

Developing Assessment Rubric in Graphic Design Studio-Based learning: Experiments in Active Teaching in a Case Study

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1. Abstract:

Assessment is an integral part of the teaching and learning process as it determines whether or not the goals of education are being met. Assessment support learning and it is usually the forefront of student's perception of teaching and learning process. It's a fact that most creative art and design disciplines faced challenges in assessment. Many studies showed the lack of using some assessments techniques for art and design by teachers in higher education. Research like contest the measuring of creative process, discuss subjectivity and non-transparency, challenge unplanned assessment of creative outputs and the inconsistency in evaluating creative outcomes. So training and guidance on the use of rubrics will help reduce the discrepancies, and intrinsically motivate students to use them for learning.

The study aim was to develop and involve rubric in graphic design assessment for case study in studio based learning course. To determine how instructors assisted student's response to variety of different types of active learning in case study for the Graphic design & illustration course. The Case Study was undertaken by second-year Graphic Design students at the Emirates College of technology in UAE. In this follow-up methodology, the researchers applied adult's andragogy learning and teaching methods in project-based learning real case study. The students were introduced for the first time to the use of assessment rubrics in assessing their creative performance. This paper defines Performance assessment in active learning methods, present the role of rubric assessment, and offers suggestions for implementing it in assisting a case study in graphic design course, to develop and incorporate assessment procedures that allow creative ability to be assessed with greater transparency and objectivity.

Keywords:

- *studio-based learning,*
- *performance assessment,*
- *assessment rubric,*
- *Andragogy,*
- *pedagogy*

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2. Introduction

Case study introduces an innovative teaching and active learning environment. It is a powerful learning tool used by a small group of people for solving real-world organizational problems. Case study is a great way to improve a learning experience, because it get the learner involved, and encourage immediate use of newly acquired skills. Active learning develops students' intrinsic interest in the subject matter, emphasize learning as opposed to recall, promote group work, and help students become self-directed learners as the mostly required in graphic design education, by using Andragogy methods students can achieve multiple creative abilities in Case studies problem-based learning. All Graphic design teaching environments builds most on a foundation of studio-based and project-based learning using problem based learning methods. where educator tells a story about situation that needs a resolution. Both studio and project-based learning can serve

to transfer knowledge to real-life experiences (2). Studio-based assessment is suitable when graduate outcomes include the ability to design and develop a creative product of any kind of design; these evaluating creative products are intended to bring consistency to the process (3). However, the criteria for scoring creativity must be appropriate to the product being assessed. Rubrics have become common scoring guides for creative assessment, but taxonomy of creativity is necessary for effectiveness (4). Assessment focused learning activities can have positive implications for the learning experience.

3. Objectives

The Objectives of this research is to:

1. Identify the steps of developing rubric for case study in studio base learning.
2. Identify appropriate instructional between course learning out comes, case study goals and students' performance in designing performance rubric criteria, performance levels

and descriptions of performances for each criterion at each level in the rubric

3. Identify the effectiveness of assessment rubric to evaluate studio based learning course.

The paper concedes Case studies in teaching are a good direction and strategy for educators. And it examined the use of assessment criteria and rubrics in graphic design studio course in higher education. Thus; this paper brings up questions about how we should structure assessment tools in design education by applying Andragogica model through case study, and how we will evaluate this case study by using rubric.

4. Review of literature

4-1-Assessment in higher education

Assessment in higher education must have educative value. In other words, assessment should be part of and feed into the learning process, and not simply be a quantifiable measure of it (5). Assessment is an integral component of any successful teaching effort. Research has shown that students engage with subject matter based in part on their expectations about how their achievement will be evaluated (6). Assessment is of prime importance to education and student learning (7). It is argued by many researchers that students put a premium on assessment, since it defines what they regard as important in their education and how they spend their time both in and afterwards as graduates (8). Assessment that places the emphasis on process allows students to develop an understanding of how they work, It can encourage a deeper approach to learning where risk-taking and discovery are emphasized, rather than a surface approach where work is done 'to please the teacher'.

The primary focus of this paper is upon formative assessment activities. That means the students are aware of their assessments. Any effective assessments must be balanced in its use of summative and formative assessment. The research will concentrate on performance assessments of case study as an effective assessment for active learning method during class time; performance assessments allow students the opportunity to display their skills and knowledge in response to "real" situations. Performance-based assessments "represent a set of strategies for the application of knowledge, skills, and work habits through the performance of tasks that are meaningful and engaging to students" (9). Performance assessments can take on many different forms, which include written and oral demonstrations and activities that can be completed by either a group or an individual. It's a kind of formative assessments it provides

feedback and information during the instructional process, while learning is taking place or occurring. it require individuals to apply their knowledge and skills in context, formative assessments Primary aims is to monitor students learning to define 'what' is important for students to learn, in this case 'how' they work, as well as to create the learning activities that engage students in that learning. Boud suggests that the inclusion of high quality formative assessment practices supports lifelong learning practice and that "formative assessment guides us in how to learn, what we wish to learn, and it tells us how well we are doing in progress to get there" (10). Formative assessment can facilitate learning by actively engaging the student in the learning process. Also performance assessments require a demonstration of students' skills or knowledge. This can also support development of the students' awareness, and ability to articulate with greater clarity what they have learnt, provide a richer depiction of graduates' qualities and achievements than numerical grading systems" (11).

