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METHODOLOGICAL EXPERIMENT FOR THE TEACHING-LEARNING PROCESS OF WOMEN'S FASHION FLAT PATTERNING: TEACHER X STUDENT PRAXIS ON THE FASHION DESIGN COURSE - UFC

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Abstract

This article aims to understand, through applied didatic strategies, how the learning of flat patterning in women's fashion occurs on the Fashion Design course (UFC). The study has brought to light new more effective methodologies for the spreading of knowledge in this particular field of teaching-learning.

Keywords: Women's Fashion, Women's Fashion Flat Patterning, Flat Patterning, Teaching-learning process.

1 INTRODUCTION

Flat patterning is done through the geometric tracing on paper that will eventually give form to full pieces of clothing. During the Fashion Design course (UFC), students are required to develop skills and competences in the execution of different types of patterning which will then greatly contribute throughout their professional lives. However, observational analysis through the course of many years in the practice of teaching these specific subjects has identified that students on the course do not relate as expected to the content taught which is especially worrisome considering how importante such skills are in the process of manufacturing clothes.

In the manufacturing of the clothing product, the patterning sector has the function of developing molds for cuts and production of pieces. It's through the conception and execution of the pattern that creations that once existed only in the field of ideas or even on paper, take shape (SOUZA, 2007).

This article derives from the analysis of researches proposed by teachers and executed by students inside the classes of Women's Fashion Flat Patterning on the Fashion Design Course (UFC). Its main goal is to understand how students learn and develop their own patterns throughout the run of the discipline analysing which didatic approaches are more effective when it comes to passing knowledge as well as which are more helpful when it comes to getting students to overcome their struggles in the área.

The methodology involves bibliographic and field research as well as participative observation, interviews with the use of open and objective answer questionnaires. It was also taken in consideration the study of activities developed inside the classroom. As a result of this research it was possible to figure out which methods were more effective in the teaching-learning practice and in which ways they could help improve the teaching process of disciplines in this area.

2 FLAT PATTERNING: METHODS AND TEACHING-LEARNING

Flat patterning is done by making use of geometric tracing on paper which then shapes clothes, henceforth bringing the body to the main focus (DUBURG, 2012). It first appeared after the decay of haute couture in the middle of the XIX century, during the Industrial Revolution.

The current pattern systems used are based on anthropometric researches on proportions of the human body that were conducted by the French Taylor Guglielmo Compaign, a pioneer on the technique of body measuring. As a result of the developed research, he then proved that it was possible to reduce any given object through tracing its pattern hence making it possible the development of pattern making through diagrams taken from studies by Sheldon in 1940 (ROSA, 2008).

The base pattern is the "esquematic representation of the human body on a flat paper, basing itself on the measuring scale of the body and the mold of the piece of clothing to be created it is then that the fabric is cut" (SCHMIDT, 199, p. 109). Its development is acquired through the standardization of fundamental, complementary and auxiliary measurements of each body. With these standard base molds ready, there's only the need to adjust and gradate.

During the course of Fashion-Design (UFC), students are required to develop skills and competences in the execution of many types of pattern creation. That is made possi-

ble by the existence and offering of mandatory disciplines such as Tridimensional Pattern Making, Women's Fashion Flat Patterning, Men's Fashion Flat Patterning and Pattern and Production in Mesh Fabric. Other than those before mentioned disciplines, elective classes on patterning are offered, the focus of them being on more specific subjects and techniques.

This lack of interest by learners inside the Fashion-Design/UFC course towards this subject or the effective difficulty when it comes to the practical use of this acquired skill related to the creation of collections on their projects during the run of the course and, later on, on their career related activities in the professional Market seems to be na extensive problem that pours into other academic fields and higher education in the studies of clothing manufacturing. As it is the case, it is important that the professional involved in the teaching-learning of such subjects who seeks excellence on the graduation and academic and professional success of their students - and on their own methodological growth as well – understand a little about the reasoning behind the challenges on the teaching of this subject.

