graduate and other graduate programs for the purpose of improving the quality

of Saudi nurses that joined the health care system. Today, there are over 33 Health Science Colleges in Saudi Arabia (King Faisal Specialist Hospital and Research Centre, 2011).

Nursing registration in Saudi Arabia is regulated by the Saudi Commission for Health Specialties (SCFHS). They ensure the development of all health services and enhance professional performance through networks so that all registered health care workers can maintain and update their qualifications and professional status (SCFHS, 2009). However, Saudi nurses do not need to prove their development or achievement of skills and knowledge in terms of continuous competence for the purpose of renewal of registration to maintain their professional status. Therefore, they do not maintain a portfolio in order to demonstrate their clinical competence. As such, this may lead to disconnection between theory and practice. Alternatively, Saudi nurses may keep their registration status by providing a certificate declaring that they have completed a certain number of learning hours for continuous medical education (CME) (SCFHS, 2009). However, these CME hours may not be relevant or pertinent to the needs of the patient, the workplace, or the profession. One of the limitations of this approach is that there is no written document that proves the relevance of these CME courses to a nurse's field of expertise or any demonstration of how these learning activities would influence a nurse's practice, although, according to Timmins (2008), demonstrating proof of nursing competence is considered a fundamental element to bridge the gap between theory and practice in the nursing profession.

Despite this situation in Saudi Arabia, in the USA nurses are guided by the National Council of State Boards of Nursing (NCSBN, 2013). In the USA a portfolio is an optional submission among practitioners who seek recertification (Byrne et al., 2007). However, in the UK nursing standards are regulated by the Nursing and Midwifery Council (NMC). The NMC stipulates that maintaining a portfolio, which is known as a *personal profile*, is an obligation for all registered professionals to prove their development of knowledge and skills (NMC, 2011; Timmins & Dunne, 2009). This is similar to the Australian nurses who are guided by the Nursing and Midwifery Board of Australia and regulated by the Australian Nursing and Midwifery Council (ANMC) (NMBA, 2010). In Australia, the ANMC framework has four components that guide continuous competence development for their registered nurses, including recency of clinical practice, continuous professional development (CPD), practice assessment, and the development of professional portfolios that evaluate an individual's practice against national competency standards (Sinclair et al., 2013). Hence, portfolio is likely to be a fundamental element for demonstrating competence and maintaining professional status among nurses in these nations and considered as a mandatory requirement by their particular jurisdiction, for this reason, the following section will explore the relation between portfolio and competence in practice.

### **1.1 Portfolio and Clinical Competence**

The rapid pace and evolving nature of this era requires a health care system that responds flexibly and meets the changing needs of patients, supports consistency in professional approaches, and enhances the quality of care provided. Fentianah (2012) in her mixed methods study about the importance of the implementation of a competency programme in Saudi Arabia asserts that nursing practice advancement provides an essential infrastructure in support of the continuous changes and dynamic needs of the nursing profession in Saudi Arabia. Therefore, in order to promote the quality of nursing practice in Saudi Arabia as Fentianah (2012) suggests this requires combining knowledge and clinical skills to achieve the competence in evidence-based nursing practice. However, Fentianah (2012) reflects that the current nursing appraisal tool which is used in Saudi Arabian public hospitals to evaluate the nurses' skills is generic and does not meet the requirement of universal competency standards. To illustrate this appraisal tool is not specific for nurses and does not assess the individual's level of competence and their professional development. This indicates the need to find an up-to-date, objective, and standardised approach to measure the nurses' competence in Saudi Arabian hospitals. This explains the aim of this review to investigate the portfolio utilisation as a tool to demonstrate nurses' clinical competence.

McGrath, et al. (2006) highlighted in their descriptive article the importance of demonstration of standardised competencies in maintaining the registration process for nurses through the use of portfolio, which is considered the best approach for ensuring the promotion of safe and effective care. On the other hand, Sinclair et al. (2013) refer to this document of portfolio as a professional development report (PDR) in Australia and they see it as a formal means of transforming the practitioners' skills into a tangible document of CPD. Tashiro et al. (2012) emphasise that some of the contents reflected in a PDR form should include a self-declarative statement specifying fitness and competence to practice, evidence of participation, and reflective statements. The application of portfolios for registered nurses is encouraged in the UK for professional development and for the demonstration of continuous competence (Bowers and Jinks, 2004; Casey and Egan, 2010). In relation to as key benefits of portfolio development, Ryan (2011) notes in her descriptive study that nursing competence in the USA arises from improvements in understanding and knowledge, increased self-awareness and commitment in self-reflection, and enhanced skills. Similarly, Timmins (2008) believes that the process of portfolio

development enriches the nursing practice in the UK through its components. Therefore, it has been used to enhance personal development and to indicate the application of theory in practice (McMullan, 2006; NMBA, 2010; NMC, 2010).

Despite the fact that the process of portfolio development as noted might influence the nursing practice in the UK, USA, and Australia and enhance the nursing profession, some scholars contest that portfolios and their components should be used in the nursing schools only with effective guidance and supervision to facilitate this learning method, especially for newly enrolled learners (Bulman & Schutz, 2008; Timmins, 2008; Yearly, 2003). On the other hand, the portfolio is a potent tool for critical thinking, and it is attributed to be a reliable record for improving the quality of nursing practice (Scholes et al., 2004). Nevertheless, its validity could be influenced by personal issues, such as the individual's level of interest to learn, self-concept, and personal experience (Timmins, 2008).

## **1.2 Potential Impact of the Review**

Portfolio development in Saudi Arabia remains largely unexploited despite the increased attention it has received across the UK, USA, and Australia in terms of self-assessment, competence demonstration, and reflection (Webb et al., 2003). Greater external validity in the introduction of portfolio development to Saudi Arabian nurses can be achieved by evaluating the level of its success in the nursing practice in the UK, USA, and Australia.

To be specific, these countries have shown the best evidence on portfolio utilisation for example, UK nursing schools apply portfolio to assess nurses' student competence in placement, while in the hospital it is used for professional development (Bowers and Jinks, 2004). However, in the USA and Australia, portfolio has been used to demonstrate competence for both education and practice (Sinclair et al., 2013; Ryan, 2011). This approach of portfolios application, according to McColgan and Blackwood (2009), will help to alleviate the current challenges of the nursing profession and that applied to the nurses in Saudi Arabia, given that portfolios have not been recognised or integrated into its nursing education programme or into the nursing professionals. This review on portfolio development will add support in nursing practice, aid knowledge management developments, and may also be a crucial connection between learning at the personal and organizational level. Since a database search shows no articles had been published in Saudi Arabia in this field, this systematic review is the first to document portfolio application in Saudi Arabia, in particular, for self-reflection and demonstrating competence among nursing professionals. Therefore, the current systematic review aims to examine the utilisation of portfolio to demonstrate nurses' competence migrating from these regions to a Saudi Arabian context.

Watson et al. (2002) notes that the lack of appropriate competence and skills may result from problem areas anywhere along a sequential continuum of nursing processes; therefore, it is important to put in place systems to identify potential weak links that may lead to unsafe outcomes or results that can hamper one's quality of service such as mastering of basic operative care or basic nursing skills. Tashiro et al. (2012) support this observation, noting that having a reasoned approach that supports continuous reflection as portfolio can improve individual expertise. Hill (2012) in her descriptive article on portfolios believes that this approach of portfolio application will cushion the nurses from missing out on new emerging practices that result from continuous scientific innovations and dynamic technological developments in the field. Hill (2012) believes that portfolio can be used as a reliable tool that can strengthen nurses' competence. However, she considered it a defective evaluation tool when it is the only method applied. As such, some limitations may be experienced, including failure to completely demonstrate competency (Hill, 2012). For instance, the difficulties in the writing skills, which may vary among individuals, could lead to wrong assumptions of the person's level of competence.

Therefore, it becomes a matter of importance that the lack of portfolios and self-reflection in the professional development process may have negative outcomes accompanied with poor or lack of competence in practice (Chabeli, 2002). According to Endacott et al. (2004) without portfolios, individuals will be unable to keep pace with current professional developments because they may be unable to reflect on their years of progress, learning, perception, and differentiation about previous and new forms of nursing care. Given that the importance of portfolio development and self-reflection have been highlighted in the UK (McCready, 2006; McMullan, 2006), Australia (Sinclair, et al., 2013), and the USA (Ryan, 2011), the current systematic review seeks to examine whether a similar concept can be applied in Saudi Arabian nursing practice. The challenge is to ponder whether it is possible to create a system of promoting, applying, maintaining, and documenting competence that maximises individual competency in Saudi Arabia through portfolios and its components. This is why, in the current literature review, the primary aim is to pinpoint how portfolio as a tool can demonstrate nurses' clinical competence in the UK, USA, and Australia and then to determine whether the result from this review could be applied to the nurses in Saudi Arabia.

### 1.3 Review Questions

The research questions for the scoping of this review were developed based on the subjects presented in the background which is the utilisation of portfolios to demonstrate nurses' clinical competence. SPICE is a method which is used to clarify and focus the research question. Booth and Brice (2004) suggest that SPICE is a more generic and intuitive model to formulate the review's question. However, the Joanna Briggs Institute (JBI) (2008) describes SPICE as the best tool to be used for both quantitative and qualitative reviews. Therefore, in this review SPICE framework was applied as follows:

- **The Setting:** UK, USA, and Australia.
- **The Perspective:** pre/post registered nurses (RN) and nursing students.
- **Intervention:** portfolio.
- **Comparison:** none.
- **Evaluation:** demonstrating nursing clinical competence.

These were used to formulate the research questions for this review, which are:

- a. Dose the portfolio application assist in demonstrating nurses' clinical competence?
- b. What are the different approaches to the utilisation of portfolios in nursing practice in the UK, USA, and Australia?

### 1.4 Review Objectives

- i. To examine how portfolio development in the UK, USA, and Australia has influenced nursing practice.
- ii. To evaluate the usefulness of a portfolio as a reliable tool for individuals to meet the competence level required by the workplace and the national respective body.
- iii. To determine if findings from the UK, USA, and Australia can be applied to the Saudi Arabian context.

