

## Level of Implementation of Industrial Technology Syllabi at the Pangasinan State University

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*Abstract. This descriptive analysis measured the extent of adoption of industrial technology syllabi, especially in Drawing Courses at Pangasinan State University - Lingayen Campus (PSU-LC), College of Technology during the second semester of the 2019-2020 as a foundation for the creation of enhanced syllabi in Drawing Courses. It attempted to evaluate, in addition to the Level of Implementation of the Syllabus in Drawing Along Objective, the Level of Implementation of the Syllabus in Drawing Along Content; the Degree of Development of Drawing Competencies, the Level of Effectiveness of the Strategies Used in Teaching Drawing, the Level of Seriousness of the Problems Encountered in Drawing Teaching, and finally, the Level of Applicability of the Remedial Measures to Address the Problems Encountered. This research enumerated 50 students enrolled in Drawing 111 - Fundamentals of Technical Drawing. The key data collection instrument for this analysis was a questionnaire checklist, which was used by the researcher. The data was qualified using frequency counts, rankings, and weighted mean averages. The Microstat computer software was used for all computations. The following conclusions were reached based on the study's findings: The goals and material of the Drawing syllabus are met satisfactorily at PSU-LC, students in drawing at PSU-LC influenced the fundamental expertise in drawing. The demonstration process and practical experiments were time-tested methods for teaching drawing. Drawing students at PSU-LC, faced both serious problems in the teaching of their Drawing topic, as well as serious problems in the teaching of their Drawing subject, as well as serious problems in the teaching of their Drawing subject, as well as serious problems in the teaching of their Drawing subject. Finally, strict adherence to attendance policies and the availability of appropriate administrative assistance will aid in the improvement of drawing instruction at the college level. The following proposals were made in light of the results reached; an updated drawing syllabus should be implemented at Pangasinan State University's College of Technology, Lingayen Campus, to raise the standard of implementation. Drawing teachers should have appropriate practice sessions and mastery learning activities for students to master the least learned skills or competencies in Drawing, School-based instruction on the successful use of teaching methods and strategies in Drawing should be given to teachers to equip them on the effective use of these methods and strategies. School administrators should provide appropriate administrative support to students' classes, services, and initiatives relevant to their Drawing topic to improve their success. Finally, the college rules on student attendance and absenteeism should be specifically adhered to in order to minimize absenteeism and ensure daily attendance of students. A comparable research in a different environment should be done to include other factors not used in this study.*

*Keywords: Industrial Technology Syllabi, Drawing Courses, Pangasinan State University.*

## INTRODUCTION

The Medium-Term Philippine Development Plan emphasizes education as a catalyst for national development. As such, education is accorded top priority by the previous and present administration. The passage of Republic Act 7722, which established the Commission on Higher Education (CHED), paved the way for tertiary education's transformation and competitiveness. The CHED, in this light, envisions educational institutions of higher learning toward the achievement of a higher standard of living for all Filipinos. As a result, the emphasis is placed on the development of skills, knowledge, and attitudes necessary to make an individual a productive member of society. This, in turn, will hasten the growth of high-level practitioners who will seek new expertise, instruct the young, and provide leadership in a variety of fields demanded by a diverse and self-sustaining economy (CHED Long Term Development Plan). The tertiary level of learning is viewed as the training ground for students where they acquire the needed knowledge, skills, and abilities to equip them for the world of work. To attain this, dynamic instruction has to be prioritized. One of the vital tools for effective and efficient delivery of college teaching is the presence of an updated and innovative syllabus. The syllabus plays an important role in the success or failure of college instruction. A syllabus is a plan of activities for the class. It contains both in-class and off-class activities. It is a practical plan that guides both the teacher and the students as the goals and objectives of learning are realized. And for getting the course organized, is more likely to get off to a good start. This assumption strengthens the notion that since the human mind cannot proceed like a tape recorder, the teacher has to devise a tool as a guide for him and the students. This is where the importance of the syllabus comes into the picture. PSU is one of the Higher Education Institutions (HEIs) in the region which strives for excellence in college teaching. The syllabus, as a guide, is prepared periodically by instructors in the various disciplines. Drawing is one of the disciplines in which the syllabus is used to direct the activities of the learning process for one semester. Accrediting institutions put a premium to the syllabus as this is required during class observations. The researcher, as a college instructor and handles drawing, is inspired to undertake a study on the level of implementation of the syllabus. This came about as the pace of class activities is affected by the suspension of classes due

to calamities and school endeavors which likewise put a temporary halt to academic classes to give way for important events of the school. These circumstances paved the way for the conduct of this research. Hence, this study was conceptualized.