4.2 Assessment rubric:

performance assessment may acquire in case study in many different types like teacher observation during class activities, nonverbal feedback during lecture, questions and brain storming discussion, creating concept to present their understanding and informally presenting their works in class. Performance assessments should be fair and free from bias, with using of assessment criteria/rubrics to enhance students learning. A rubric is an assessment tool that clearly indicates marking criteria that can merge all these aspect knowledge, skills and competencies or student behavior. It can be used for marking assignments, class participation, or overall grades (12). It's a valuable way to strengthen the assessment of student knowledge and skills complex performances are to fold rubrics into the assessment process (13). Rubrics are an effective and versatile assessment tool for knowledge acquisition and the development of professional skills (14). Rubrics make the learning target more visible to students; it guide teaching by highlighting for both students and teachers the key concepts in the assignment or course Their use is becoming a growing trend in education due to their positive impact on teaching and learning (15). Rubrics form the foundation on which teachers make academic judgments about students' performances and measure students' achievements and progress (16). Kruger (2007) asserts that clustered or simplified rubrics could ensure consistency without repetition of the same standards, and considerably reduce the

administrative load of assessment, thereby ensuring its promotion and use in learning (17). Andrade & Du (2005) further states that rubrics make assessment of students' works quick and efficient, especially in large classes (18). Rubrics can help teachers analyze and describe students' responses to complex tasks and determine students' levels of proficiency. In addition, rubrics give students more specific criteria detailing what is expected and what constitutes a complete response (16). Despite the potential benefits of the adoption of assessment rubrics, their use got strong criticism; the exclusive use of assessment rubrics may not achieve effective learning outcomes, or does not enhance students' learning experience. that when too much focus is put on the number of criteria, rather than on actual indicators of the quality of the student's work, but Egodawatte (2010) agrees, contending that training and guidance on the use of rubrics will help reduce the discrepancies, and intrinsically motivate students to use them for learning (16). It is important when using rubric to focus on matching all aspects of the curriculum with what students do. Teaching methods and assessment tasks should be aligned to the learning activities stated in the intended outcomes so that students 'construct meaning through relevant activities' (18).

We can summarize Advantages of using rubrics in assessment include:

- Allowing assessment to be objective and consistent
- Allowing the instructor to clarify his/her criteria in specific terms

- Clearly showing the student how their work will be evaluated and what is expected
- Providing useful feedback regarding the effectiveness of the instruction
- Provide benchmarks against which to measure and document progress.

There are two types of rubrics Holistic and analytical, Mertler (2001) described the differences between analytic and holistic scoring rubrics and how to develop each type of rubric (14). Holistic rubrics group several different assessment criteria and classify them together under grade headings. Analytic rubrics, on the other hand, separate different assessment criteria and address them comprehensively. The top axis includes values that can be expressed either numerically or by letter grade. The side axis includes the assessment criteria.

Rubrics can give structure to observations. Matching the observations of a student's work to the descriptions in the rubric averts the rush to judgment that can occur in classroom evaluation situations. Instead of judging the performance, the rubric describes the performance (19). The resulting judgment of quality based on a rubric therefore also contains within it a description of performance that can be used for feedback and teaching. This is different from a judgment of quality from a score or a grade arrived at without a rubric. Judgments without descriptions will stop the action in a classroom. Table 1 describes the different types of rubrics and the advantages and disadvantages of each (19).

Table 1. The different types of rubrics

Type of Rubric	Definition	Advantages	Disadvantage
Analytic	Each criterion (dimension, trait) is evaluated separately.	1. Gives diagnostic information to teacher. 2. Gives formative feedback to students. 3. Easier to link to instruction than holistic rubrics. 4. Good for formative assessment; adaptable for summative assessment; if you need an overall score for grading, you can combine the scores.	1. Takes more time to score than holistic rubrics. 2. Takes more time to achieve inter-rater reliability than with holistic rubrics
Holistic	All criteria (dimensions, traits) are evaluated simultaneously.	1. Scoring is faster than with analytic rubrics. 2. Requires less time to achieve inter-rater reliability. 3. Good for summative assessment.	1. Single overall score does not communicate information about what to do to improve. 2. Not good for formative assessment.

To write or select rubrics, the instructor needs to focus on the criteria by which learning will be assessed. This focus on what he intend students to learn rather than what he intend to teach actually helps improve instruction (19). A good designed rubric helps instructors avoid confusing the task or activity with the learning goal, therefore

confusing completion of the task with learning. It helps keep instructors to focus on criteria, not tasks.

While formats can vary, a rubric is essentially a matrix in which the learning outcomes are listed down the side and the levels of performance the top, with descriptions of the performance for each

outcome at each level described in the cells of the matrix.