### 1.5 Conceptual Approach of the Review

In the current review, the study approach is proposed to guide the review and determines the objectives to be measured and what relationships or associated concepts to look for in this study. For instance, the adult learning concept is considered a crucial principle and has already been implemented in various countries and nursing specialties, and this is evident through portfolio application and how it has been utilised (Timmins, 2008). As such, research on portfolios as measures of competence has been conducted through independent studies by Timmins (2008), who notes that portfolio development among adults is considered to be both a critical and widely embraced method towards learning through self-reflection. Nonetheless, personal experience on the subject suggests that this widespread recognition of independent adult learning and self-reflection is not always the case. In Saudi Arabia, which is the home country and region of focus in the current systematic review, these principles of adult learning and portfolio development have not been recognised in the nursing profession and that may reflect the quality of nursing care. Popil (2011) points out that portfolio use is a process of active learning aimed at promoting decision making and critical thinking, and its use is essential in all cases of nursing practice. This is despite the negative perception that portfolio development and its component when applied to UK nursing schools requires close guidance and supervision in order to extract the learning outcome, mainly among the first time users of the tool (Yearly, 2003; Timmins, 2008). However, Timmins (2008) indicates that nursing practice is enhanced and facilitated in the UK through portfolio application as theories have incorporated into practice. Therefore, The use of portfolios as a formative and summative tool in education has been recognised in the UK for the purpose of assessing nurses' competence for placement (Tashiro et al., 2012) and as evidence for professional development for qualified nurses (Farrell, 2008). However, it is deemed as a mandatory requirement for renewal of registration in Australia (Mills, 2009), whereas, it is an optional submission among practitioners who seeks recertification in the USA (Byrne et al., 2007). It is used to enhance personal development and indicate the application of theory in practice (McMullan, 2006; NMC, 2010). Yet, as Timmins (2008) explains, it can be affected by personal factors. For instance, a personal commitment to learn could vary the utilisation of portfolios among individuals. Therefore, Jones (2010) argued that several writers have reflected the need for better understanding of the portfolio process in professional development. As such, the theoretical approach to the concept of adult learning and reflection can be evaluated for its reliability and application to Saudi Arabian nursing learning. This is because post-registered nursing competence and skills reflection can be argued to be a universally accepted concept by the nursing profession. The quality of clinical skills has a major impact on service delivery and therefore can improve the quality of life. Therefore, portfolio development should be disseminated to other geographical locations, given that the health care quality among nations, from a personal point of view, is based on similar scientific concepts.

## II. Methodology

### Introduction

Evidence-based education is considered to be a crucial element of recent developments in systematic reviews and methods in the field of health care and educational research (Torgerson, 2003). For this reason, Torgerson (2003) suggests well-established stages for developing a review; these stages include writing a protocol (appendix C), searching the literature, identify the inclusion and exclusion criteria (Table 1), identifying the included studies (appendix A), extracting the data and classifying the studies (appendix B), synthesising the data, and finally writing and disseminating the report.

### 2.1 Search Strategy

An initial electronic search was completed using CINAHL and Medline to assess the sensitivity of key words of this topic and the specificity of the terms *portfolio*\* and *competence*\*. However, these terms were found to be too broad and yielded a wide range of references but were still useful if combined with *nursing*. This was after the search strategy protocol was developed (Appendix C) and relevant standard documents were scanned from websites such as NMC, NMBA, and NCSBN. Therefore, as suggested by Torgerson (2003), inclusion and exclusion criteria were developed Table (1), and another search was performed using the key words in Table (2) to cover as many studies as possible that might be appropriate to answer and maybe refine the research questions.

Criteria	Inclusion criteria	Exclusion criteria
Date of publication	Published between 2002 and 2014	Published prior to 2002
Focus of Studies	<ul style="list-style-type: none"> <li>• Studies from UK, USA, and Australia.</li> <li>• Includes nursing professionals in practice (RN), and student nursing e.g. undergraduate nursing and postgraduate nursing</li> <li>• Evaluation of portfolio as method of demonstrating competence for nurses in practice.</li> <li>• Evaluation of portfolio as method of professional development for nurses in practice.</li> </ul>	<ul style="list-style-type: none"> <li>• Method of competence assessment not identified or not using portfolios as a tool.</li> <li>• Assessment of competence not evaluated through a process of research and/or literature reviews.</li> <li>• Assessment of nurse educators and/or practice teachers and non-nursing professionals.</li> <li>• Studies on electronic portfolios (e-portfolios) were not included to focus the review on general use of portfolio application.</li> </ul>
Types of studies	<ul style="list-style-type: none"> <li>• Literature reviews.</li> <li>• All types of research, such as RCTS, surveys, and descriptive studies.</li> <li>• Opinion-based papers.</li> </ul>	Letters, editorials.
Outcome Measures	<ul style="list-style-type: none"> <li>• Enhances nurses' competence by using portfolios as tool in the UK, USA, and Australia.</li> <li>• Employee satisfaction.</li> <li>• Employer satisfaction.</li> <li>• Processes used to demonstrate and maintain competence.</li> <li>• Achievement of core competency skills.</li> <li>• Achievement of overarching competence to practice.</li> </ul>	Evaluating portfolio as a tool without including competence assessment or evaluation.
Language	<ul style="list-style-type: none"> <li>• Studies available in English language only</li> </ul>	Non-English texts where the translations were not available

**Table 1:** *The inclusion and exclusion criteria used to limit the searches*

Then, articles were retrieved by electronic and manual searches from databases which are most relevant to the subject of the review and nursing, including CINAHL, the Education Resources Information Centre (ERIC), Medline, Professional Development Collection, Cochrane, proQuest, and Science Direct. Articles were assessed against the predefined inclusion/exclusion criteria in (Table 1). Suitable articles that met the inclusion criteria were selected. Although the Centre for Reviews and Dissemination (CRD) Guidelines (2008) suggest that the quality of a study refers to minimising bias and maximising validity, Kitchenham (2004) argues that there is no agreed-upon definition of the quality of the study, and applying these criteria of inclusion and exclusion is generally considered essential to assessing the quality of a study. Therefore, the quality of the included articles was assessed based on these criteria of inclusion and exclusion.

Since the initial database search showed the lack of evidence in relation to registered nurses, the reviewer broadened the search in this field to nursing students to provide support about portfolio utilisation in the nursing profession. Moreover, the absence of published evidence about portfolio in Saudi Arabia directed the review to focus on the period between 2002 and 2014 for articles which are published in the UK, USA, and

Australia. These countries have shown good evidence on portfolios utilisation. Moreover, This approach as suggested by Torgerson (2003) aims to show the most recent updates and changes in the topic, which therefore ensures that the results of a series of high quality studies in the same subject can be transferred if the same settings are offered.

## 2.2 Search Results

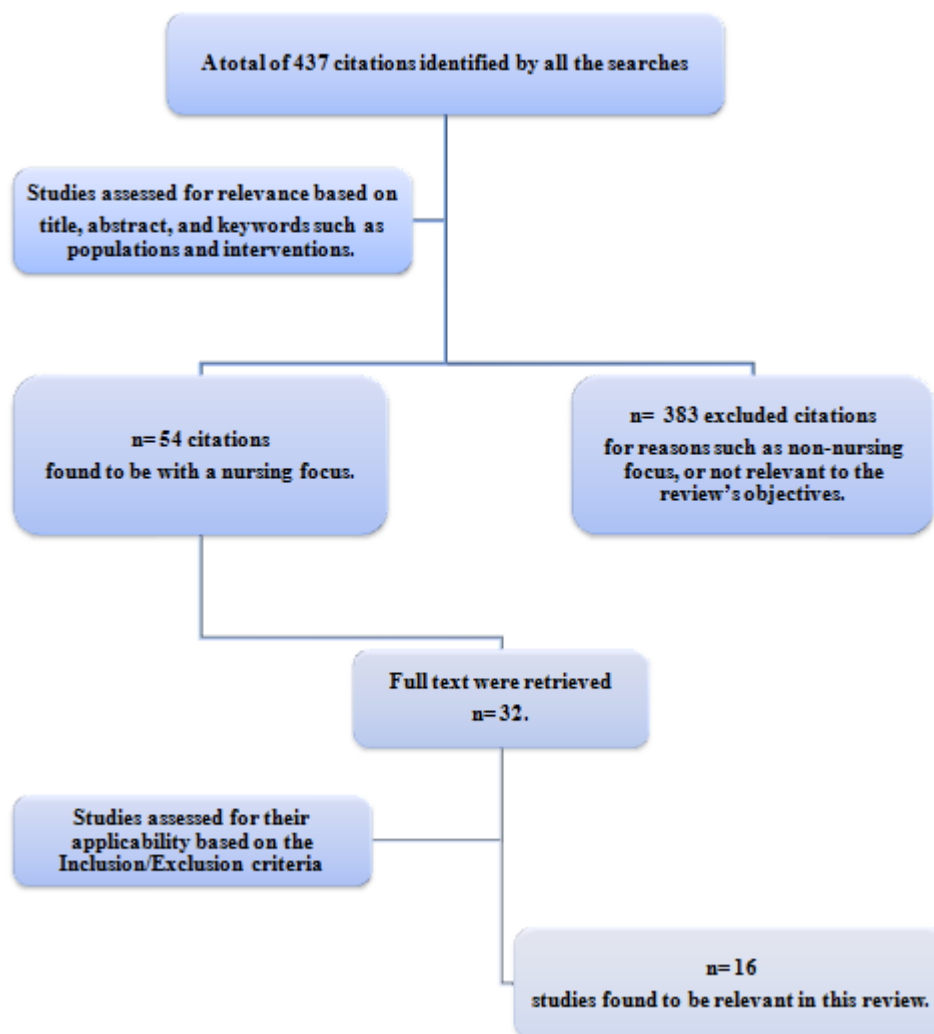
The initial electronic search using the terms *portfolio\** and *competence\** yielded a total of 2,148 citations. This number of citations was found to be large. Therefore, another search was performed using Boolean operations and the key search terms listed in table (2) to narrow the quantity of material sourced to 437 articles for this review. Of these 54 citations were for nursing, while 26 for medicine, and the rest were from other allied health sciences, including physiotherapy, dentistry, and anaesthesiology.

Search Terms Used in This Review	
Portfolio and nursing competence	Nursing portfolio*
Professional development report	Indicators of competence
Assessment of nursing skills	Portfolio development
Nursing competence*	Competency based tool

**Table 2:** Search terms used in the literature review

Of the 54 citations, duplicated papers were removed and full texts were retrieved (n=32). Then, these articles were reassessed for their relevance to the objectives in the current review and applicability based on the above elaborated information and rigorous application of the inclusion and exclusion criteria in table (1) until the final result was identified (n = 16). A summary of all the included articles is presented in Appendix A. The decision related to which type of evidence should be included in this review was made based on the CRD's hierarchy of evidence. Therefore, in the final collection, sixteen studies were selected, as they were found to be the most suitable for this review and were categorised as follows:

- Five are systematic literature reviews (Bowers and Jinks, 2004; Byrne et al., 2007; McCready, 2007; Mills, 2009; McMullan et al., 2003). These have been considered and included for the purpose of this review in assessing evidence about portfolios utilisation, as Kitchenham (2004) suggests that systematic reviews in this type of study should be considered in the highest level of reliable evidence.
- Seven are descriptive research (Endacott et al., 2004; McMullan, 2006; Ryan, 2011; Schaeffer et al., 2005; Scholes et al., 2004; Webb et al., 2003; Williams, 2003); of these, two included a combination of qualitative and quantitative components (McMullan, 2006; Schaeffer et al., 2005), while five were purely qualitative (Endacott et al., 2004; Ryan, 2011; Scholes et al., 2004; Webb et al., 2003; Williams, 2003).
- Four opinion-based articles were included (Casey and Egan, 2010; Hespeneide et al., 2011; Sinclair et al., 2013; Storey and Haigh, 2002), even though the design of these papers has been ranked by the CRD's hierarchy (2001, cited in Kitchenham, 2004) as the lowest reliable level of evidence. This design are classified by the Evidence Based Nursing Practice (EBNP) (2003) as reliable evidence since they offer a respected overview of a subject and are based on either clinical evidence or reports from committees. In the current situation, they presented portfolios' utilisation as a tool for nursing professional development and competence maintenance, which are the major objectives of this review.