The learning process of pattern making is not considered simple or easy by students as for the development of the pattern requires knowledge of measurements and proportions of the human body. Such measurements serve as a parameter to the construction of patronized bases and/or custom-made ones and are essencial parts on the manufacturing of a mold. Posteriorly, activities using rulers, centimeter level measurings as well as geometric angles and calculations take place, such proceedures require basic skills on the whole number and mathematical operations spectrum as well as knowledges on measurings, unities, one dimensional geometry and special geometry (ARAÚJO, 2013).

According to Araújo and Carvalho (2014), the measurements needed for the creation of a anatomic pattern are taken following the circumference/width, height of the mold being developed and the depth of the darts, verifying then their balance point through the use of central lines both vertical and horizontal and symmetrical and assymetrical lines and/or curves.

There are many details to take in consideration on the execution of a pattern, according Filgueiras et al. (2016). For that reason, the Tridimensional Pattern making lessons on the first term as to make students take notice of such details once they apply fabric to shapes (mannequins) and thus feel the need to accommodate fabric to the desired shape . And, in this accommodation, find out what better fits their goals whether if cuts or darts, thus becoming more aware of the process of construction.

Souza (2006, p.15) reenforces that the development of tridimensional patterns as a "instrument on optimization of the creation process of the fashion design product", it has a crucial role, the author considers, once it takes in consideration "aspects related to dimensional, ergonomical and morphological adequacy". The manufacturing of product, developed in three dimensions, attains to comprehend "in its full aspect the space relation, the infinite number of possible silhouettes, the impact of the mass and the diversity of materials available" (SOUZA, 2006, p.20).

The goal of the practicing of flat patterning the tridimensional molds consists, mostly, on the clearer perception of the cognitive comprehension of the learning process of pattern making by each student, whether it's more sculptural os pictorical. Such understanding on the part of the teacher, may lead them to better encourage students on deve-

loping both of these conceptions. In the process of the development of a mold, many skills are related, among these the ergonomical, anthropometric and general knowledge of the anatomy of the user's body. In that way, one of the main factors to be considered are "the shapes, measurements and movement of the human body" (MENEZES; SPAINE, 2010, p. 83).

The ideal result for the conception of a fashion product has a direct relation to many demands related to creativity on the choice of model, technical sketch, data sheet, types of pattern, pilot piece and, also, to the materials and trimmings. On the teaching-learning processo of pattern making all these steps must be somehow worked on by professors as to help students take charge methodologically of the means needed to the conception of clothing (DENIS, 2004).

It is noted, innitially, by part of the investigated students, a bigger interest on the cognitive process related to drawing conception which structures are far more abstract but that, regardless, still use mathematical skills such as symmetry, proportion and geometrical designs. According Leite and Veloso (2004) consider that construction and analysis of geometrical drawings, including in the drawings.

When referencing the fact that this students don't have a tasted for patterning, it Is important to consider that this has been being changed inside the Fashion-Design (UFC) course since a considerable number of students has started to seek different types of pattern making as observed by the increasing number of enrollments for the elective patterning disciplines. However, difficulties are still observed on the execution of molds as they still can't "develop products in a confident manner, taking in consideration all the necessary knowledges for the materialization of an idea until the execution of the final product" (FILGUEIRAS et al, 2016, p. 2051).

Once noticed by teachers, the difficulties relating to the execution of diagrams and interpretation of molds, knowledge promoters of this content should ask themselves: what can be done to facilitate the learning process? Are the struggles faced by students on the learning and development of this skill related to the teaching methods? If such difficulties derive from the understanding of the didactic material and/or from the challenges of using the required equipment, what can be done about these matters?

The aim of these questions is to get the people involved in the teaching-learning process of the subject to search for pedagogical strategies that may solve as many of the existing challenges and that, above all, create an interaction among the many knowledges needed as a mean to facilitate its learning.