4.3 Assessment rubric in graphic Studio-based learning:

Assessment in graphic design education is somewhat neglected within educational research, perhaps for reasons of its non-standard procedures and methods. With few exceptions, one significant area of neglect in design education research is assessment (20). Graphic design teaching is act of design method in studio based learning. Students learn more in an active learning environment than they do in a passive learning environment. Creating an “Andragogical Model” in graphic design teaching as Adopted by Knowles, M.S (1970), he addressed various Andragogical models for helping adults learn. ‘Andragogy’ learning-by-doing is based on self-directed learning theories approach reinforces a traditional pedagogical approach of teaching based on teacher-directed learning theories. Knowles defined andragogy as the art and science of helping adults to learn (21). In a constructively aligned teaching environment, the focus is on matching all aspects of the curriculum with what adults students do. Teaching methods and assessment tasks are aligned to the learning activities stated in the intended outcomes so that students ‘construct meaning through relevant activities’ (18).

With studio-based learning, you can assess multiple dimensions of creativity—the processes, the products, the learner’s part and the influence of the learning setting. Although definitions and emphases differ, educational theorists consistently agree that creativity represents the highest order of learning, encompassing and transcending lower levels such as understanding and evaluating (21). Assessment criteria should be based on specific indicators associated with intended learning outcomes. In addition, rubrics can be a vital component of an effective outcomes assessment system, contributing to program improvement and university accreditation (22). Staff is often concerned about how they will moderate the subjectivity inherent in assessing creativity. Style and aesthetics are very personal matters; marker variance can be as high as 75% The Studio Teaching Project report proposed intertwining the holistic development and assessment of 3 dimensions of studio-based learning in architecture, art and design (23):

- **Product-** focusing on underpinning content knowledge
- **Process**—reflective and professional practice skills, and
- **Person**— competences, acting and thinking like an artist or designer.

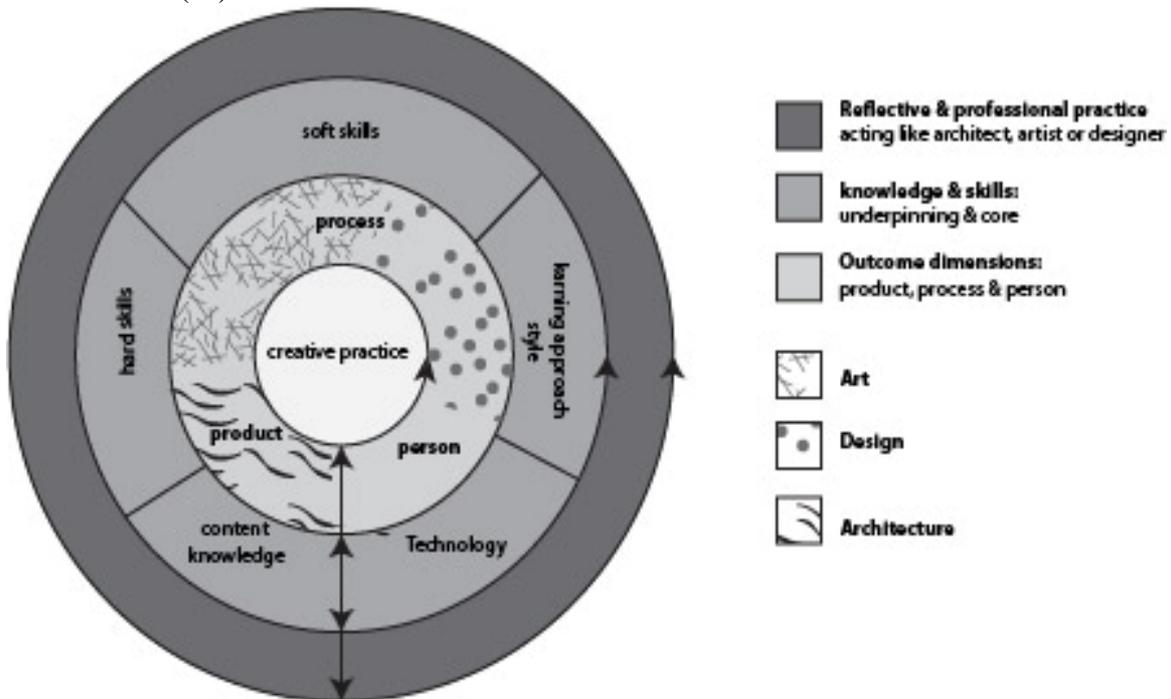


Figure 1. Model for holistic assessment in studio

Using rubric assessment becomes useful especially when applied in the studio critique. So well designed rubric can be used for the purpose of instruction, motivation, and evaluation in Constructivist learning environment. Dornisch and

McLoughlin (2006) suggest that a credible, effective and implementable rubric is capable of reducing two major concerns associated with assessing creative products/performance: mover-subjective and/or inconsistent evaluation, leading

to unfairness to students; and the unreasonable time involved in giving feedback to or grading students (15). Elizondo-Montemayor (2004) concurs, and strongly believes that assessment standardization during creative work-in-progress was helpful because teachers and students would know exactly the expected outcome from each (24).