## STATEMENT OF THE PROBLEM

The aim of this study was to assess the level of implementation of the Drawing syllabus at PSU-LC, College of Technology, during the second semester 2019-2020 as the foundation for the creation of an improved Drawing syllabus. This research specifically aimed to address the following questions:

1. What is the degree of the development of the competencies in Drawing as perceived by the students?
2. What is the students' perception of the level of growth of their Drawing competencies?
3. What is the extent of success of the instructors' approaches and techniques for teaching Drawing as experienced by the students?
4. What is the severity of the difficulties faced by students in the teaching of Drawing, as viewed by them?
5. What is the extent of applicability of the corrective action to resolve the issues faced by students during Drawing class?
6. What curriculum enhancements in Drawing can be created as a result of the research?

## SCOPE AND DELIMITATION OF THE STUDY

During the second semester of 2019-2020, this research was carried out at PSU-LC, College of Technology. The analysis was restricted to assessing the extent of application of the syllabus in Drawing at PSU-LC, College of Technology. It evaluated the extent of execution of the syllabus in terms of content and priorities in Drawing. The research also measured the level of improvement of drawing competencies as well as the usefulness of the approaches and techniques used by teachers to teach drawing. It also evaluated the severity of the problems faced by students during drawing class. Finally, the report evaluated the degree of applicability of the remedial steps to resolve the difficulties faced by students during drawing instruction. Based on the study's results, an updated drawing syllabus was developed. The research included a total of 50 students enrolled in Drawing 111 (Fundamentals of Technical Drawing) for the second semester 2019-2020.

## METHODOLOGY

The descriptive research method was used in this report [1] [2] [6] [7]. It is descriptive because it defined the level of implementation of the Drawing syllabus at PSU-LC, as well as the content and objectives. The study identified the extent of growth of drawing competencies as well as the efficacy of the approaches and techniques used by instructors to teach drawing. It also defined the severity of the problems faced by students when learning to draw. Finally, the report identified the extent of applicability of the remedial steps used to resolve the issues faced by students during drawing class. Based on the study's results, an updated drawing syllabus was developed.

### Data Gathering Tool

The researcher used a built questionnaire as the primary data collection method for this analysis [3]. The questionnaire is divided into five (5) parts. Part I collected information on the extent of execution of the Syllabus in terms of content and goals. Part II gathered data on the level of advancement of drawing competencies. Part III concentrated on the usefulness of the teachers' approaches and techniques for teaching Drawing. Part IV delves into the seriousness of the challenges faced by students when learning to draw. Part V collected evidence on the extent of applicability of the remedial steps to resolve the issues faced by students during the Drawing teaching process. Items in the questionnaire particularly on the content, objectives, methods, and strategies were taken from the syllabus in Drawing 111 (Fundamentals of Technical Drawing) prepared by the researcher. Items in the competencies in Drawing were taken from the Manual in the Fundamentals of Technical Drawing [4]. Other questionnaire elements were culled from the researcher's readings in drawing books, journals, theses, and dissertations.

### Validation of the Questionnaire

Other than the individual respondents, the questionnaire was pre-tested on ten (10) first-year Bachelor of Technical Teacher Education applicants. The aim of the pre-test was to determine the validity of the questionnaire in terms of content, vocabulary, and structure. The pre-test results were used to limit the aspects of the questionnaire that pre-test respondents found difficult to answer [5].

## Statistical Treatment of Data

To maintain consistency and order, and for detailed review of the processed results, the data was ordered, tallied, and displayed in tables. The descriptive statistics of the analysis were presented using frequency counts, weighted means, and rankings.

## RESULTS AND DISCUSSIONS

Interpretation and analysis were based on the readings, personal experiences, and knowledge of the researcher about the course in drawing as offered at the College of Technology, PSU-LC.

