

Competency Based Assessment in Fashion Design

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Competency Based Assessment in Fashion Design

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Abstract. Professional certification is a form of stipulation on certain competency standards provided by one professional organization to the performance of a person through assessment. For that an assessment needs to be standardized so that there exists a general standardized scale to measure competence. In the professional certification of fashion design department, an instrument of competency based assessment is essential to be developed. The purpose of this review is to know the application of competency based assessment in the field of fashion design. The literature reviews were found by journal searching with keywords competency based assessment and fashion design in Google scholar, of which was gotten over 20 journals from 2006 to 2016. Afterwards, the search of the free-downloaded e-books in *libgen* was conducted under competency based assessment and fashion design, which is then found some related references. The obtained literatures were used to review the definition, approach, and implementation of competency based assessment in the field of fashion design. Results show that it is important to develop an assessment sheet in the field of fashion design covering garment, apparel and embroidery sectors by patterning the criteria of performers along with the qualifications.

1. Introduction

The competence of fashion design clothing is a knowledge of fashion design clothing program dedicated to skills and knowing needed by those professionals in fashion industry [1]. It aims at designing a working framework to assess the importance of knowledge, skills, and abilities needed by fresh graduates. A response issued by a higher education institution through the development of competency is to ensure that the fresh graduates have possessed knowing and skills to pursue better wealth and success. Thus it is essential to identify the most prominent competency which enables graduates to pursue better living [2]. One important thing obligatorily prepared by Vocational Education/TVET in the field of fashion design is a professional certification. Such form of certification is used to guarantee if the transferred education received by the graduates fulfils the necessity of recent economic development, along with the changes in technology and market demand, the value of market industry, and the preparation for placement in working field [15].

A certification is the outcome of standardized process related to institutional accreditation to get the role of a particular works. It is given through an assessment process, so that the assessment instrument needs to be standardized which covers a general scale to measure reliable and valid competency. The constructed assessment instrument is based on a set of qualification in a form of descriptive documents about work's role prerequisites. The assessment instrument is also used to confirm whether the required qualifications are fulfilled [12]. This certification is heavily important to ensure that the graduates have relevant national and international skills to perform better in their working field. This



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challenge makes the teachers in charge interconnect with any businessmen to identify competency needed by fashion design department in developing relevant curriculum that fulfills industrial demands. The current situation demands that competency and training program is obligatory to make the graduates possess relevant knowing, skills, and other abilities to face the dynamic of industry challenges.

Professional certification is a stipulation given by a professional organization to those who can perform excellent and specific tasks. Additional professional certification is to get the acknowledgement of professional career and to improve one's credibility in working, also to gain more recent knowing which has never been gotten during a formal education. Moreover, it may enhance the job position and professional reputation if those persons have been working in a company. The lacks of professional certification is difficult to obtain (even one has participated the examination, however, the graduates are still few). Then, the cost is categorized as expensive because the certification needs to be periodically renewed during certain timing intervals.

For assessing the need of skills in an industry, it is important to create a cooperation between government, business industries, educational institution and either formal or informal training center to provide qualified human resources. The cooperation can be in a form of giving a working qualification needed by government and any business industries, so that the educational institution and training center can provide qualified graduates. The cooperation may also result a standardized need qualification for human resources which is in a form of professional standard competency [16].

The competency includes knowing, skills and behaviors as important factors to face current or future economic growth. A competent human resource is a key to deal with developing knowing-based economic. Meanwhile, NOS acts as a consensus result of any industries and caretakers' interests, also being an effective communication device between working fields, educational institution and training center. A certification of a professional competency is an essential instrument to maintain a qualified worker's competency. Nowadays, numbers of higher education institutions prepare their students to face ASEAN Economic Community by giving them a professional certification. [17] said that a professional certification can improve quality and manage effective times in production due to a skillful operator. Moreover, this is relevant to [17] work that the unit producing local short's brands showed 38% of skillful operators had 1 up to 20 years of working experience and all of them were well-trained in a working place. Moreover, the higher percentage is that sewing operators had one up to 20 years of working experience and got their specialized certificates in the scope of sewing.