5. Initial case study

In order to examine rubric as assessment tool in graphic based studio course, this paper aim to examine the effect by teaching Case Study in one of the practical courses for advanced level students during the fall semester. the authors analyzed the students work through eight steps, briefing, research, brainstorming, idea sketches, critique, revising and design solution, final presentation and evaluation . As the term suggests, performance assessments require a demonstration of students'

skills or knowledge. Before a performance assessment or a scoring rubric is written or selected, the teacher should clearly identify the purpose of the activity. As is the case with any assessment, a clear statement of goals and objectives should be written to guide the development of both the performance assessment and the scoring rubric. This process primarily requires clearly defining the desired student outcomes and the specific goals they hope to accomplish as describes in table 2. In this course the authors choose a case study about designing info graphic for women cycling. Information graphics or info graphics are graphic visual representations of information, data or knowledge intended to present complex information quickly and clearly (25).

Table 2. Shows the Course objectives and learning outcome

Course	Graphic design & illustration
	This course provides computer skills for graphics design illustrations and line art production. This comprehensive course covers all the features of the Adobe Illustrator program, including tips and techniques for creating many different types of line art.
Objectives	<p>The objectives of the case study is to:</p> <ol style="list-style-type: none"> Provide a real example that will guide the students through the analysis process. Provides the learners coverage of the most effective techniques in use Adobe Illustrator as graphics design and illustration software. Give the learners a task to design info graphic based on a real questioner result Ask the learners to prepare sketches of key decision points in the problem. Provide two or three alternative designs and identify the strengths and weaknesses of each.
Outcomes	<ol style="list-style-type: none"> Create simple illustrations using Adobe Illustrator features. Apply basic Colors in order to design line art productions Discover how to manipulate layers and recognize how to insert text to designed graphics, or illustrations Practice adjusting type and employ Illustrator tools to apply fills and gradients Practice to manipulate paths

5.1 Case study briefing

The briefing starts by presenting the chosen case study about how to transform the data gathered from the survey into something visually attractive and fun to look at, and readable on a spread. Because students are required to pay attention to understand problems and guidelines, the teaching method should be based on 100% pedagogical methods. It also brings out group discussions to understand which design works or not. All design samples are from various student works related to concept development and design methodology. It is important for the lecturer to help students understand their role, and understand the

importance of class participation. Also to Clarifying objectives and analyzing examples of the successful designs demonstrates including evaluation criteria. After presenting the case study through discussion the students was given the assignment, it's about converting a survey that compare between Samsung Galaxy S4 vs. iPhone 5 to infographic poster. The result of the questionnaire was 6 pages taken from smart company website in December 2012.

5.1.1 Research and Brainstorming

This means students are responsible to seek the direction of study goals and design achievement. Design process often requires unlimited resources

and references to contribute a unique concept and creative ideas in visual communication. Brainstorming is a team creativity activity that helps generate a large number of potential solutions to a problem. The goal of brainstorming is to throw out any and all ideas related to a project, eventually leading to one or several to take further. In this assignment, students participate in a group brainstorming activity to generate possible solutions to their design challenge.

5.1.2 The design sketch

Sketches give students that creative feeling when they are holding a pencil than holding a mouse. It gives them more freedom to illustrate what’s in here minds on paper than on a computer. By means of drawing rough lines and shapes, they begin to use that spark of creativity to come up with interesting ideas that can be the initial foundation of the next design step. Therefore, students should not be limited to the number of sketches, but use any design method to expand their idea and creativity. In this task an Andragogical model is more effective in achieving the goal of final design quality in both aesthetical and functional aspects. The author observed different responses from students. They started sketches by using blocks, each block for different statistic results; this stage took one hour, from thumbnail sketch to the composition one. By exploring four samples from the students work we can examine different kind of techniques. Next

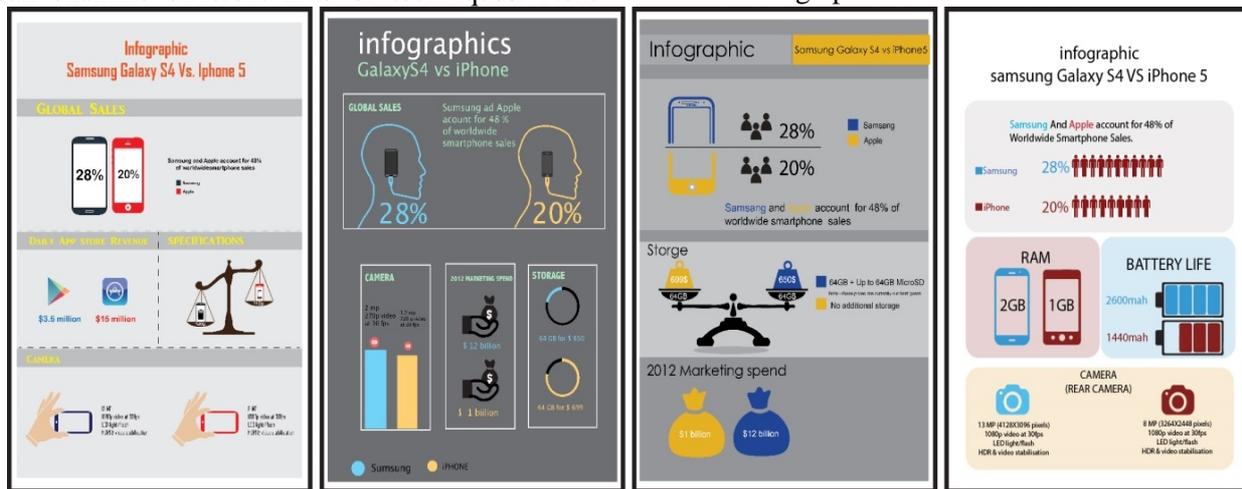
they were trying to figure out which data item goes into which box, by starting to add the ones that had lot information to show into the big boxes, and the ones that had small answers into the smaller ones.