Menezes and Spaine (2010, p. 83) consider the process of industrial pattern creation as not simple once it "determines through its characteristics the shapes, volumes, fitting and comfort that configure around the body and should, therefore, analyse in detail the morphology of the body and the movements it makes" and as it is responsible for the consolidation of a product concept.

Henceforth, the teaching-learning process is very importante to the fashion design student. Interdisciplinarity between pattern development and drawing creates the potential for learning as, according to Puls (s.d. p. 1), the "drawing is a mean of exchange between knowledge and creative expression". However, only pattern making and drawing do not complete the necessary cycle to the effectiveness of interdisciplinary skills by the student.

Aside from the drawings and the spec sheets, during the execution of molds it is needed to shed a light on the importance of some other primordial factors to the execution of the patterns such as the needed equipment that will interfere on fitting, comfort, usability, motion, flexibility, ability to dress and undress and the type of machinery used on each specific construction of the pieces (SILVA; ARAÚJO, 2013).

The knowledge of the types of sewing patterns is essencial as to obtain the idealized results on the construction of the designed pieces. On that matter, Navalon (2008, p.83) considers that, in construction, there can be added "adjustments on which the designer adds corrections presenting solutions to molding problems, fabric draping and sewing and finishing".

The relevance of this study is given by the fact that its conduction during the first discipline of Women's Fashion Flat Pattern Design. Porteriorly, it may be able to lead the passing of knowledge on this and other disciplines as well as possibilitating teacher and class monitors of the pattern making classes the chance to add didactic and pedagogical changes inside their academic unit.

3 METHODOLOGY

The methodological approach included both bibliographic and field research as well as interviews. Bibliographic research was done through books and articles for the theorical embasement of the study presented. Field research, on its hand, took place inside the classroom and consisted of following and observing students enrolled in the class. Practical exercises where pedagogical strategies were applied aimed to conclude whether or not those new approaches in teaching would improve the development of patterns done both in custom-made and industrial sizes.

Analysis was achieved through participative observation during patterning classes followed by both the professor and assistente teacher/monitor during the execution of practical projects and with the study of final pieces handed for grading. Interviews were conducted by the assistant teacher/class monitor with 26 volunteering students from three different groups taking the Women's Fashion Flat Patterning class as each of them concluded their activities. With questions both open and objective, the questionnaire covered their evolution and personal struggles in the class.

Fachin (2006) highlights that research leads to knowledge of certain subjects, allows wisdom and it bases itself in many different proceedures. The studied and analysed sources allow for better comprehension of the proposed study and that of students' progress.

4 RESULTS AND DISCUSSION

From the first day of class on Women's Flat Patterning design, students were introduced to diverse educational activities while guided by their class monitor. The first of which being the gathering of information on challenges, personal interest and expectations regarding the subject in question.

The initial class consisted of determining concepts, divergences and demonstrating the importance of techniques, types and methods of patterning: industrial processes, in-pattern especifications, technical sheets, prototypes and pilot pieces as well as gradation, tracing, overlaping, fitting and cutting. Other subjects such as anthropometry and equipment, gear and gadgets used in patterning: regarding their

use and upkeep aside from basic notions of geometry applied to pattern development were also presented before the start of any of the actual production of patterns.

As classes went on, patterning techniques were introduced: 1/10 and 1/50 scales and the production of industrial sized bases modeled after a measuring table. The production of the industrial based patterns for skirts, blouse and pants using patronized measurements was done without much difficult by most students. However, some delas in their execution were noted due to lack of material, failure to read the script and occurrences such as being late of absent to classes. The basics for each piece were taught step by step at the first few minutes of class some times on the board, other times verbally by dividing students into smaller groups.