This study wants to answer how the implementation of competency based assessment in the field of fashion design that covers advance pattern maker (CAD/CAM) and Garment Cutter (CAM), sewing Machine Operator, in-line checker and QC executive – sewing Line, embroidery job rolls, certification of training centres and trainers for job roles in a garment industry, and apparel sector.

2. Competency

Etymologically, competency is an important ability to execute a job based on knowing, skills, and behaviours, so that it can be formulated that competency is one's ability that can be observed through knowledge, skills and behaviours in finishing a burdened task using a settled standard performance [11]. Boahin (2014) argues that competency is related to skills to perform an activity. The effect of competency-based training is the gain of a professional skill. Being competent is an ability and authority had by a person to perform a job by referring to relevant knowing, skills, and behaviours. [7].

In Europe, competency is an individual's capacity to perform a certain task and role for an expected standardize of particular contexts or professions (Biemans, et al, 2004; Mulder et al, 2006). Henceforth, involving practical and theoretical integrated knowledge, individual and social competence are broadly defined (Brockman et al, 2008). In Ghana, competency is conceptualized as one's capacity to perform professional tasks with a determined standard (COTVET, 2006). Through a certification of Australian, they can assess their skills and know in depth their value in promoting working opportunities.

A recent research also records that university graduates are not yet ready to be workers; a study in 2012 found that one of three American university graduates (n=4900) are not yet ready to face how hard the fulltime work is. Then, some university graduates who do not have a professional working experience, such as on job training, half-time work, and mentorship before graduation, 77% of them feel that the university prepares them to work, while 59% of the students is ready to work in a working field (Mourshed, Farrell & Barton, 2012). The doubts of student's professional development have been noticed by the boss; in samples (n=101), the new employers still feel that they get insignificant salary to support their lives (Mourshed et al, 2012). In 2013, a study found that 35% of US companies are difficult to fill in the job vacancy and suggest that the recruitment process needs to cooperate with university in developing relevant on job training to fill in the gap in working experience [9].

3. Competency Based Assessment

Competency based assessment is a process where an assessor work together with training participants to collect competency proofs using a given measurement from NOS (National Occupation Standard) consisting of national qualifications [10].

Competency based assessment is also a set of proofs to demonstrate that assessor can perform relevantly to a particular standard. It also becomes a form of assessment derived from specific results articulated in the standard competency assessment which let assessor create a decision. That case is related to either competent or incompetent performance in Focus Competency-based Assessment Requirement about 'result'. The assessment must clearly demonstrate based on students' performance. Numbers of proofs should be collected to show that a candidate has fulfilled any working criteria related to single competency / an assessment for incompetency only. There are only two assessments which can be made in a context of a working field. A working performance should be demonstrated and assessed in a possibly closer condition with the area where they usually practice it.

A written report is a form of written instruction of giving tasks where information and recommendation of actions needs to be presented. An aural report may be in a form of question and answer session by face-to-face mode. This method is useful in handling diverse groups of students with different literate abilities because assessor can make questions to guide candidates to understanding.

Working performance is the best method to collect reliable and authentic proofs about students' competency. This is because the assessment context is relied on the actual working condition that needs a demonstration of working competency and to optimize realism levels in an assessment process. Through a role play or a simulation, it gives an alternative of working performance in a working field. This can be seen as a scenario arranged to collect proofs of students' competency.

4. The Difference between Traditional and Competency Based Assessment

Traditional assessment is a process to give an opportunity for getting an academic credit in one or more certified courses, diploma, or any title following to where a competency based education involves the students to prove that they can master the course regardless times to accomplish. In a traditional assessment, they show that they have a skill as proof that they do not need to take a certain course and, in a competency based education, they prove that they have already mastered a required competency to take a course. Meanwhile, competency based assessment is a process where an assessor works with a participant in a training program to gain competency proof by using NOS measures that cover national qualification.