### Level of Implementation of the Syllabus in Drawing

Table 1 shows how student-respondents rate their perceived level of execution of the syllabus in terms of drawing along goals. As could be gathered from the table, there is a general state of "highly implemented" of the syllabus used by the instructor in Drawing at the College of Technology of PSU Lingayen Campus. It could be gathered from the table that fifteen of the seventeen objectives of the syllabus were perceived to be 'highly implemented'. There were then only two of the course objectives that were perceived to be only implemented to a 'moderate extent'. More or less, the syllabus was then properly implemented by the instructor who prepared such a syllabus. The course is a basic drawing course that covers freehand drawing and an introduction to mechanical drawing. It is seen that the objectives as stated in the syllabus were given the necessary attention or treatment.

**Table 1**  
**Level of implementation of the Syllabus in Drawing along Objectives as Perceived by the Students**  
**N=50**

<b>Objectives</b>	<b>Weighted Mean</b>	<b>Descriptive Rating</b>	<b>Rank</b>
Apply the techniques in line sketching.	3.58	HI	1
Recognize the various drawing instruments and devices, as well as their applications.	3.56	HI	2
Perform the different strokes and spacing of letters and words	3.50	HI	3
Discuss the historical background of a drawing	3.49	HI	4
Use the various drawing techniques and facilities correctly.	3.47	HI	5
Distinguish between the different lettering classifications and values.	3.45	HI	6
Discuss orthographic projection approaches and concepts.	3.43	HI	7.5
Create an orthographic projection.	3.43	HI	7.5
Use isometric projection concepts.	3.48	HI	9
Use the fundamental ideas and methods of pictorial painting.	3.46	HI	10
Draw isometric projection	3.44	HI	11
Apply the principles of oblique projection	3.43	HI	12
Draw auxiliary views of symmetrical and unsymmetrical figures	3.42	HI	13
Draw oblique projection	3.41	HI	14.5
Discuss the importance of auxiliary views	3.41	HI	14.5
Use perspective projection concepts.	3.39	MI	16
Build a perspective projection.	3.36	MI	17
<b>Average Weighted Mean</b>	<b>3.45</b>	<b>HI</b>	

Legend:

<b>Numerical Values</b>	<b>Statistical Limits</b>	<b>Descriptive Ratings (DR)</b>
5	4.21 – 5.00	Very Highly Implemented (VHI)
4	3.42 – 4.20	Highly Implemented (HI)
3	2.61 – 3.40	Moderately Implemented (MI)
2	1.81 – 2.60	Slightly Implemented (SI)
1	1.00 – 1.80	Not Implemented (NI)

Table 1-A demonstrates the student-respondents' expectations of the extent of execution of the syllabus in drawing along the content. Similar to the previously presented table, there are also two items given ratings of 'moderately implemented' while the others were categorized as 'highly implemented'.

Further, like the other table, none of the items were given ratings of 'very highly implemented' and both tables were generally given an overall rating of 'highly implemented'. This means that the implementation of the contents of the syllabus used is 'highly implemented' or 'highly covered'.

**Table 1-A**  
**Level of Implementation of the Syllabus in Drawing along Content as Perceived by the Students**  
**N=50**

Content	Weighted Mean	Descriptive Rating	Rank
Care and Use of Drawing Instruments and Equipment	3.63	HI	1
Techniques of Line sketching	3.55	HI	2
Letterings	3.51	HI	3
Orthographic drawing	3.49	HI	4
Isometric Drawing	3.45	HI	5
Auxiliary Views	3.43	HI	6
Oblique Projection	3.42	HI	7
Pictorial Drawing	3.41	HI	8
Perspective Projection	3.39	MI	9
Geometrical Constructions	3.36	MI	10
<b>Average Weighted Mean</b>	<b>3.46</b>	<b>HI</b>	

Legend:

Numerical Values	Statistical Limits	Descriptive Ratings (DR)
5	4.21 – 5.00	Very Highly Implemented (VHI)
4	3.42 – 4.20	Highly Implemented (HI)
3	2.61 – 3.40	Moderately Implemented (MI)
2	1.81 – 2.60	Slightly Implemented (SI)
1	1.00 – 1.80	Not Implemented (NI)

### Level Development of the Competencies in Drawing

Table 2 depicts the perceived degree of growth of the various drawing competencies from the perspective of the student-respondents. As could be gathered from the data found in the table, twelve of the seventeen listed competencies were categorized as ‘highly developed’ while the remaining five, ‘moderately developed’. In summary, the overall picture is a general state of ‘highly developed’. However, since no competency area was rated as ‘very highly developed’, it means that there is still much to be desired or to be achieved among the students. Ideally, there should be an area that could be said as the very strength of the students when it could be developed to a category of ‘very highly developed’.