**Figure 1:** Overview of the literature search and retrieval.

### 2.3 Data Extraction and Synthesis

At this stage of the review as suggested by Torgerson (2003) data were extracted from the included studies using the PRISMA checklist developed for this review (Appendix B). As this review includes various types of studies, such as descriptive research, systematic reviews, and expert opinion-based papers and these included studies used a combination of qualitative and quantitative approach, discrepancies were resolved at all stages by utilising the PRISMA checklist (preferred reporting items for systematic reviews and meta-analyses) in order to ensure a consistent approach.

Moher et al. (2009) find that the PRISMA checklist helps to improve the reporting of systematic reviews and meta-analyses and may also be useful for a critical appraisal of published systematic reviews and research, although it may still need modification to avoid the risk of bias which has been reported by a few authors who have used PRISMA in their systematic reviews. PRISMA can also be applied as a tool for reporting systematic reviews of other types of research, such as evaluations of interventions and randomized controlled trials (Moher et al., 2009). Therefore, data relating to characteristics of the population, intervention, design of the study, outcome measures, and recommendation were extracted using a PRISMA tool, and a full report of data extracted using the PRISMA checklist for all included studies that met the inclusion and exclusion criteria is presented in Appendix B.

After that, data was generated from the included studies according to their credibility, and the findings were categorised into themes. This was summarised by the development of a narrative report in the next Chapter to pinpoint the main themes and present suggestions in the literature that reflect the existing objective related to portfolio utilisation to demonstrate nurses' clinical competence in the UK, USA, and Australia.

### **III. Review of the Literature**

#### **3.1 Overview of the Included Literature**

A portfolio is a professional record that enables nurses to provide documentary evidence of competence and a level of knowledge in practice (Bowers and Jinks, 2004). However, what can be observed from this study is that the definition of a portfolio varies based on how a portfolio has been utilised in a particular country. In this manner, a portfolio, as Casey and Egan (2010) suggest is likely to be a tool that has an ability to enhance career changes, meet national body requirements, and promote education in practice.

Due to the challenges in the career of nursing, the lack of the use of portfolios, and their benefits and application in Saudi Arabia, the current literature review presents a number of studies that have been conducted in the UK, USA, and Australia to evaluate the reliability of portfolio application as a tool to demonstrate nurses' clinical competence. This literature review was undertaken by sourcing evidence written between 2002 and 2014. Therefore, it presents a range of studies about portfolio development and utilisation in the UK, USA, and Australia in terms of what scholars in this field have explored and documented about portfolio effectiveness. This paper will highlight the different approaches to portfolio utilisation in the named nations. That said, this approach has accepted the supposition that professional portfolio development in the above countries represents a reliable way of demonstrating competence for nurses in Saudi Arabia.

This review presents a range of studies which are categorised and tabulated in appendix B this method was used as suggested by Torgerson (2003) in order for the data to be synthesised. Of the sixteen studies included in this review ten papers from the UK were included (Bowers and Jinks, 2004; Casey and Egan, 2010; Endacott et al., 2004; McCready, 2007; McMullan, 2006; McMullan et al., 2003; Scholes et al., 2004; Storey and Haigh, 2002; Webb et al., 2003; Williams, 2003), two from Australia (Mills, 2009; Sinclair et al., 2013), while four from the USA (Byrne et al., 2007; Hespeneide et al., 2011; Ryan, 2011; Schaeffer et al., 2005).

However, these sixteen papers included five systematic reviews (Bowers and Jinks, 2004; Byrne et al., 2007; McCready, 2007; Mills, 2009; McMullan et al., 2003), seven descriptive studies (Endacott et al., 2004; McMullan, 2006; Ryan, 2011; Schaeffer et al., 2005; Scholes et al., 2004; Webb et al., 2003; Williams, 2003), and four articles that offer expert opinion, of these two are descriptive articles (Casey and Egan, 2010; Hespeneide et al., 2011) and two are discussion papers (Sinclair et al., 2013; Storey and Haigh, 2002).

Firstly, the methodological qualities of these studies will be discussed. Then the literature will be presented in themes that introduce the different approaches to portfolio utilisation in the three countries, finally presenting an evaluation of the portfolio as a tool in demonstrating nurses' clinical competence.

#### **3.2 Assessing the Methodological Qualities of the Included Studies**

In this stage of the study as Torgerson (2003) suggests the data will be synthesised and described based on their characteristics, strengths, and weaknesses. Although the selection criteria define the geographical area where the studies were conducted, the population, intervention, and the outcomes measures as shown in Appendix A, the appraisal process involves an assessment of the study methodology used in the included articles such as, the study design, the sample, the instruments used to collect the data, including methods implemented to maintain validity and reliability of the instrument.

##### **3.2.1 Descriptive Studies**

Seven descriptive studies were included. Of these, two were using combined quantitative and qualitative method (McMullan, 2006; Schaeffer et al., 2005), while the remaining five were purely qualitative descriptive design (Endacott et al., 2004; Ryan, 2011; Scholes et al., 2004; Webb et al., 2003; Williams, 2003). This descriptive design was deemed to be the best in terms of its accuracy of presenting the characteristics, such as behaviour, opinions, abilities, beliefs, and evaluations (Ingham-Broomfield, 2008), although Greenhalgh (2010) pointed out that this descriptive design does not have clear defined steps and shows difficulties to be explained.

The sizes of samples in all the primary studies ranged from six to 174 of participants where the smallest group size was found to be in the qualitative papers. This is not surprising as this method aims to study an in-depth understanding of the experience of group of people (Ingham-Broomfield, 2008). However, some common themes in the reviewed studies arise and authors have offered recommendations that may be useful to portfolio application such as the tripartite approach for portfolio evaluation which will be explained later in this review (McCready, 2007; Webb et al., 2003; Williams, 2003).

The data collection instruments which were used in the seven descriptive studies to ensure methodological quality were postal questionnaires, focus groups, interviews, surveys, and examination of portfolios content. For instance, Endacott et al. (2004) conducted a descriptive study and obtained qualitative data amongst post-registered nurses in a higher education institution in the UK. Telephone surveys in stage one were used to choose the participants randomly. However, in stage two students' portfolios were examined for in-depth case studies. These have been justified properly in the study by the authors, although the sample size was not reported which may affect the reliability of their study. The data in this study was analysed based on



grounded theory using constant comparative method. This method according to the CRD's guidelines (2008) considered valid as it offers a set of procedures for analysing qualitative evidence.

However, McMullan (2006) in her descriptive study used both qualitative and quantitative methods to collect data about students' perception of portfolios using postal questionnaires consisting of Likert scale and open-ended questions which are according to Greenhalgh (2010) considered to be valid in collecting a comprehensive view for a large number of participants. Preregistered diploma nursing students from their first and third year ( $n = 174$ ) in a higher education institution in the UK were recruited for this study. The total response rate was 69% (174/253) which is considered quite acceptable, although Greenhalgh (2010) suggests that a 70% rate is the requested level of response for research to be published and for the result to be considered as valid. The sample size of 174 students in McMullan's study is considered quite large for qualitative studies, though, the data collected was ensured for its validity through initial pilot testing of second year students ( $n=56$ ). However, the methodological quality was ensured by posting questionnaires to the total population. This is appropriate as the CRD's guidelines (2008) suggest it gives the same chance for everyone to participate, hence, it minimises the risk of bias.

On the other hand, Ryan (2011) limited her study to a small sample size (students,  $n = 8$  and faculty,  $n = 6$ ) for a descriptive design and used qualitative method to collect the data for the study from one of the US higher education institutes. However, this small sample size may affect the applicability of the findings to other populations. As such, it may be useful to conduct similar study in other nursing settings or universities. Ryan (2011) collected the data using the focus group discussion, which was audio recorded for each group. The methodological rigour was ensured by sending a brief written description of the interviews to each participant to validate the content and request for feedback was provided, as well as, the content analysis approach which is used throughout the analytical process to analyse the data from the participants. This method of content analysis provides a systematic process and reduces risk of bias where phenomenon to be described and categorised into themes by the author (Ingham-Broomfield, 2008).

Schaffer et al. (2005) obtained a number of qualitative and quantitative data in a descriptive design research amongst BSN and RN students ( $n = 88$ ), and faculty members ( $n = 7$ ) from public health centres and nursing schools in the USA. Their study was based on an analysis of portfolio content, focus groups, and surveys. The method of choosing their participants of BSN, RN, and the faculty was not appropriately explained. However, the instructions of what student should maintain in their portfolios were clearly introduced in advanced and additional support through an online discussion forum was provided. Although the analytical process was not reported in this study, it was mentioned that nine portfolio samples were chosen randomly from the participants to be analysed, whilst the portfolios of the BSN students were not available at the time of analysis which may affect the reliability of the study.

However, Scholes et al. (2004) conducted a descriptive research amongst 154 student nurses and 84 assessors using a qualitative approach in higher education institutes and their associated clinics in the UK to determine how students and assessors could map competencies to their practice. The authors did not make the data collection process transparent, although they clearly justified the use of various instruments at each stage, such as in the first stage they used a telephone survey, while in the second and third stage focus group interviewing and observations were used.

Webb et al. (2003) provide a conceptual discussion of their evaluation of the portfolio assessment process. Webb et al. (2003) pointed out in their paper that the original study was not published. However, it was reported that they recruited the population of nursing students, teachers, and assessors from Higher Education Institutions in the UK. Although they highlighted the instruments which were used to collect the data of the study such as interviews, case study, and observation, other methodological details were not explained such as analytical process. Therefore, results should be read with caution as there is little methodological detail in this paper.

Williams (2003) conducted research to obtain qualitative data through describing a small-scale study amongst nursing students ( $n = 6$ ) and their supervisors in a nursing school in the UK. A small sample can be considered as a limitation. As such may limit the findings from being generalizable. Williams (2003) aims to examine the effectiveness of tripartite method in assessing the portfolio tool. She used semi-structured interviews method to collect the data from the participants. This method can be considered valid in obtaining a more comprehensive view from all the participants (students, assessors, and teachers). However, the methodological quality of the study and the analytical process was not appropriately defined in this paper.

### **3.2.2 The Systematic Reviews**

In the five literature reviews, the type of the review was not clearly defined in all of these studies. However, the rigorous application of selecting the studies which minimises bias was highlighted by the authors. In order to appraise the included reviews, the simplest approach of using components that itemised the key features of the systematic reviews was applied (JBI, 2000). For instance the assessment included, the clarity of

the question through presenting the aim of the study, the population of the study, the search strategy, the criteria of selection, the method which is used to minimise bias.

Bowers and Jinks (2004) conducted a literature review on issues underpinning portfolio development for registered nurses in the UK. Bowers and Jinks (2004) briefly discuss their search strategy. However, the literatures included were limited to databases such as CINAHL, OVID and NMC over 1980- 2002. They used portfolio, profile, profiling, and nursing as search terms. Yet, the criteria of which study to be included or excluded were not defined properly in this review which in order might affect the rigor of their study.

In Byrne et al. (2007) a review of literature, the aim was to compare the value of portfolio versus continuing education for competency assessment in the USA. The method of selecting the evidence was not transparent. Byrne et al. (2007) summarised literatures using undefined steps or a framework. The time frame of which the data was sourced was not reported. This may affect the rigour of their study.