5.1.3 Critique of the concept and illustrations

Critique requires both pedagogy and andragogy in the various graphic design disciplines. Communication between teacher and student needs interactive methods: both written and verbal. This stage started from thinking about the illustration and visualization of each item. It usually happens that a lot of ideas come during the process itself. To figure out which illustration style they will use, it took from them two hours to draw and choose the color palate. The color palate was different from each student. But all used the blue color to identify Samsung mobile this according to the logo color of Samsung.

5.1.4 Presentation

Presenting the final design in the form of a poster is also fundamental to authentic learning environments (Figure 2). This is achieved by prompting the students to describe the design problem, their primary research, and their design process in a report format Building on the observations that emerged from the critical incident analysis phase, the students are then prompted to; describe possible alternatives to their submitted design, to identify what they learnt from their experience, and how they might approach a similar design problem in the future.



sample 1

sample 2

sample 3

sample 4

Figure 2. the samples of the final design

5.2 Developing case study rubric:

In this course we used a detailed course evaluation rubric divided into three levels of achievement, sophisticated, competent and not yet competent) which we feel helps students better understand what is expected of them through each stage of the

process. The rubric addresses the student’s work products, their presentation skills and their abilities to work well as a member of a team. *The three main steps in designing a rubric are:* (a) identifying performance criteria, (b) setting performance levels (c) creating descriptions of

performances for each criterion at each level (13). In the first step of *identifying the criteria for a performance* (spoken and written communication), three to six criteria typically work best so that students and instructors can keep the main concepts in mind as they are preparing their assignment. If there are more than seven criteria, people typically can't keep all of them in mind and if there are less than three criteria they are usually too global to generate feedback specific enough to guide learning.

The statement of goals and objectives is developed prior to the instructional activity and is used to guide both instruction and assessment. Both goals and objectives should reflect knowledge and information that is worthwhile for students to learn goals and objectives provide a framework for evaluating the attainment of a given goal. The next step is to decide on the number and names for the performance levels. A common format is to have three levels of performance such as basic, proficient, and advanced. Writing the paragraph descriptions of performances for each criterion at each level is essential, for example these descriptions can be in bullet form rather than paragraph form. In this course, the instructor would need to distinguish among these needs to improve the performances in assigning a grade, and then provide more customized feedback to these students.

5.3 A Process for Putting Rubrics in Place

To make sure that the rubrics that are developed will be on target, it is helpful for the instructor to clarify the learning outcomes (What should students know and be able to do?), identify the relevant learning experiences (e.g., courses, labs, studios, internships), create quality assessments, and then design the rubrics. These steps are intended to better ensure that the rubrics are aligned with and support the course or program goals (13). A rubric is an explicit set of criteria used for assessing a particular type of work or performance and provides more details than a single grade or mark.

Displaying this relationship between learning outcomes and learning opportunities in a matrix format can help highlight instances in which students are asked to demonstrate a skill but have not been given guided opportunities to learn and practice it. The instructor should develop key assessments that address one or more of the course or program learning outcomes. These assessments in our course will be studio bases learning. These key assessments should capture important features

of the valued outcomes for the course or program and be appropriate to the nature of learning being investigated. Table 3 describes the steps in developing rubric.

Table 3. The steps in developing rubric.

steps	Activity performed
1	Identification of learning objectives that their achievement will be measured by rubric.
2	Identification and stating levels of performance for each criteria stated
3	Development of descriptive scoring schemes for each criteria and sub-constructs
4	Review and obtain feedback on the developed rubric
5	Test the rubric for reliability and validity
6	Pilot testing of the developed rubric

Our design course is the mid- studio course that introduces students to the illustration course this program attracts students from varied backgrounds, so there can be no assumptions about knowledge bases in the field. In this class they will be introduced to strategies for understanding and design info graph in Adobe illustrator. So students will be required to develop their skills in oral and graphic presentations pertaining to designs, ideas, and illustration. The rubric evaluations emphasize the course goals through process, design and presentation. The format of the class is individual studio work, and will take 6 hours.