**Table 2**  
**Degree of Development of the Competencies in Drawing as Perceived by the Students**  
**N=50**

Objectives	Weighted Mean	Descriptive Rating	Rank
Apply the techniques in line sketching.	3.64	HD	1
Recognize the various drawing instruments and devices, as well as their applications.	3.55	HD	2
Perform the different strokes and spacing of letters and words	3.52	HD	3
Discuss the historical background of a drawing	3.50	HD	4
Use the various drawing techniques and facilities correctly.	3.48	HD	5
Distinguish between the different lettering classifications and values.	3.46	HD	6.5
Discuss orthographic projection approaches and concepts.	3.46	HD	6.5
Create an orthographic projection.	3.45	HD	8
Use isometric projection concepts.	3.44	HD	9
Use the fundamental ideas and methods of pictorial painting.	3.43	HD	10
Draw isometric projection	3.41	HD	11
Apply the principles of oblique projection	3.41	HD	12
Draw auxiliary views of symmetrical and unsymmetrical figures	3.39	MD	13
Draw oblique projection	3.38	MD	14
Discuss the importance of auxiliary views	3.36	MD	15
Use perspective projection concepts.	3.35	MD	16
Build a perspective projection.	3.34	MD	17
<b>Average Weighted Mean</b>	<b>3.44</b>	<b>HD</b>	

Legend:

Numerical Values	Statistical Limits	Descriptive Ratings (DR)
5	4.21 – 5.00	Very Highly Developed (VHD)
4	3.42 – 4.20	Highly Developed (HD)
3	2.61 – 3.40	Moderately Developed (MD)
2	1.81 – 2.60	Slightly Developed (SD)
1	1.00 – 1.80	Not Developed (ND)

**Level of Effectiveness of Methods and Strategies Used in Teaching Drawing**

Table 3 discloses the perceived level of effectiveness of the different strategies of teaching as used by the instructor in drawing as assessed by the student-respondents in the study. As could be gleaned from the table, the overall mean of the table is categorical ‘highly effective’ although four of the twelve strategies were rated as ‘moderately

effective’. As in the other tables, it could be noted that there was no single strategy that was categorized as ‘very highly effective’ nor slightly effective to show that the student rates have also some kind of faith and high regard of the students on their instructor. They regard the capability of their instructor to be doing fine although with some strategies used that they are not favorable or at home with.

**Table 3**  
**Level of Effectiveness of the Strategies used in Teaching Drawing as Perceived by the Students**  
**N=50**

Methods and Strategies Used	Weighted Mean	Descriptive Rating	Rank
Demonstration Method	3.62	HE	1
Practical Exercises	3.57	HE	3
Lecture Method	3.55	HE	2
Discussion	3.48	HE	4
Project method	3.45	HE	5
Problem Solving	3.42	HE	6
Group Work	3.41	HE	7.5
Board work	3.41	HE	7.5
Individualized Instruction	3.36	ME	9
Class Reporting	3.34	ME	10
Question and Answer Method	3.25	ME	11
Seatwork	3.12	ME	12
<b>Average Weighted Mean</b>	<b>3.42</b>	<b>HE</b>	

Legend:

Numerical Values	Statistical Limits	Descriptive Ratings (DR)
5	4.21 – 5.00	Very Highly Effective (VHE)
4	3.42 – 4.20	Highly Effective (HE)
3	2.61 – 3.40	Moderately Effective (ME)
2	1.81 – 2.60	Slightly Effective (SE)
1	1.00 – 1.80	Not Effective (NE)

#### **Degree of Seriousness of the Problems Encountered**

Table 4 presents the thinking of the student respondents on the extent or degree of seriousness of some problematic conditions or situations encountered by them in the teaching of drawing by their instructor. As could be gathered from the table, there are more of the suggested situations that were categorized as ‘moderately serious’ than those rated as ‘highly serious’. It could be noticed too not no situation or condition was none and it is considered ‘very highly serious’ or below the category of moderately serious. In summary, the situations or conditions in the department were generally assessed as ‘moderate’ in nature.