The literature review conducted by McCready (2007) exploring portfolios as tool for competence assessment in nursing education in the UK was undertaken from CINAHL, MEDLINE, and a hand search of relevant journals from 1993 to 2004. The search terms used were limited to nurse education, portfolios and assessment, and competence. McCready (2007) ensured rigorous application of the elaborated inclusion and exclusion criteria; however, quality assessment instruments were used throughout the study to assess the methodological rigour of the selected studies.

Mills (2009) conducted a review of the literature concerning the utilisation of professional portfolios in Australian nursing professionals. The search method was not appropriately reported, the data was collected sourcing articles from CINAHL, MEDLINE, PubMed, and ProQuest over a time frame of 1996-2008. Mills (2009) used a combination of portfolio and nursing as a search terms. However, the search was limited to English publications which may indicate potential selection and language bias.

McMullan et al (2003) conducted a literature review on portfolios and the assessment of competence for UK nurses sourcing evidence between 1989 and 2001. McMullan et al. (2003) briefly discuss their methodology which is considered as a main limitation in their review. Their inclusion and exclusion criteria were not appropriately presented, although it was reported that the search was limited to English language paper and computerised databases which may indicate potential bias. Both nursing education and portfolio articles were extracted from CINAHL and MEDLINE databases and search keywords which were used to minimize research errors such as competence, and portfolios.

### **3.2.3 Opinion Based Articles**

Four opinion-based articles were included in this review. This design of papers are classified by the EBNP (2003) as reliable evidence since they offer a respected overview of a subject and are based on either clinical evidence or reports from committees. In the current review they have been selected, as they presented portfolio utilisation as a tool for nursing professional development and clinical competence maintenance, which are the major objectives of this review.

Casey and Egan (2010) describe the relationship of professional portfolios and career enhancement amongst post-registered nurses in the UK. Casey and Egan (2010) in this article consider professional portfolios as a vehicle for engaging in personal and professional development, and could be used to evidence competence. They present their argument in well-constructed themes to support the assumption of potential benefit of professional portfolio development. They based their assumption on sufficient evidence from the NMC standards such as Post-registered Education and Practice (PREP) standard, (NMC, 2010). However, the main limitation in this paper was the reliance on documents from the NMC without presenting findings from recent research.

Hespenheide et al. (2011) describe in their article a process of developing and evaluating professional development program amongst a US advanced Practice registered nurses through a creation of professional portfolio. They adopted magnet forces model which is a US framework that illustrates the principle of excellence in nursing, APRN Professional Performance Standards, and relationship-based care as a hypothetical guide to present their argument of portfolios as a tool that is used to showcase advanced practice. The outcomes of the program was clearly addressed and presented in the article. However, they included a narrative reflection to show the concourse of the evidence in their study which may reflect some of the author's opinion, thereby, indicate potential bias.

Sinclair et al. (2013) discuss in their article the need of a portfolio to demonstrate competence in practice, and continuing professional development in Australia. They highlight the NMBA requirements in relation to demonstrate competence for registered nurses. Sinclair et al. (2013) based their assumption of using portfolio for all nurses regardless of practice context on the standards guided by the NMBA (NMBA, 2010). In this article there was a big reliance on documents from the NMBA which may be considered as the main limitation of this paper. As such it may be useful if the authors incorporated a range of studies and research papers to support their argument. However, in this article authors addressed a number of issues relating to

nursing standards and portfolios utilisation in Australia. The data from this article found to support the means of this review and addressed the need to be taken into consideration.

Storey and Haigh (2002) in this article discuss briefly about portfolio as a tool that is used to assess competence in practice in the UK. They present portfolio development as a tool that supports fitness for practice and could be used in competency-based assessment at least within pre-registered nurses. They based their assumption on policy documents from the United Kingdom Central Council for Nursing Midwifery, Department of Health, and NHS. Although the findings were well supported by these documents and further research was clearly addressed in this paper, the authors likely limit their argument on these standards without presenting findings about portfolios from other type of papers.

As shown above, the assessment of research methodology used in the included studies represented few issues in the methodological qualities. However, there were few methods implemented to maintain validity and reliability in these studies and these were discussed in this section. The following sections will present the literature in themes that illustrate the different approaches to portfolio utilisation in the three countries, finally an evaluation of the portfolio as a tool to demonstrate nurses' clinical competence will be presented.

### **3.3 Different Approaches to Portfolio Application**

The studies reviewed and included have highlighted the importance of portfolio development as a tool that provides evidence of a nurses' competence and enhances professional development. However, there were variations on the purpose of portfolios application among the three nations. In the UK, the main focus was to study the application of portfolios for nursing students (Endacott et al., 2004; McCready, 2007; McMullan, 2006; McMullan et al., 2003; Scholes, et al., 2004; Webb et al., 2003), while in Australia, the focus was to document the utilisation of portfolios as a requirement to demonstrate competence for nurse practitioners for the purpose of renewal registration (Mills, 2009; Sinclair et al., 2013). In the USA, portfolio application has developed recently for both purposes of education and demonstration of practitioners' competence (Byrne et al., 2007; Hespenheide et al., 2011; Ryan, 2011; Schaeffer et al., 2005).

McMullan (2006) studied portfolios as an assessment and learning tools, and her study indicates that the tool was embraced in the UK for nursing education. In addition, McCready (2007) concurs that portfolios are used widely in clinical practice in the UK. Yet, portfolios may undergo challenges, as McMullan (2006) suggests, they vary in their effectiveness in terms of learning tools and assessment methods based on the person who developed them; thus, portfolios have to be designed in such a manner that they are relevant, user friendly, and clear amongst mentors and students.

Bowers and Jinks (2004) highlighted the advantages and the drawbacks of portfolio utilisation in professional development in the UK. They pinpoint the limitation of evidence on the usefulness of a professional portfolio. However, Bowers and Jinks (2004) reflect on the crucial element of portfolios, which is the reflection component, and that benefits nurses by bridging the gap between theory and practice and boosting evidence-based nursing practice. Thereby, Ryan (2011) and Casey and Egan (2010) believe that the commitment to portfolio development after academic education has been accomplished has the potential to promote nurses' professional knowledge. On the other hand, challenges and disadvantages for portfolio development are highlighted by many authors such as (McMullan, 2006; McCready, 2007; Ryan, 2011). For example, portfolios are time consuming to create, require guidance and support, and lack a specific framework that can be generally applied. There is also a lack of regulations or institutional requirements to motivate nurses to maintain their portfolios (Bowers and Jinks, 2004; Schaeffer et al., 2005; and McMullan, 2006; Ryan, 2011).

Additionally, Schaeffer et al. (2005) in their descriptive research amongst BSNs, RNs, and faculty members from public health centres and nursing schools in the USA, noted that the majority of the assessed students agreed on portfolios as crucial in clarifying the role of the public health nurse and facilitated the application of public health competence, communication, and sharing of nursing ideas. Nevertheless, most participants disagreed on the notion that portfolios facilitated learning of novel skills. Alternatively, they found that they helped in recognising various public health nursing interventions and made it possible for learners to achieve them. Despite the challenges and negative aspects of portfolio use deliberated in the Schaeffer et al. (2005) study, it remains that to some extent, nurses who apply self-reflection tools are said to be in a better position to deliver excellent health care services and to remain up to date with their practice knowledge. Although Schaeffer et al. (2005) in this study show evidence of milestone development and highlight issues related to confidence in documenting personal qualifications among participants, they recommend that portfolio structures should be refined, and training for assessors and students is required for its application. The necessity to enhance the usability of portfolios was highlighted as the learning and documentation process advances.

Likewise, Casey and Egan (2010) and Storey and Haigh (2002) deemed that a portfolio is a reliable tool in competency assessment and that portfolios encourage reflection among some groups; in others, it facilitates learning engagement. It was also noted that the validity and reliability of portfolios as a summative assessment varied depending on the portfolio contents and what was measured. Therefore, Storey and Haigh (2002)

recommend the need for redefining competence and establishing a framework that ensures the validity of portfolios for continuous competence in terms of lifelong practice.

Another approach for portfolio application has been presented in a literature review on Australian nurses and midwives conducted by Mills (2009), who notes that competence demonstration in nursing practice in Australia is an obligatory requirement for re-registration, and every year there is a declaration of an individual's continuing competence. Also, the nursing regulatory bodies in Australia undertake a random auditing of midwives and nurses portfolios to examine and assess their competence to practice (Mills, 2009). However, findings from Mills' (2009) review indicate that there are three types of portfolio; an assessing portfolio, a learning portfolio, and a presentation portfolio. These types have the same structure and elements, even though they might differ in their purposes. However, Casey and Egan (2010), and Ryan (2011) argue the need to specify the purpose and application of portfolios in relation to proof of competence and self-development. Therefore, Sinclair et al. (2013) reflect the importance of a portfolio-building process and that should be linked to the national competency standards in all cases.

Sinclair et al. (2013) discuss the requirements of the NMBA and highlighted the four components that guide competence development and maintenance in Australia. They pointed to portfolios which are used to evidence CPD and continuous competence as enhancing self-reflection and assessment processes; in these portfolios, individuals reflect about their practice in line with their nursing councils' or national bodies' standards. This is aimed at identifying their clinical strengths and areas of skills that need development. Portfolios in this case, as Hespeneide et al. (2011) suggest, are articulated in the form of a statement which can demonstrate why or how learning needs are to be assessed. These portfolio statements, as Mills (2009) reflects, may be based on regulatory authority statements, peer performance assessments, annual performance reviews, or personal reflections which are related to competency in relation to one's scope and the context of practice. Mills (2009) notes in her review that reflection strategies must be enhanced and approaches to demonstrate nursing competence should be explored. Although Storey and Haigh (2002) note that there are conflicting reports from the research articles in regard to whether diverse objectives of portfolio use can be incorporated without compromising the importance of the content, Endacott et al. (2004) assert that the structure of portfolios should be aimed at developing and at the learning level of the individual.

In this manner, Storey and Haigh (2002) discuss portfolios in professional practice. They explored portfolio development in the UK as a competency-assessing method in relation to competency-based procedures. They indicated that practice and theory were essential in reinforcing portfolio-based strength and assessment. Nonetheless, Storey and Haigh (2002) emphasised that the Australian model of a competency-based approach was regarded as less reductionist than the UK's approach to competency assessment. As such, they recommend the need to have further research to test the success of this tool.

Byrne et al. (2007) conducted a review of the literature on portfolios and their applicability to continuing education in terms of assessment and continuing competence. The scholars summarized a number of articles from US literature that cover suggestions for establishing a nursing portfolio, evidence linked to portfolio use, portfolio value versus competency assessment, and aspects of developing a portfolio. Their findings indicated that portfolio development can result in adequate learning, learning progress over time, current appropriate skills among learners, comparisons of past and best skills, enhanced self-reflection, and identification of a personal pace and level of work. They said that portfolios can also result in clear evidence of a nurse's competence. Consequentially, this observation suggests that portfolios can identify the weaknesses and strengths among US nurses. Optimally, Byrne et al. (2007) considered that portfolios have benefits in continuing education in developing confidence, skills, and personal knowledge.