For bases and patterns introduced, there were paper molds and already manufactured pieces produced on cloth. Later on, groups were encouraged to produce custom-made patterns for a skirt, blouse and pants, these were not developed inside the classroom. The idea was to offer extra credit in a way to estimulate students to take bigger leaps on the development of their independent skills on patterning having already gained previous knowledge by making the patronized industrial ones while in class. Therefore, the final grade project consisted on the creation of a unique and exclusive pattern presented in technical drawing.

For the custom-made molds, the interpretation of the pattern would happen in the classroom and students were allowed to make use of any of the bases developed in class before. For these pieces in particular, it was not required of the students the production of a final piece, they should however watch and follow as it was put together by a professional as to take notes and later register each step of the process of manufacturing on the spec sheet.

There was no mandatory requirement for the creation of this model, each student chose their own personal approach on how to proceed. It is important to note that, however not mandatory, efectivelly almost 100% of the students in the classes decided for making the patterns for the skirt and blouse. Over 50% of students enrolled in the three groups of the discipline of Women's Fashion Flat Patterning were able to safely develop the pattern for both skirt and pants without finding a need for the teacher's help.

Most problems seemed to derive from mistakes in calculations and in the taking of measurements done improperly. So, a bit over 80% of the class needed help when creating the bases using their own measurements. Male students have created their bases by using the measurements of women from their friend or family groups. As for the pattern for the custom-made pants, it was considered much simple by the majority, however, only 60% of the students have actually produced it, claiming it was due to lack of time.

Through the data evaluation relating to the progress of students within the discipline classes, it was possible to confirm a meaningful evolution in knowledge retainment thanks to expressive numbers: 93,8% considered a development on their content acquirement. This fact is made relevant by the fact that such research was conducted at the end of the semestre and it was then possible for students to make such an evaluation for themselves.

Regarding their own independent development within the discipline lessons, answers show that when it came to performance, most students (56,3%) consider their results good and a 37,5% would call it excellent, adding up to a total 93,8% of positive feedback from students.

During the second class, a "training" was given with the goal in mind to teach students on how to use the required materials for patterning. It was, however, perciptible that there was a clear challenge in the use of the curved ru-

lers and set-squares which would eventually compromise the pattern results.

In regards to the actual skill of creating custom-made flat patterns for any sizes, most (56,3%) answered they'd probably could do it but weren't sure, 25% said they'd be able to do it and 18,7% said they'd manage considering they had help.

When asked about knowledge and didatic strategies applied, most students replied that creating their own custom-made piece was the most valuable lesson. To 12%, seeing and getting to know the pattern on the patronized size was more effective and to 13%, it was seeing the finished piece of clothing whether in miniature or regular size before getting to work on their patterns was what they considered to be the most important strategic approach applied.

Development techniques used on the production of the godée skirt were considered as the most valuable by 43%. The tracing and cutting of darts were considered importante by 18,75% while the correct way of using a measuring tape recieved the same results in numbers. Learning how to use curved rulers and set-squares in straight angles got 19,5% of the students' opinion on what had been the most relevant in their process.

5 CONCLUSION

According to the presented research it was verified that patterning had great importance on the evolutionary process of apparel. Its due to its existence that people were able to give shape to pieces of clothing and make it so that the manufacturing process was faster.

In the project we are now it became noticeable that most students struggle to use the materials used in the discipline. However, they do evaluate their work as good and observe their own progress as more and more satisfactory as the course goes on. The most important didatic strategy according to most students was the manufacturing a custom-made piece. The reason for that would be that the student leaves the field of theorical perception and moves on to an reality applicated approach which would then cover two different skills: developing of industrial pattern as well as custom-made pattern.

The study has allowed us to comprehend how the evolutionary process of students in the Women's Fashion Flat Patterning discipline took place and it has also shed a light on their possible difficulties and on which strategies and approaches may overall improve other flat patterning classes and disciplines, hence becoming a tool for all professionals ministrating classes or in any way interested in the process of patterning.

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