The rubrics provide students with detailed descriptions of the key categories of the levels of development they needs. Also rubric encourages active learning and growth for students by providing a shared professional language and a framework for self-reflection in assessing process and designing in the development of a studio practice. The rubrics can help students develop an ability to discuss and critique their work and others work, which is a fundamental skill required in the profession. Table 3; describe the final design of rubric that we used to evaluate this case study compared with the course learning outcomes.

5.4 Elements of a Rubric

Typically designed as a grid-type structure, a grading rubric includes criteria, levels of performance, scores, and descriptors which become unique assessment tools for any given assignment.

Criteria	Levels of achievement			Score	CLOs
	Sophisticated 5 points	Competent 2.5 points	Not yet competent 0 points		
Graphics Clarity	Graphics are used effectively and have strong impact on the total design.	Most graphics are focused on the message of the design project, but could have been used more effectively by virtue of size or location, rhythm, etc.	Graphics fail to convey the meaning of the design project and there is a lack of understanding demonstrated by poor sizing or placement.		#1
Graphics Originality	The graphics and text used on the design project reflect an exceptional degree of student creativity in their creation and/or display.	The graphics and text used by the student, but are based on the designs or ideas of others and don't demonstrate original ideas	Graphics and text do not demonstrate any original thought or creativity		#1
Design Attractiveness	The design project is exceptionally attractive in terms of design, layout, neatness, dominance, rhythm, size, etc.	The design project is acceptably attractive though it may be a bit disorganized and does not demonstrate a clear understanding of layout: dominance, size, rhythm, balance, etc.	The design project is distractingly cluttered or devoid of necessary elements and very poorly designed. It is not attractive.		#2,3
Graphics Relevance	All graphics are related to the topic and make it easier to understand.	All graphics relate to the topic.	Graphics do not relate to the topic		#4
Design presentation	Overall presentation is excellent.	Overall presentation is acceptable.	Overall presentation is poor.		#3

Figure 3. illustrates a simple grading rubric with each of the four elements for this case study

- 4.4.1 **Criteria:** feature or dimension which is to be measured and include a definition and example to clarify the meaning of each trait being assessed. Each assignment or performance will determine the number of criteria to be scored. Criteria are derived from assignments, checklists, grading sheets or colleagues (26). In our rubric we chose five criteria to identify each element includes Clarity, Originality, Attractiveness, Relevance and presentation.
- 4.4.2 **Levels of performance:** Levels of performance determine the degree of performance which has been met and will provide for consistent and objective assessment and better feedback to students (26). These levels tell students what they are expected to do. We design our levels of performance based on three levels can be used

- with descriptors as descriptors help in achieving objectivity.
- 4.4.3 **Scores** make up the system of numbers or values used to rate each criterion and often are combined with levels of performance. Begin by asking how many points are needed to adequately describe the range of performance you expect to see in students' work. In our rubric we used 5 points for Sophisticated, 2.5 points for Competent and 0 points for Not yet competent. Scoring rubrics should be discussed with the students before they complete the assessment activity. This allows the students to adjust their efforts in a manner that maximizes their performance
- 4.4.4 **Descriptors** are explicit descriptions of the performance and show how the score is derived and what is expected of the students. Descriptors spell out each level (gradation) of

performance for each criterion and describe what performance at a particular level looks like (26). Descriptors describe how well students' work is distinguished from the work of their peers and will help you to distinguish between each student's work. There are three level of performance: Sophisticated, Competent and Not yet competent.

4.4.5 **Evaluate the rubric.** As with any instructional tool, evaluate the rubric each time it is used to ensure it matches instructional goals and objectives (26). So students must understand each criterion and how they can use the rubric to their advantage. In our rubric we provide more details about each of the rubric's areas to further clarify these sections to students.

5.5 Feedback to promote students learning:

If our aim is to improve students' performance not just measure it we must ensure that students know the performance expected of them, the standards against which they will be judged, and have opportunities to learn from the assessment in future assessments. Ongoing feedback is important and can be in oral, video or asynchronous forms (27). Feedback can also be public, private, group or one-to-one, planned or impromptu. He found that ongoing feedback was useful to support understanding of assessment criteria and that this had the potential to modify the teaching and learning activity. "Often the work has never been viewed before. It is as a developmental stage, rather than a finished product. This situation is challenging both for the students and the teacher. The teacher has to give feedback that is encouraging and motivating, that may contain negative elements, often without adequate time for reflection and preparation of a response prior to the feedback interaction" (27).

An important development in the revised teaching approach is making improved use of formative assessments encompasses all those activities undertaken by teachers and students which provide information to be used as feedback to modify the teaching and learning activities in which they are engaged assessment opportunities in the teaching and learning process To encourage design thinking students are required to; articulate their initial proposal in a seminar, document their response to the feedback from the seminar, complete an interim presentation of the design under development, present the final design artifact and articulate the design process and reflect on the design and learning outcomes. The revised approach actively engages the students with their feedback by asking them to respond to the feedback between the various project stages. This occurs through informal individual discussions, formal class discussions and presentations, and in the written process and reflective report. Also Peer-assessment can take place as part of the learning activity during class there was also the potential to create a space for dialogue where students could engage in discussion, negotiation and argument.