The notion of competency based assessment covers fluently worked, applied, trusted, flexible, and fair and save. The common lacks of designing assessment involve inappropriate assessment development, irrelevant assessment criteria to the blueprint of working performance, insufficient guidelines in the specific assessment of the recent skill development format.

An assessment of working performance is one that asks students to show whether they have mastered particular skill and competency by creating something. The assessment involves several types; planning and implementing experiments; writing essay which obliges students to rethink,

reintegrate, or apply the information gotten; working with other students to finish tasks; showing a mastery in using a tool. The competency assessment let an organization identify professional characteristics and individual who needs to uphold the working performance higher in any types of works.

5. Method

To get the literature reviews, it is done of searching full paper journals related to competency based assessment and fashion design in Google scholars, and gotten over 20 journals from 2006 to 2016. Then, it is done to search some free e-books in *libgen* about competency based assessment and fashion design and gotten some relevant interesting books. Other sources related to working standard competency in a fashion design are found from SKKNI BNSP in the field of fashion design. Above gotten literatures are used to review according to the definition, approach, and the implementation of competency based assessment in the field of fashion design.

6. Results and Discussion

Based on the review of literature about the implementation of competency based assessment in the field of fashion design, it can be found as follows:

6.1. Competency based assessment on advanced pattern maker (CAD/CAM) and garment cutter (CAM)

The salient review of this study is to understand the requirements of skills with a job namely an operator CAD and CAM, through in-depth study based on NOS. The placement of training participants is done using the development of skills, so that, competency based assessment is essential. This type of assessment is an approach to build relevant job with standard competency. The major point is on a competency shown more importantly for profession than measuring an isolated knowledge from skills or measuring times spent on academic learning. The assessment criteria are set out as an assessment goal, context, and place. Questions in the assessment are asked to examine competency based assessment through one question namely: a direct question, viva and theoretical question that must be prepared. Each question is made as a standard of working performance in NOS. Theoretical questions is made in an online form to save times and costs. Students only need to put names and an identified identity detail before proceeding to answer the questions. Then, it is conducted an automatic sign, report stating no students involved, and times to finish the questions. Afterwards, the obtained data are processed in MS Excel. The website used as CAD questions is <https://testmoz.com/477499>, while <https://testmoz.com/483059> is for CAM questions. It can be concluded that competency based question operator CAD and CAM has been made, even, further it can make viva and a more competent and costless practice [10].

6.2. The development of competency based assessment for sewing machine operator, in-line checker and executive QC – sewing line

A developing skill program in India lacks of good processes so that NSDC identifies the role of job in garment industry with AMHSSC aids through training program and creating a set of qualification for each job position. Annually, many candidates are trained, so that it is needed to assess the candidates based on their competency. To cope with the assessment process, it is needed to make it as simple as it saves costs and times. To develop a competency based assessment for sewing machine operator, in-line checker and executive quality control of sewing line should be verified by each qualification of each job type. It is important to concern on ages when assigning NOS based on their sakes. Assessment sheet is constructed based on education level from the level of job roles in theory, practice and viva form. Each question should be in line and patterned with working performance. One of challenges is to decrease the cost of assessment process and to elicit inappropriateness or failure on it. Android-based application is designed and developed to report an assessment. As a conclusion, assessment sheet developed and patterned based on criteria of working performance in a set of

qualifications with easy criteria. The format of the assessment sheet is constructed by aiming at preventing failures or confusedness with costless expense [14].

¹ 6.3. *The development of competency based assessment for embroidery job rolls*

This study develops relevant criteria for a job in NOSQ accepted by NSDC namely: sewing machine operator (zigzag motives, handmade sewing, automatic sewing machine, and machine operator). The purpose is to conduct a skill assessment and initiative certification in garment, MadeUps, and furnishing sectors to create job vacancy for the next generations, economic and social growth as a development process. competency based assessment is a process where an assessor works together with the participants in training to collect competency proofs using provided measurement by standard unit including a national qualification. This assessment is done in a structured process, in which the proofs of working performance are collected and evaluated, also agreed by NOS/QPs and NSDC. The assessment done to candidates is to examine the competency level in the following criteria: knowledge, skill, definition, ability and candidate's behaviour. It can be said that, related to the development of workers and training programs for clothing industries in India, now the requirements of being an industrial-oriented operator are increased seriously. Thus, a standardized assessment instrument should be prepared to give an appropriate training for those youths who want to work competently in any industrial sectors. Eventhough designing an assessment needs times and efforts, an assessment done virtually may control costs and times [19].