On the other hand, Hespeneide et al. (2011) adopted a magnet forces model which is a US framework that illustrates the principle of excellence in nursing, APRN Professional Performance Standards, and relationship-based care as a hypothetical guide to presenting the portfolio as a tool for evaluation and development. Hespeneide et al. (2011) considered portfolios to be a means of rewarding and recognising professional and personal development, building of practice excellence, rewarding clinical leadership, and recognising one's competence. In addition, in order to reflect on convergence theories, they included narrative self-expressions and note taking throughout the portfolio development process. However, they realised that portfolio development in relation to APRN development is lacking in health care institutions and literature in the USA. However, the positive feedback from APRNs on the program highlighted that portfolio development is necessary to recognise excellence in advanced practice in order to foster on-going professional development and growth. Hespeneide et al. (2011) aimed to develop and evaluate the effectiveness of portfolio development with a focus on bridging the gap in the current US research about the application of portfolio tools.

After all, this approach of professional portfolio development represents a suitable method of demonstrating competence in the named countries. Portfolio is likely to be a tool that has an ability to enhance career changes, meets national body requirements, and promotes education in practice. Furthermore, portfolio development as a multipurpose tool becomes a rewarding process through reflection on the essential skills that

contribute to learning, achieved knowledge, and recognise individual level of competence, which is underpinned in everyday nursing practice.

### **3.4 Portfolio as a Tool for Assessment**

This part of the review aims to highlight the effectiveness of portfolio development as an assessment tool for nurses' clinical competence. This has to be underlined, as it is considered a fundamental use for portfolios. Even though as McCready (2007) indicated, it is apparent that portfolios have been largely embraced in the UK as an effective learning and assessment method, the students in McMullan's (2006) study expressed their frustration in the use of portfolios and found them significantly difficult as summative than formative assessment in terms of being reflective and critical ( $p = 0.011$ ). McMullan (2006) suggests that the difficulty might be related to the honesty required when the work is going to be assessed.

On the other hand, McMullan (2006) reported a significant positive correlation for students who found it very effective in assessing their clinical competence, learning development, and ability to link theory to practice. Therefore, findings by McMullan (2006) indicate a number of different features, including negative perceptions from students who felt that portfolios are time consuming, less effective in assessing and developing their competence and learning, and prone to conflicts during learning and assessment. However, 75% of the surveyed students' agreed that portfolios enable them to measure their professional progress, while 50% noted the importance of portfolios in creating awareness of their weaknesses and strengths. This implies that portfolio use in learning and assessment creates a challenge for students, and guidance with support is considered to be an essential element of portfolios success for use as both a summative and formative assessment tool (Endacott et al., 2004; McMullan, 2006; McMullan et al., 2003).

Endacott et al. (2004) identified four approaches for portfolio structures, and these include 'cake mix', 'spinal column', 'toast rack', and 'shopping trolley'. These approaches varied in line with the stage of portfolio development. Factors that influence portfolio use included expectations of the assessors, the degree of guidance, and the availability of an assessment framework. It is important to realise that Endacott et al. (2004) suggest that portfolios provide evidence of nursing competence, enabling nurses to develop their reflective skills, and to apply theory into practice. As such, it is critical that applied portfolios should reflect the actual nursing environment in which the nurse practices. Therefore, Endacott et al. (2004) recommend that the structure of portfolios used should depend ultimately on the purpose of developing a portfolio in addition to the academic level of the person. Furthermore, the scholars recommend that to ensure portfolio reliability, a structure that has a sufficient balance to enable suitable judgement and triangulation must be provided while assessing competence without creating an unrealistic and unnecessary workload.

However, the findings from Scholes et al. (2004) show difficulties in starting with a critical reflection among the lower academic level nurses, as this may lead to confusion. Thus, Scholes et al. (2004) recommend further studies to observe whether elements and style used in the structure should match the portfolio requirements, in particular. This is similar to Endacott et al. (2004), who suggest that assessors should consider the requirements and types of portfolio suitable for a specific learning and professional level. This indicates in order for measuring actual skill attainment the outcomes should be measured rather than the process itself. Hence, Endacott et al. (2004) find it crucial to combine a variety of methods of assessment with evidence from other objective approaches, such as skills checklists.

McMullan et al. (2003) who explored portfolios as tools for assessing competence find that there was little empirical research about portfolios. Furthermore, the available data from her study indicated mixed responses about the reliability of portfolios in assessing nurses' competence. The study also found that there were differences in terms of what portfolios should contain and how they should be assessed. Therefore, McMullan et al. (2003) recommend that if the assessment is quantitative, reliability and validity should be considered, and if it is qualitative, the portfolio should include a framework for assessment guidance. They assert that it is important to have clear guidance, portfolio templates, assessor preparation, and transparent and regular feedback to keep learners on track.

This outcome has also been observed by McMullan (2006) in identifying the competence of post-registered nurses. Nonetheless, portfolios may differ depending on individual writing skills, implying that portfolios are different depending on the negative or positive views attached to personal writing skills. Byrne et al. (2007) recommends that instructors should provide clear and specific assessment tools so that post-registered or practitioners under assessment present suitable explanations about their skills and experiences in an effective and reliable manner.

Furthermore, in a descriptive research that was conducted by Ryan (2011); it set out to examine the use of portfolios as formative evaluation tools amongst post-graduate students. The findings represent many inspired approaches from participants to enhance the reliability of portfolios as assessment tools and approaches that strengthen the process. However, Ryan (2011) asserts that skills of self-reflection and methods of teaching portfolio development for students require further advancement.

Nonetheless, McCready (2007), Webb et al. (2003), and Williams (2003) studied the tripartite approach for the assessment of portfolios in the UK. This method, as Williams (2003) pointed out in her descriptive research, was aimed at considering the importance of student-centred approaches to assess, teach, and learn various activities in professional education. This is congruent with the argument by Bowers and Jinks (2004) that many authors' work in terms of portfolios highlighted their usefulness as assessment tools rather than as approaches for student-centred learning.

Another review conducted by McCready (2007) appraised the evidence from primary research articles between 1993 and 2004 with an aim of providing reliable answers to portfolio usefulness in competence assessment. The observations made from her findings advocate that it is critical to embrace portfolios in nursing as an appropriate assessment tool, and the tripartite approach in skills assessment between post-registered nurses or assessed persons, practice mentor or staff, and academic supervisors should be considered. This approach, as McCready (2007) reflects, might enhance the self-assessment skills of students.

Additionally, Webb et al. (2003), in their descriptive research, advocate the use of tighter specifications, the use of an inter-rater reliability check, and a standardised national approach to portfolio application. Webb et al. (2003) enumerate the possible elements that might be applied to examine the rigour of a given portfolio assessments. These include having external quality assurance procedures, external examiners reports, and national quality audit firms. Hence, Webb et al. (2003) emphasised the availability of a variety of evidence from diverse sources that may include assessors and multiple observers or extended placements, student reflective accounts, and skills checklists; also, scoring criteria should be developed. McCready (2007), Webb et al. (2003), and Williams (2003) identify from their research that the tripartite approach has proven to be successful in diminishing the perceived practice-theory gap and preparing professionals in being competent in a chosen discipline. To sum up, these studies about portfolio reveal the potential to enhance the process of competence demonstration by revealing the breadth and depth of skills range and practice understanding and bringing up to date the link between theory and practice (Endacott et al., 2004; McCready, 2007; McMullan, 2006; Webb et al., 2003; Williams, 2003).

### **3.5 Summary of the Findings**

In this review, seven studies recommend portfolios for demonstration of continuing competence for registered nurses (Bowers and Jinks, 2004; Byrne et al., 2007; Casey and Egan, 2010; Hespeneide et al., 2011; Mills, 2009; Sinclair et al., 2013; Storey and Haigh, 2002). Whereas, the remaining of nine studies offer an overview of a process implemented rather than an evaluation of outcomes (Endacott et al., 2004; McCready, 2007; McMullan, 2006; McMullan et al., 2003; Ryan, 2011; Schaeffer et al., 2005; Scholes et al., 2004; Webb et al., 2003; Williams, 2003). This is congruent with Bowers and Jinks (2004), who note the limit of evidence in relation to the effectiveness of portfolios in professional development for registered nurses. This explains the reason to broaden this review's population to include nursing students in order to provide support in evidence about portfolio utilisation.

These studies stipulate a unique set of benefits for nurses by using portfolio, including improvement of interpersonal relationships, clinical care, critical thinking, and decision making (Casey and Egan, 2010; McMullan et al., 2003; Storey and Haigh, 2002). In addition, Mills (2009, p. 206) states that portfolios represent 'a declaration of competence in practice', even though Byrne et al. (2007) reflect on the challenges in writing portfolios, as people usually differ in their writing skills, hence, misrepresenting the individual level of competence. On the other hand, Hespeneide et al. (2011) emphasised the connection between competence development and improvement in nursing quality of care through the use of portfolio, even though McMullan et al. (2003) reflect that portfolio as a tool of development still lack the support for further development. Thus, portfolio propels individual to meet the religious, cultural, and psychological needs of patients. Therefore, it can be said that portfolios are used to enhance the nursing care where it is used as a tool that connects experience, knowledge and patient needs through its components and mainly through the reflection process.

However, there are various limits in professional development throughout the process of portfolio development that make the process different in the various surveyed nations. For instance, in terms of validity, portfolios are designed to stimulate nurses' reflection of their experiences and to capture them (Bowers and Jinks, 2004; Schaeffer et al., 2005). Though, Storey and Haigh (2002) reflect that portfolios are reliable outcome tools which can be used to assess one's professional competence throughout their years of clinical practice. In contrast, Webb et al. (2003) point out that despite their reflective qualities, portfolio development does not always improve nursing competence. This may give an impression that portfolios, as McMullan (2006) argues, may at times fail to offer effective outcomes or fail to meet the required threshold in competence demonstration. Similarly, Endacott et al. (2004) explain these limits of portfolio development in professional competence and reflective practice and proposed the need of having a portfolio framework that enhances the reliability of this tool.

To conclude, a number of aspects have been observed from the included studies with regard to portfolio use in terms of competence and professional enhancement, and there is little certainty that portfolios can be beneficial documentation tools for any practitioner. Furthermore, portfolios are more than tangible records of achievements, professional education, and skills. They act as unique multipurpose tools that the nurse can utilise for many purposes, such as meeting the requirements of a national regulatory body for re-registration purposes (Mills, 2009). However, despite the numerous perceived benefits of portfolio application, a few issues remain controversial with regard to portfolio utilisation in continuous competence. These issues act as barriers towards the portfolio application as a reliable tool for nurses. However, it is crucial to measure the value of portfolio for registered nurses in order to utilise them at an optimum level which is the reason underpinning in the current review.

## **IV. Discussion**

### **4.1 Discussion**

At this stage of the review, it is important to highlight that this review aims to study the portfolio as a tool to demonstrate nurses' clinical competence. It is evident from the reviewed papers that the best avenue of registration requires the nurses to demonstrate standardised competencies. However, in order for this demonstration to take place, nurses should maintain professional portfolio and ensure the promotion of safe and effective nursing care through this tool of portfolio. Although the review shows a cohesive understanding of the portfolio and the importance of its application for nurses in the UK, USA, and Australia, there is a problem in defining the purpose and examining the perceived successful application of portfolios, particularly in the relation between proof of competence and self-development (Storey and Haigh, 2002).