Feedback in our case study took place in different levels, as the following:

- a) First step is the initial seminars: in which students present their proposal, this offers an opportunity to receive formative and critical feedback from instructors.
- b) Second step is the interim design presentation: during which the student is asked to respond to feedback given in the initial seminar; this feedback is given on how well the student has incorporated the comments into the design and developed his/her response. This stage also includes a review of the design work-in-progress and provides formative feedback on the *sketch* aspect of the work.
- c) Final step is the final presentation: of the work is made to the whole class. At this stage, feedback is provided by the course instructor. The students are able to respond to this feedback during the presentation, with a further opportunity to respond in a more considered manner in the following reflective report.

In this reflective report the student reflects on how the project met the objectives and how they might approach subsequent projects in the future. Both formative and summative feedback is provided to assist the process of knowledge transfer from this project to future work, providing a sound basis for the student to develop their design practice and life-long learning skills.

6. Rustles

- The action-research process used in this study has facilitated the development and procedures for the implementation of an assessment rubric in a design studio.
- Study suggests that using rubric as assessment tool for evaluation a case study will enhance the active learning. Grading rubrics are effective and efficient tools which allow for objective and consistent assessment of a range of performances, assignments, and activities.
- The stated criteria for the rubric of the performance assessment should be clearly aligned with the goals and objectives of instruction. Criteria and marking need to fit the nature of the tasks and the actual learning achievement expected from students
- Statement of goals and objectives should be developed by instructor prior to the instructional activity and is used to guide both instruction and assessment
- Rubric is beneficial also for instructors. Using Levels of performance, Scores and Descriptors clarifies for them what they are marking and makes them look at all aspects of the student work. Also, defining level descriptors can make giving feedback to students even easier. The feedback that students receive through a grading rubric can help them improve their performance on revised or subsequent work.
- In performance assessments goals and objectives should reflect students' performance

in the knowledge, skills and competences that is worthwhile for creative design students to learn and a lined with course outcomes and case study objectives.

- Another positive result is an increased interaction between students and the teacher which increases the number of student with successful outcomes. This approach also decreases the number of misunderstandings, increases motivation in self-direction.
- To avoid bias in performance assessment The assessment sheet drew attention to 'how' marks were awarded, 50% for case study objectives and 50% for course outcome, as well as 'what' was assessed, the rubric Criteria, Levels of performance, Scores and Descriptors.
- Performance assessment using analytical rubric Increases student-to-student feedback over traditional pedagogical approaches.

7. Discussion / conclusion

Case study differs from lectures or assigned readings, because they require participation and deliberate application of a broad range of skills. This is how case studies can make the difference between knowing what to do and knowing how, when, and why to do it. With rubric case-based assessment, students develop and instructors assess in analytical thinking and reflective judgment by reading and discussing complex, real-life scenarios. This means that design outcomes should be more practical and of professional quality rather than theoretical only to be majored. An Andragogical model designed by Knowles in 1984 should be considered more in advanced levels in the case study objectives to help them seek various methods in problem-solving. Through this justifying the effectiveness of assessment rubric for case study in graphic design courses the authors observed that Assessment rubrics are very useful assessment tools for teachers at all levels of education. Their use in graphic is not limited to only subjects that produce a case study but also we can use it for all the studio courses. We therefore advice teachers in subject areas that require the use of rubrics in assessment to follow development procedures that will ensure very high reliability as well as

8. Recommendation

The purpose of this paper is to provide a set of recommendations for the development of performance assessments and scoring rubrics. These recommendations can be used to guide a teacher through the four phases of classroom assessment, planning, gathering, interpreting and using, to understand the use of performance

assessments and scoring rubrics in the classroom. It is clear that there are specific difficulties associated with running performance assessment using an assessment rubric in large classes however a suitable training can be given to graphic-design educators who would be concerned about enhancing teaching and learning using rubrics in assessing and improving students' skills in studio critique, oral communication, technology and problem solving. A Form of assessment should be sent with the case study to students before the actual class time for the investment of classroom time. Further enhancement of this research will be on how more closely examine the relationship between the graphic design projects report and the reflective assessments rubric report and developing measures of cognition to evaluate design thinking.

7. References

1. Eric, F., & Patrick, O. (2013). Design Students Perspectives on Assessment Rubric in Studio-Based Learning, *Journal of University Teaching & Learning Practice*, 1(10), 1-15.
2. Blumenfeld, P. C., Soloway, E., Marz, R. W., Krajcik, J. S., Guzdail, M. and Palincsar, A. (1991). *Motivating Project-based Learning: Sustaining the Doing, Supporting the Learning*. *Educational Psychologist* 26(3 & 4): 369-398
3. Starko, A. J. (1995). *Developing creativity in the classroom: Schools of curious delight*. White Plains, NY: Longman Publishers. Retrieved February 15, 2015, from <http://www.jourlib.org/references/7197886>
4. Shepherd, C. M., & Mullane, A. M. (2008). Rubrics: The key to fairness in performance based assessments. *Journal of College Teaching and Learning*, (5), 27-32.
5. Ellmers, G., Foley, M., & Bennett, S. (2008). Graphic Design Education: A Revised Assessment Approach to Encourage Deep Learning, *Journal of University Teaching & Learning Practice*, 5(1). Retrieved February 24, 2015, from <http://ro.uow.edu.au/jutlp/vol5/iss1/7>
6. Marilyn, M., & Lombardi. (2008). Making the Grade: The Role of Assessment in Authentic Learning, EDUCAUSE learning initiative. Retrieved March 1, 2015, from <http://net.educause.edu/ir/library/pdf/eli3019.pdf>
7. Koshy, S. (2008). Using marking criteria to improve learning: An evaluation of student Perceptions. *University of Wollongong of Dubai*, UWOD-RSC-WP-77, 12.