¹ 6.4. *The making of instrument for certification of training centers and trainees for job roles in garment industry*

Certification is a result of standardization process. This project is in connection with assessing a training center for the role of job sector in fashion sampling, fashion designer, and merchandiser in garment industry. Certification is provided after the assessment finished for the same case. Thus, it is important to make a standard assessment so that there is an exact scale to measure competency which is applied to all similar processes and stakeholders. The tools to assess a pack of qualification are in the form of descriptions about the requirements of job's role. This instrument is made to examine all required packs of qualifications until they are well-fulfilled. This study is to develop an infrastructure and laboratory relevantly to the prerequisites applied for training and types of jobs, developing assessment criteria relevantly to job's role, developing assessment criteria for a given job's role, developing innovative and interactive assessment method based on a given job. Each project will be launched based on the appropriateness level. The implementation of the project covers minimum expenses. All expenses by considering assessment costs and assessor's remuneration. Assessor is responsible for assessing and correcting the theoretical paper, and also process-based evaluation. This pack of assessment should be understood and clear so that the assessment process can be done smoothly without ambiguity. The relevance of the assessment must be in line with the job profiles planned by the candidates. In addition, the questions should be logical and intellectually structured in order to match with the job profiles [12].

6.5. *Competency based assessment in apparel sector*

This study aims to ensure that a training system can give a required skill by businessman to create competitive and successful products. To provide continuously commercial and integrated products, it is a solution in developing apparel sector that may compete in international scope. The analysis of standardized operator is based on the working performance and its effectiveness performed in the working place. Operator is placed based on the score of the performed skills during training program and afterwards when they produce efficient improvement working as an operator. All in all, using atomization can decrease assessment times from four days to only two days and from seven days to three days for candidates' assessment times. This benefits the industry that gives more advantages by investing a lower modal. Moreover, indirectly, it also minimizes the cost expensed [20].

6.6. Competency based assessment in apparel sector

Apparel sector is one complex industry that spreads fast to every corner of world fashion industries. However, there is a minimum qualification and skill to deal with the job. The work is not yet organized well, only in a certain sector like health and safety. In the development of these sectors, it is important to standardize a job by a certain competent way, such as measuring skills, abilities, behaviours, knowing, and understanding of a job criterion. This sector deals with quality and significant production level so that this is important to match the parameter of employer's skill with the job's role. This study aims to ensure that the training system gives a skill required by industrial sectors to produce qualified and competitive products. The occurrence of continued commerce and integrated solution for the development of clothing sectors promotes possibility in a global competition. Based on NOS analysis, a businessman recruit and place employers in a suitable working place, as well as the training place; giving quality guarantee and supervisor, knowledge about making a report, standardized ability to understand observation results to determine component condition, and ability to communicate a finding after a field inspection. As a conclusion, there is a big gap between a necessary skill and a competency in apparel sector. The gap occurs as a result of competency lacks had by training partner and the assessment. By inviting more candidates to come in the company, the gap can be elicited. It is also necessary to develop a set of questions for the making of basic clothe pattern; sewing machine operator and technician in garment industry. In addition, an assessment instrument is mandatory to be constructed and implemented [15].

7. Conclusion

The implementation of competency based assessment in the field of fashion design through measuring tool, facility, and instrument for garment, apparel, embroidery, CAD, and CAM sectors by patterning performer's criteria relevantly to the qualifications applied. The purpose is to measure one's knowledge, behaviour, and skill in a practical activity in order to perform more competently and effectively regarding times, accesses and costs.

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