In the USA, Byrne et al. (2007) regard portfolios to have benefits over the continuing education programs in promoting individual self-esteem, self-confidence, and self-evaluation in their practice, even though the submission of a professional portfolio is currently an option among the US practitioners who seek recertification. In the UK, new measures will be taken to enhance portfolio utilisation in line with other nations to be mapped against specific competencies (Casey and Egan, 2010). This is in light of the fact that NMC in the UK, as part of its normal procedures in nursing and midwifery registration, encourages all nurses to provide written accounts of their learning and development in professional practice (NMC, 2011). However, in Australia, competency is essential in ensuring access to up-to-date information in terms of the necessary nursing skills to practice safely in all clinical aspects. Therefore, Mills (2009) asserts that portfolios have the potential to offer a richer and fuller understanding of individual competence and the application of knowledge to theory as a mandatory requirement for licensure renewal. In general, studies from the UK, USA, and Australia suggest that portfolios have forced nurses to engage in continuous development, incorporate personal reflection with an aim of meeting standardised competencies which in order could maintain and enhance competence and skills in practice.

To sum up, the debate is open as to whether documented skills and competence records, along with other competence indicators, can be used as valid and reliable accounts of learning and development (Casey & Egan, 2010). Giving that, portfolios are capable of indicating how nurses are able to meet the complex needs of the clients and families and other demands throughout their professional practice, and provide a suitable active reference file in the event a patient, a relative, or manager sends thanks or notes to the nurses for their good work, which is considered a positive point for the nurse (Bowers and Jinks, 2004; Casey and Egan, 2010; Storey and Haigh, 2002). Hence, contrasting these views about the importance of portfolios utilisation should be noted before they can be adopted in the Saudi Arabian context. That may raise an additional question on whether portfolios in the UK, USA, and Australia reflect rigorous requirements among nurses. This is in terms of the basic requirements that portfolio should be standardised, reliable, and objective, as they are the principle underpinnings in the current review. This suggests that if portfolio applications fail to achieve these three conditions, then it might become difficult to incorporate portfolios in the case of Saudi Arabian nurses.

### **4.2 Study Limitations**

The primary limitation issues are mainly linked to the study approach, which is the systematic review approach (CRD's guidelines, 2008) and this review was carried by one reviewer. In addition, as it is underlined by the CRD's guidelines (2008), language bias might be introduced due to limiting the search on English language publications. However, as Torgerson (2003) asserts, it still can be used for guiding policy or contributing in a debate on the subject. Firstly, the findings presented in this systematic review of the literature are applied to estimate each of the descriptive studies, while the systematic reviews may be limited to the selection of research articles; in general, positive trials tend to be cited more often than the negative ones (Torgerson, 2003). Therefore, the findings presented in this review of the literature may be limited to selection of published articles based on the criteria developed. Thus, it is difficult to correct bias due to the use of

selective publications, so publication bias may be existed and the results might be overestimated ( CRD’s guidelines, 2008; Torgerson, 2003).

Moreover, the systematic study identifies research articles that are diverse in types, interventions, the quality of the methodological approach, and design. Problems may result related to subjectivity when choosing similar articles (CRD’s guidelines, 2008). Therefore, by incorporating studies of poor quality along with those that were conducted more rigorously this may lead to worse estimates about the underlying truth or to a false sense of perception of the truth.

### V. Conclusion and Recommendations

The extent and strength of portfolio applications in Saudi Arabia are limited or largely lacking in the nursing field. The current review gives a wide range of portfolio development and applications in the UK, USA, and Australia. All the advantages and drawbacks of portfolio application in these nations have been elucidated. Portfolios are perceived as a holistic tool that can offer a valuable amount of evidence in contributing to step-by-step development in reflective practice and nursing skills (Hill, 2012). Therefore this study, as far as the intention to apply portfolios as tools of demonstrating competence in Saudi Arabia, reports that portfolios can help in facilitating individuals to take control of their professional development and be accountable of their progression in practice, allowing them to document after monitoring their professional practices, and demonstrate competency through the reflection process. This study shows portfolio development in the above countries represents a suitable and practical approach for competence demonstration, even though its validity and reliability is limited. Yet, it could be applied in Saudi Arabian context.

Another practical implication that is suitable in the current case is the need to have a portfolio framework formulated by a mutually agreed-upon authority. As portfolios should sum up the critical areas of learning but should be comprehensive enough to ensure that basic and essential nursing competence skills have been integrated into theory and in practice. However, without portfolios, as Endacott et al. (2004) highlighted, individuals will be unable to keep themselves updated with current professional developments, as they will be unable to reflect on their lifelong progress, learning, and perceptions. Therefore, competence should be continuously maintained based on dynamic development and trends in the field. This is of importance for career development which means continuous scientific research and being aware of the advances in technological innovation in the nursing profession. Therefore, current professional portfolio development should be focused on improving understanding and knowledge among nurses.

Further work and research are required to strengthen the evidence base in relation to portfolio application by Saudi nurses in order to validate its use as a tool for demonstrating professional competence and development. Nonetheless, it is important to consider that by establishing the portfolio as a tool in Saudi Arabia, nurses will adopt this innovative approach and add their own experiences, views, and impressions in various forms. Giving them this autonomy to add input to portfolio development may result in positive developments and more effective application of portfolio. These inputs may include feelings, skills expression, reflective essays, and collaborative projects that are likely to work in the Saudi Arabian case. As such, the challenge is to ponder whether it is possible to create such a holistic system through portfolio application that helps in promoting, enhancing, and documenting competence and maximising individual nursing proficiency in Saudi Arabia.

### APPENDIX

**Appendix A: Summary of the Included Articles Using the Inclusion/Exclusion Criteria**

Article/Year	Region of the study	Study Focus	Type of Study	Outcome Measures	Language
1. (Bowers & Jinks, 2004)	UK	Examines portfolio development as a tool for professional development among registered nurses	Review research 1980–2002	Assess portfolio usefulness among registered nurses in the UK	English
2. (Byrne, et al., 2007)	USA	Examines the value of portfolio development versus continuing education for competency assessment	Review (date range not identified)	Assess the usefulness of portfolios in nursing competence in the USA	English
3. (Casey & Egan, 2010)	UK	Presents portfolio development benefits among qualified nurses	Descriptive article	The potential benefits of maintaining personal and professional portfolios to the individual practitioner in the UK	English
4. (Endacott et al., 2004)	UK	Evaluates the portfolio as a method to promote learning and assessing competence	Descriptive research	Learning assessment and usefulness of portfolio development in practice	English



		for nursing students		in the UK	
5. (Hespenheide et al., 2011)	USA	Presents a professional portfolio among Advance Nursing Practice	Descriptive article/narrative reflections	Evaluate a creation of professional portfolio for APRN in the USA	English
6. (McCready, 2007)	UK	Examines the effectiveness of portfolios for nursing students as assessment and learning tools in clinical placement	Review (1993–2004)	Assess nursing competence and portfolio usefulness in the UK	English
7. (McMullan, 2006)	UK	Examines student competence and views about the importance of portfolios to nursing competence improvement	Descriptive research	Enhances competence development in the UK	English
8. (McMullan et al., 2003)	UK	Presents three approaches to competence in the UK, USA, and Australia and examines the use of portfolios in competence assessment	Review (1989–2001)	To assess competence in UK	English
9. (Mills, 2009)	Australia	Examines different types of portfolios	Review (1996–2008)	Examines the types of portfolios that have been used in Australia and explores strategies that demonstrate continuous competence for registered nurses.	English
10. (Ryan, 2011)	USA	Examines portfolio development for post-graduate nurses	Descriptive research	Assess portfolio usefulness in a master's program in the USA	English
11. (Schaeffer et al., 2005)	USA	Examines BSNs', RNs', and faculty members' views about the importance of portfolios to nursing competence development	Descriptive research	Assess nursing competence and portfolio usefulness in the USA	English
12. (Scholtes, et al., 2004)	UK	Present data on how nursing students use portfolios to match the learning outcomes or competencies in their practice	Descriptive research	Enhances and achieve the maximum benefit from portfolios as a tool for learning and assessing nursing student competence in the UK	English
13. (Sinclair et al., 2013)	Australia	Presents clarity about the requirements by NMBA relating to demonstrating competence to practice.	Discussion paper	Professional portfolio as a mandatory requirement to demonstrate maintenance of competence in Australia	English
14. (Storey & Haigh, 2002)	UK	Examines the portfolio as a method for assessing competence in and for practice	Discussion article	To demonstrating competence for practitioners by utilising the process of portfolio development as a tool that ensures fitness to practice	English
15. (Webb et al., 2003)	UK	Presents criteria that should be used during the process of portfolio assessment, such as the tripartite approach	Descriptive research	Enhances portfolio development as a tool for assessing nursing competence in the UK	English
16. (Williams, 2003)	UK	Examines the tripartite approach to assessing portfolios for nursing students	Descriptive research	The effectiveness of using portfolio as an assessment method and the tripartite approach as a reliable, valid, impartial, and transparent system for assessment in the UK.	English

**Appendix B: Summary of the Data Extracted from Included Studies in This Review**

Author and date	Type of the Study	Study Population	Indicator/ Intervention	Outcomes	Comments/Recommendations
1. (Bowers & Jinks, 2004)	- Literature review - Qualitative data (1980–2002)	Post-registered nurses	Portfolio development in the UK	- Portfolio development has been a requirement for re-registration for a number of years. - There appears to remain confusion and uncertainty among professionals regarding the meaning and implications of portfolio development for practitioners. - There is a limitation in the evidence base regarding the effectiveness of portfolios development. - There are potential disadvantage of using portfolios, including time limit, lack of updates, and lack of support.	- Guidance and support still required in assisting practitioners - Further research to overcome the uncertainty in the utilization of portfolios - Clear leadership from nursing regulation body is needed
2. Byrne et al (2007)	Review of literature (date range not defined)	Nursing	Compares portfolios with continuing education as a method for continuing competence assessment In the USA	- Portfolios can demonstrate: •lifelong learning progress. • Current best work. • Comparison of work improvement. • Development of self-assessment skills. • Improvement in reflective skills. •evident the learning and showcasing the teacher-student collaboration at high level. - Portfolios prove personal achievement and professional goals and objectives better than continuing education. - Portfolios have the potential to integrate all the methods of assessment. - Portfolios are time consuming. - Self-reflection skills may vary. - Issues of confidentiality/privacy	- Evaluation tools which are clear and specific are needed to give evaluators applicable guidelines to make effective and consistent judgment. -To ensure validity and reliability: ○ Standards and criteria that are clear and measurable are required. ○ Evaluators should be trained and tested (certified) in the use of the assessment tools. ○ Evaluators need to be up to date regarding the assessment process changes. ▪ - A variety of assessment methods is needed in combination with portfolio.
3. (Casey & Egan, 2010)	Descriptive article	Nurse practitioner	Portfolio development In the UK	• Maintenance of a portfolio is a professional body requirement for registered nurses and midwives in the UK. • Health professionals need to maintain a portfolio evincing ongoing competence in all aspects of their professional life. • Portfolios offer a wide range of potential benefits for registered nurses and midwives in terms of their personal and professional development. These include career enhancement, academic credit for prior learning, personal development planning, and evincing advanced skills and knowledge.	- A well-constructed portfolio should show how learning has occurred as well as its application in practice. -The achievement and improvement of skills and knowledge over time should be evident. - Portfolios are likely to be a used as an accessible resource that can assist in supporting career development, meet professional body requirements, demonstrate academic ability, and help practitioners to implement and promote best practice. - Assessment of competence via a range of methods should include a portfolio that demonstrates specific competencies.
4. (Endacott et	- Descrip	-Higher education	-Portfolio development	- Four approaches to structure and use of portfolios:	In using portfolios consider: • The level of guidance about nature