8. Bain, J. (2010). Integrating student voice: assessment for empowerment, *Practitioner Research in Higher Education* 4(1), 14-29.
9. Hibbard, K. M. (1996). A teacher's guide to performance-based learning and assessment. Alexandria, VA: Association for Supervision and Curriculum Development. Retrieved May 12, 2015, from http://www.ascd.org/publications/books/19602_1.aspx
10. Boud, D. (2000). Sustainable Assessment: rethinking assessment for the learning society. *Studies in Continuing Education* 22(2), 151-167.
11. Yorke, M. (2005). Formative assessment in higher education: Its significance for employability, and steps towards its enhancement. *Tertiary Education and Management* 11(3): 219-238.
12. Huba, M.E. & Freed, J.E. (2000). Using Rubrics to Provide Feedback to Students. *Learner-Centered Assessment on College Campuses*. Boston.151-200.
13. Wolf, K. & Stevens, E. (2007). The Role of Rubrics in Advancing and Assessing Student Learning. *The Journal of Effective Teaching an online journal devoted to teaching excellence*, 7(1), 2007 3-14.
14. Mertler, C. A. (2001). Designing scoring rubrics for your classroom, *Practical Assessment, Research & Evaluation* 7(25). Retrieved May 12, 2015, from <http://pareonline.net/getvn.asp?v=7&n=25>.
15. Dornisch, M. M. & McLoughlin, A. S. (2006). Limitations of web-based rubric resources: addressing the challenges. *Practical Assessment, Research & Evaluation*, 11(3). Retrieved May 13, 2015, from <http://pareonline.net/pdf/v11n3.pdf>
16. Egodawatte, G. (2010). A rubric to self-assess and peer-assess mathematical problem solving tasks of college students, *Acta Didactica Napocensia* 3(1), 78.
17. Kruger, S. C. (2007). The use of rubrics in the assessment of social sciences (history) in the get band in transformational outcomes-based education, *CPUT Theses & Dissertations*, Paper 112. Retrieved May 13, 2015, from http://dk.cput.ac.za/td_cput/112
18. Biggs, J. (2003). Aligning teaching and assessing to course objectives. Paper presented at *Teaching and learning in higher education: new trends and innovations conference, University of Aveiro, Aveiro, Portugal*.13-17. Retrieved May 11, 2015, from <http://www.ucsc.cmb.ac.lk/wiki/images/2/2c/CA1.pdf>
19. Susan, M., Brookhart, & Anthony, J. (2008). *Assessment and Grading in Classrooms* (1st ed.). Pearson.
20. Davies, A. (1996). Assessment and transferable skills in art and design. *International Journal of Art and Design Education*, (3), 327-331.
21. Anderson, L.W., & Krathwohl, D.R. (2001). *Taxonomy for learning, teaching, and assessing: A revision of Bloom's Taxonomy of Educational Objectives* (1st ed.). New York: Longman.
22. Angelo, T.A. (2002). Engaging and supporting faculty in the scholarship of assessment: Guidelines from research and best practice. *Building a scholarship of assessment*, 139-150.
23. Harpe, D. L., & Peterson, J. F. (2008). A model for holistic studio assessment in the creative disciplines. *ATN Assessment conference 2008: Engaging Students with Assessment*, Retrieved March 15, 2015, from https://researchbank.rmit.edu.au/collection/rmit:15?rows=500&pager_row=0
24. Elizondo, M. L. (2004). Formative and summative assessment of the problem-based learning tutorial session using a criterion-referenced system, *Journal of the International Association of Medical Science Educators*, (14), 8-14.
25. Doug, N., & Jim, H. (2004). *Public Relations Writing: Form and Style*. (1st ed.). 236.
26. Arter, J., & McTighe, J. (2001). Scoring rubrics in the classroom: Using performance criteria for assessing and improving student performance. *Thousand Oaks, CA: Corwin Press, Inc*, Retrieved April 18, 2015, from http://niu.edu/facdev/resources/guide/assessment/rubrics_for_assessment.pdf
27. Taylor, M.J. & McCormack, C. (2004). Juggling cats: Investigating effective verbal feedback in graphic design critiques. *The Australian Council of University Art & Design Schools (ACUADS), Canberra, Australia*, Retrieved April 18, 2015, from http://acuads.com.au/wp-content/uploads/2014/12/taylor_mccormack.pdf