<p>al., 2004)</p> <p>tive research - Qualitative data. - Telephone Survey and case study.</p>	<p>institutions.</p>	<p>as assessment and learning tool. - In the UK</p>	<ul style="list-style-type: none"> <li>• ‘shopping trolley’</li> <li>• ‘toast rack’</li> <li>• ‘spinal column’</li> <li>• ‘cake mix’</li> <li>- Approach differs according to stages of development.</li> <li>- Factors affecting the portfolios application include degree of guidance, language of assessment, and clinical and academic staff expectations.</li> <li>- Academic satisfaction with regard to the usefulness of portfolios in bridging the theory–practice gap; skills for reflective practice and demonstrate competence should be developed.</li> <li>- Portfolios should reflect the real-world practice.</li> </ul>	<p>of evidence expected.</p> <ul style="list-style-type: none"> <li>• The use of the same evidence for a number of outcomes.</li> <li>• Emphasis the quality rather than quantity.</li> <li>• Emphasis student input not than just assessor comments.</li> <li>• Focus on outcomes rather than process.</li> <li>• The requirements of portfolio’s type should match the level of learning of the person.</li> <li>• Portfolios structure should enable a balance between providing sufficient evidence and an evaluation of competence.</li> <li>• Degree of structure should be appropriate for the academic level and degree of experience.</li> <li>• Preparation of students, staff and assessors is needed.</li> <li>• Elements of synthesis and reflection should be included.</li> <li>• Considerable investment from all parties is required.</li> <li>• A framework for assessment need to be chose and that will measure actual skill.</li> </ul>
<p>5. (Hespenheide et al., 2011)</p> <p>Descriptive article / narrative reflections</p>	<p>Advanced practice register nurse (APRN)</p>	<p>Professional portfolio (USA)</p>	<ul style="list-style-type: none"> <li>- Professional portfolios are emerging tools that demonstrate advanced clinical practice and create reliable professional development.</li> <li>Several clinical ladder programs in the USA were strengthened by adopting professional portfolios.</li> <li>- The program implementation among APRN was a challenging task but rewarding task.</li> <li>- Narrative self-expressions and note taking throughout the portfolio development process reflect personal satisfaction and enhance professional growth.</li> <li>- Portfolios are used for two main purposes: growth and development, and best work that provides evidence of nurses’ competence and expertise.</li> <li>-The APRN feedback on the program support participation as an essential approach necessarily to recognize excellence in advanced practice.</li> </ul>	<p>Portfolios should be a means to rewarding and recognizing professional and personal development.</p> <ul style="list-style-type: none"> <li>- They should build practice excellence and be designed to reflect clinical leadership and recognizing competence.</li> <li>- Professional portfolio development on APRN advancement lacks in health care institutions and literature in the USA.</li> </ul>
<p>6. (McCready, 2007)</p> <p>Review of literature - Qualitative data (1993–2004)</p>	<p>Nursing education</p>	<p>Portfolios in the UK</p>	<ul style="list-style-type: none"> <li>- Results highlight the value of tri-partite support during portfolio development (academic supervisor, practice mentor, and student)</li> <li>- Value of self-directed education and reflection skills in bridging the theory-practice gap</li> <li>- The value of using holistic assessment approach in widening the range of evidence.</li> <li>- Issues around reliability and</li> </ul>	<ul style="list-style-type: none"> <li>- Studies and research are needed to embrace portfolios as means of assessment.</li> <li>- Increase the focus on qualitative methods.</li> <li>- If previous research recommendations are applied, this may reduce difficulties found in the competency assessment process.</li> <li>- Guidance on the use of portfolios and its structure is needed for students.</li> </ul>

				<p>validity of portfolio assessment identified.</p> <ul style="list-style-type: none"> <li>- It is fundamental to include a qualitative assessment of a process that is holistic.</li> <li>- Objective measurement deemed as a major challenge.</li> <li>- There are numerous tools available, but a comprehensive and effective measure has not been recognised yet.</li> </ul>	
7. (McMullan, 2006)	<ul style="list-style-type: none"> <li>- Descriptive research</li> <li>- Qualitative and quantitative data (postal questionnaire survey)</li> </ul>	Pre-registration diploma of post-registered nurses (n = 174)	- Portfolios in the UK	<p>Views on portfolios:</p> <ul style="list-style-type: none"> <li>• 75% found that they help them take responsibility for their professional development.</li> <li>• 60% have enhanced their reflective skills.</li> <li>• 50% helped them become aware of their strengths and areas to improve.</li> <li>• 42% developed critical thinking.</li> <li>• 31% have improved their self-esteem.</li> <li>• 73% found it time consuming.</li> <li>• 49% reported that it was difficult to be critical and honest.</li> <li>• 24% liked it as an assessment tool.</li> <li>• 31% liked it as a developmental learning tool.</li> <li>• 33% had clear idea of what evidence to include.</li> </ul>	<ul style="list-style-type: none"> <li>- Guidelines on purpose, content, and structure of portfolios should be clear.</li> <li>- Ongoing support and instruction for students also is needed.</li> <li>- Support for mentors also is needed.</li> <li>- Method of assessment need to be clear and relevant to students and mentors practice.</li> <li>- Portfolios should include summative assessed clinical skills list.</li> <li>- Formative report of placements should be provided at the end and middle of the process.</li> <li>- Honesty might be encouraged through the use of peer assessment for reflective writing.</li> </ul>
8. (McMullan et al., 2003)	Literature Review (1989–2001)	Pre-registered nursing	Portfolios in assessing competence in the UK	<ul style="list-style-type: none"> <li>- Little empirical research about portfolios and competence approaches</li> <li>- Three competence approaches were identified in the UK, USA, and Australia, and each has its own appropriate forms of assessment.</li> <li>- Published studies reported mixed responses about inter-rater reliability.</li> <li>- Portfolios are likely to be a holistic approach for assessing competence.</li> </ul>	<ul style="list-style-type: none"> <li>- Guidance on the use of portfolios is needed for students.</li> <li>- Having a portfolio template is helpful.</li> <li>- Assessors need training and preparation.</li> <li>- Regular feedback is needed to keep students on track.</li> <li>- Validity and reliability should be addressed for quantitative assessment.</li> <li>- Criteria must be standardized for qualitative assessment.</li> </ul>
9. (Mills, 2009)	Review of literature (1996–2008)	Registered nurses in Australia	Professional portfolio and continuous competence (Australia)	<ul style="list-style-type: none"> <li>- In Australia, a recent study records a change in the renewal of registration for nurses, making professional portfolios that demonstrate continuous competence a mandatory requirement.</li> <li>- Australian regulatory authorities apply the audit assessment of nurses and midwives in order to evaluate their competence to practice.</li> <li>- Professional portfolios are deemed to be a method that nurses use to showcase the required competencies to the regulatory authorities, employers, and others.</li> <li>- There are three types of portfolios: assessment portfolios, learning portfolios, and presentation portfolios.</li> </ul>	<ul style="list-style-type: none"> <li>- Nurses should explore the strategies that identify evidence of their continuing competence to practice.</li> <li>- Reflection strategies must be enhanced.</li> <li>- Nursing and midwifery are life-long learning professions.</li> </ul>

				<p>Each type has its own use; however, they may have the same elements and structure.</p> <ul style="list-style-type: none"> <li>- Learning portfolios or working portfolios is the type that describes portfolios in Australia in relation to the competency standard for registered nurses.</li> <li>- Reflection is considered a major element of portfolios development.</li> <li>- Strategies to promote reflection on and in practice have been offered.</li> </ul>	
10. (Ryan, 2011)	<ul style="list-style-type: none"> <li>- Descriptive research</li> <li>- Qualitative study</li> <li>- Focus group</li> </ul>	Post-graduate nursing education students (n = 8) and faculty (n = 6)	Portfolio development (USA)	<ul style="list-style-type: none"> <li>- Creative approaches are offered to strengthen the portfolio process.</li> <li>- The use of portfolio provides another method for assessing student performance, promoting advanced nursing practice and role development and supporting the program outcomes achievement.</li> <li>- Using the portfolio to keep students focused and up to date academically.</li> </ul>	<ul style="list-style-type: none"> <li>- Self-reflection skills need to be enhanced for the students in order to further strengthen their portfolio experience.</li> <li>-The purpose, process, and expected outcomes of portfolios need to be reinforced by the faculty; as such, teachers will help students to engage and promote commitment to this valuable method in the future.</li> </ul>
11. (Schaeffer et al., 2005)	<ul style="list-style-type: none"> <li>- Descriptive research</li> <li>- Qualitative and quantitative data</li> </ul> <p>Survey, focus groups with students, and an analysis of portfolios</p>	Baccalaureate nursing students (n = 88) and faculty members (n = 7)	- Portfolios - In the USA.	<ul style="list-style-type: none"> <li>- Most students were satisfied with portfolios outcomes in explaining the role of the public health nurse and facilitated use of public health nursing role.</li> <li>- Disagreed that portfolio facilitated learning of new skills.</li> <li>- Helped recognize the accomplished interventions</li> <li>- There were difficulties with reflections</li> <li>- Developed critical thinking, however it was time consuming</li> <li>- Issues with preceptors such as lacking of understanding of competencies that must be demonstrated in portfolios.</li> <li>- Differences between RN and BSN student opinions.</li> </ul>	<p>Changes made in response to study findings:</p> <ul style="list-style-type: none"> <li>• Portfolio structure needs modification.</li> <li>• Orientation is required for student and assessor.</li> <li>• Each competency in the course manual should include a page to encourage notes and stimulate reflective skills.</li> <li>• Introduce portfolio after first week of the semester.</li> <li>• Examples for students should be available.</li> <li>• The total grade assigned to the portfolio should be increased to emphasise its importance.</li> <li>• Hold a celebration on completion to share learning with peers.</li> </ul>
12. (Scholes et al., 2004)	<ul style="list-style-type: none"> <li>- Descriptive research</li> <li>- Qualitative data</li> </ul> <p>Telephone Survey, case studies, observation, and interview</p>	- Post-registered nurses (n = 154) and teachers (n = 84)	- Portfolios - in the UK	<ul style="list-style-type: none"> <li>- The preparedness of assessors/mentors for effective portfolio use is considered fundamental.</li> <li>- Confidence from assessors only came from working in practice.</li> <li>- Mixed views about inter-rater reliability</li> <li>- Different views of assessor regarding the application of portfolio</li> <li>- Outcomes/competencies influenced the process fundamentally.</li> <li>- Competencies had to be deconstructed if too abstract; clinical practice had to be deconstructed if too specific; practice had to be</li> </ul>	<ul style="list-style-type: none"> <li>- Techniques that affect outcomes should be written and have to be provided.</li> <li>- Type of evidence required should match stage of student's academic/professional career.</li> <li>- Starting with critical reflection for novices may lead to confusion.</li> <li>- Further research is needed to identify whether there is a delay in professional performance.</li> <li>- Further research needed to examine whether the strategy and components in the portfolio should match type of practice.</li> <li>- Guidance is helpful for students and assessors in order to assist in the process of matching learning outcomes or competencies to practical experience and</li> </ul>

				reconstructed if didn't relate to a particular practice situation. - Portfolio can take primacy over other clinical learning tools.	documenting them in the required format.
13. (Sinclair et al., 2013)	Discussion paper	Graduate Nursing	Professional portfolio and continuous competence (Australia)	- There are four components required by ANMC for renewal of registration. - Developing a portfolio is an important component for Australian nurses to keep their registration. - The type of portfolio that is required by NMBA should include: self-assessment, CPD, and reflection on active learning. - Professional portfolio is a dynamic tool used to evaluate evidence that supports the maintenance of CPD and competence for registered nurses. - Professional portfolios can assist a nurse to identify learning needs, plan, and participate in relevant activities and reflect on the impact of those activities on continued competence within the practice. - In the workplace, assessment of practice is made annually, and it is the responsibility of a nurse to demonstrate the competency against the council's standards.	- Reflecting on learning and its application to practice may assist the identification of future learning needs. - Keeping a file with certificate, type of activity, and summary of learning are not enough to demonstrate competence to practice.
14. (Storey & Haigh, 2002)	discussion article	Nursing	Portfolios as a tool in assessing competence in the UK	- Examines the portfolios process as a method of assessing competence in practice - Practitioners have to maintain their level of competence and need a system to be established to ensure fitness to practice. - Portfolios can be used as a tool by practitioners to demonstrate competence upholding.	- Reinforce the rigour of competence-based assessment and strengthen the link between theory and practice through application of quality assurance frameworks such as portfolios. -The need for a real-world research study to test the applications of this process is acknowledged.
15. (Webb et al., 2003)	- Descriptive research - Qualitative data - Observation, interview, and focus group.	- Nursing (pre- and post-registered nurses, teachers, and assessors)	- Present portfolios assessment criteria - In higher education institutions and clinical areas. (UK)	-Tripartite meeting seen as fundamental for (student, teacher, and assessor). - It is essential to have that relationship between student and practice assessor. - Double marking, moderating between markers, and external examining provide a strict method for assessment. - Applying concepts of validity and reliability without close attention of detailed and objective criteria for grading deemed as challenging. - Grades established to date are too vague to reduce subjectivity.	- Portfolios include qualitative evidence and should be judged qualitatively. - Elements of a decision trail that could be used to evaluate the strictness of portfolio assessment include: • Explicit marking/grading criteria. • Evidence from a variety of sources such as assessor observations from multiple or extended placements, skills checklists, and students' reflective accounts. • Quality assurance system as double marking and moderation and use of external examiner reports and national quality audit schemes.
16. (	-	Nursing	Tripartite	-Tripartite approach to	- The tripartite approach was a new

Williams, 2003)	Descriptive research - Qualitative study - Interviews.	students (n = 6) and their supervisor (n =6)	approach to assessing portfolios in the UK	<p>assessing portfolios has proven to be successful in closing the perceived practice-theory gap, and students can be involved in its process.</p> <ul style="list-style-type: none"> <li>- Tripartite approach enhances the skills of assessment for the students and teachers and provides transparency for the assessment.</li> <li>- Portfolio is the major method embraced in the assessment of many education programs.</li> <li>- Portfolio is one of the methods deemed to have a more realistic and student-centered approach.</li> <li>- The appropriateness of portfolios as an assessment tool and the tripartite approach as a valid, reliable, and transparent method of assessment have been acknowledged in this study.</li> </ul>	<p>concept; therefore, the process had to be evaluated.</p> <ul style="list-style-type: none"> <li>- Linking the learning outcomes in the student portfolios reflects growth and change over time; thus, supervisor should encourage self-reflection and promote educational progress.</li> <li>- The need to have a clear understanding of what is expected from all parties should be acknowledged.</li> </ul>
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**Appendix C: The Review Protocol**

**Review Protocol**

**The title:**

A systematic review: to evaluate the use of *professional* portfolio development as an assessment tool for nurses' competence. (Specific for qualified nurses –*Post-registered*-? ).

**What is the context and what are the conceptual issues?**

Independent learning by adults, according to Timmins (2008), is a widely accepted approach of learning. Interestingly, these principles of adult learning have been implemented in many specialties including nursing, where they can be seen in the use of portfolios (Timmins, 2008). However, as my personal experience suggests, this widespread recognition of independence in adult learning is not always the case. Portfolio development has not been recognised in the nurses' education in my home country of Saudi Arabia. It is an active learning strategy that promotes critical thinking and decision-making skills (Popil, 2011), which are essential for any nurse in practice. Even though some researchers have argued that portfolios and their components should be used in the UK's nursing schools only with effective guidance and supervision to facilitate this learning method, especially for novices (Timmins, 2008; Yearly, 2003), the evidence shows that the process of portfolio development improves the nursing practice in the UK through the use of its components. Therefore, the development of the portfolio as a formative and summative teaching tool has been recognised in the UK for the purpose of assessing nurses' competence for placement (Tashiro et al., 2012) and as a record for continuous professional development for qualified nurses (Farrell, 2008). Furthermore, portfolio is a mandatory requirement for remaining registered with the Nursing and Midwifery Council (NMC), the regulatory body in the UK (NMC, 2011; Timmins & Dunne, 2009). It is used to indicate application of theory in practice and evident personal development (McMullan, 2006; NMC, 2010). Yet, it could be influenced by personal factors, such as the person's level of interest to learn, self-concept, and past experience (Timmins, 2008). Therefore, Jones (2010) argued that several writers have reflected the need for better understanding of the role of portfolios in professional development.

**What is the aim?**

The aim of this review is to evaluate the effectiveness of the use of portfolio as a tool in improving and assessing nurses' clinical competence in the UK, USA, and Australia then ***to determine whether the result of this review could be applied to the nurses in Saudi Arabia.***

**What are the research questions?**

- What does the term '*nursing portfolio development*' mean?
- How has portfolio development influenced the nurses' practice in the UK, USA, and Australia?

- What factors might affect its role? And what are the key components of using this tool to improve the nurses' clinical competence?
- Identify whether these results could be applied to the nurses in Saudi Arabia or not?

#### **Search questions in PICO format.**

- Population: Qualified / post-registered nurses in the UK.
- Intervention: Portfolios Development.
- Comparison: UK, USA, and Australia.
- Outcome: Enhances the nurses' competence in the UK, USA, and Australia.

#### **What is the search strategy?**

Since the database search shows no articles has been published in Saudi Arabia in this field, The review will cover the last 10 years for articles published in the USA, UK, and Australia as that might help to narrow the search area and show the most recent update and changes in the topic. The sensitive words for this topic is *portfolio\** and *nursingcompetence\**. However, further search is still needed and modifying the key words might be applied or looking for more *synonyms*. The reason for this is the literature database search, which I initially started with are MEDLINE, CINAHL, and Science Direct, show few reviews have published under that key words.

#### **What are the inclusion/exclusion criteria?**

The review will included all Searchesand studies done in the UK, USA, and Australia on the portfolios and clinical competence, the qualified nurses or post-registration as population, and the literatures which written in English language only. The search will include all the studies that are conducted over the last 10 years to show the most recent changes and updated reviews on the topic.

Pre-registration nurses as population will be excluded from the review. The focus will be wholly and solely on the nursing portfolios and their influence on nurses clinical competence

#### **How will the data be extracted and analysed andthe quality of studies be assessed??**

There are many checklists available to be used in this type of study. CONSORT, PRISMA or STROBE are examples, this need to be discussed with my supervisors and **according to the University guidelines will be included as a table in the index.**

#### ***Glossary***

**Advanced practice registered nurses (APRN):** manifests an advanced level of expertise in the assessment, diagnosis, and treatment of individuals, families, or communities. APRNs in the United Kingdom (UK), United States of America (USA), andAustralia have a masters or doctoral qualification (Hespenheide, Cottingham, & Mueller, 2011; Royal College of Nursing, 2012).

**Competence:** is the ability of a nurse to demonstrate the theory, skills, judgement, and personal attributes required to practice safely and ethically in a specific role and setting (Canadian Nurses Association, 2000).

**Continuing competence:** is the ability and responsibility of a nurse to showcase and demonstrate competencein line withthe competency standards of a particular regulatory body (Australian Nursing and Midwifery Council, or ANMC, 2009, cited in Sinclair, Bowen, & Donkin, 2013).

**Competence indicators:** are features used to predict an individual's level of competence. They provide a constant framework when assessing nursing practice (Nursing Council of New Zealand, 2007).

**Continuing professional development:** 'is the means by which members of the profession maintain, improve and broaden their knowledge, expertise and competence, and develop the personal and professional qualities required throughout their professional lives' (Nursing and Midwifery Board of Australia (NMBA), 2010, p.1).

**Personal profile:** 'is a selection of evidence extracted from the portfolio to fulfil a particular purpose' (Timmins, 2008, p. 23).

**Portfolio:** is a tool that comprises evidence which is collected to demonstrate skills, knowledge, attitudes and achievements (Farrell, 2008; McMullan, 2006), and it can be used as a tool for assessing clinical competence in practice (McMullan, 2006).

**Professional development:** is knowledge and skills attained for both individual development and career progression (Tashiro et al., 2012).

**Professional accountability:** is the idea that nurses should be responsible for their actions and should be fully aware of their limitations and their ability to make decisions with regard to their professional



development, practicing within the scope of their professional competence and extending the scope as appropriate, and working as a team with their colleagues (NMC, 2010).

**Reflection in practice:** is a process of progressive learning that prompts the learner to explore and examine a situation in practice which may affect their competence in becoming a more critical practitioner, with resulting benefits for patients (Howatson-Jones, 2010).

#### **Abbreviations**

•	<b>ANMC</b>	Australian Nursing and Midwifery Council
•	<b>APRN</b>	Advanced practice registered nurse
•	<b>CINAHL</b>	Cumulative Index to Nursing and Allied Health
•	<b>CME</b>	Continuous medical education
•	<b>CPD</b>	Continuous professional development
•	<b>ERIC</b>	Education Resources Information Centre
•	<b>EBNP</b>	Evidence-based nursing practice
•	<b>JBI</b>	Joanna Briggs Institute
•	<b>MOH</b>	Ministry of Health
•	<b>NCSBN</b>	National Council of State Boards of Nursing
•	<b>NMBA</b>	Nursing and Midwifery Board of Australia
•	<b>NMC</b>	Nursing and Midwifery Council of the United Kingdom
•	<b>PDR</b>	Personal development record
•	<b>PRISMA</b>	Preferred reporting items for systematic reviews and meta-analyses
•	<b>RN</b>	Registered nurse
•	<b>RCN</b>	Royal College of Nursing
•	<b>SCFHS</b>	Saudi Commission for Health Specialties
•	<b>UK</b>	United Kingdom
•	<b>USA</b>	United States of America
•	<b>WHO</b>	World Health Organization

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