Table 4

**Degree of Seriousness of the Problems Encountered in the Teaching of Drawing as Perceived by the Students  
N=50**

<b>Problems Encountered</b>	<b>Weighted Mean</b>	<b>Descriptive Rating</b>	<b>Rank</b>
Poor motivational technique of the instructor	3.44	HS	1
Lack of administrative support to students activities, programs, and projects related to the Drawing subject	3.42	HS	2
Lack of mastery learning activities in the classroom	3.41	HS	4
Poor communication skills of instructors	3.41	HS	4
Inadequate time allotted to finish the given tasks in drawing lessons	3.41	HS	4
Lack of students interest in the drawing subject	3.37	MS	6
Lack of instructor's mastery of the lesson	3.35	MS	7
Unorganized syllabus in drawing	3.34	MS	8
Irregular attendance of students	3.32	MS	9
Poor teaching methods and strategies employed by the instructor	3.30	MS	10
Lack of instructional materials in drawing	3.25	MS	11
Inadequate drawing instruments, materials, and equipment	3.11	MS	12
<b>Average Weighted Mean</b>	<b>3.34</b>	<b>MS</b>	

Legend:

<b>Numerical Values</b>	<b>Statistical Limits</b>	<b>Descriptive Ratings (DR)</b>
5	4.21 – 5.00	Very Highly Serious (VHS)
4	3.42 – 4.20	Highly Serious (HS)
3	2.61 – 3.40	Moderately Serious (MS)
2	1.81 – 2.60	Slightly Serious (SS)
1	1.00 – 1.80	Not Serious (NS)

**Level of Applicability of Remedial Measures**

Table 5 shows the students' perspectives on the applicability of remedial steps to resolve issues found in drawing instruction. It is shown in the table that all suggested measures or strategies to address the problematic situations were all considered 'highly applicable'. It means that all suggestions offered by the researcher were all positively endorsed by the respondents.



**Table 5**  
**Level of Applicability of the Remedial Measures to Address the**  
**Problems Encountered in the Teaching of Drawing**  
**N=50**

<b>Remedial Measures</b>	<b>Weighted Mean</b>	<b>Descriptive Rating</b>	<b>Rank</b>
Strict implementation of the policies in attendance as per university manual	3.67	HA	1
Administrative assistance to students' events, services, and initiatives related to the Drawing theme	3.55	HA	2
Provision of adequate and meaningful classroom activities towards the drawing subject	3.53	HA	3
Conduct school-based training on motivational techniques	3.51	HA	4
Conduct In-service training for college instructors on communication skills	3.50	HA	5
Provision of adequate exercises in drawing lessons for mastery learning	3.49	HA	6.5
Adopting <i>flexitime</i> in the drawing subject to give emphasis on the skills least learned and to give time for the students to finish the given tasks in the drawing lessons	3.49	HA	6.5
Reviewing the syllabus in drawing by the department heads to ensure that the syllabus is well-organized and complete	3.48	HA	8
Conduct in-service training and demonstration teaching in drawing on the proper use of the methods strategies in teaching the subject	3.45	HA	9
Provision of adequate and relevant instructional materials in drawing	3.43	HA	10.5
Procurement of adequate drawing instruments, materials, and equipment	3.43	HA	10.5
Conduct demonstration teaching for instructors of technical-vocational courses	3.43	HA	12
<b>Average Weighted Mean</b>	<b>3.50</b>	<b>HA</b>	

Legend:

<b>Numerical Values</b>	<b>Statistical Limits</b>	<b>Descriptive Ratings (DR)</b>
5	4.21 – 5.00	Very Highly Applicable (VHA)
4	3.42 – 4.20	Highly Applicable (HA)
3	2.61 – 3.40	Moderately Applicable (MA)
2	1.81 – 2.60	Slightly Applicable (SA)
1	1.00 – 1.80	Not Applicable (NA)

## CONCLUSIONS

The following conclusions were reached based on the study's findings: The goals and material of the Drawing syllabus are met satisfactorily at PSU-LC. Drawing students at PSU-LC possessed the fundamental expertise in drawing, Students in Drawing at PSU-LC experienced both significant issues in the instruction of their drawing theme, as shown by the demonstration method and practical exercises. Furthermore, strict adherence to attendance policies and the availability of sufficient administrative assistance will aid in the improvement of drawing instruction at the college level.

## RECOMMENDATIONS

The following proposals were made in light of the results reached; an updated drawing syllabus should be implemented at PSU-LC, College of Technology, to raise the standard of implementation, Drawing instructors must have sufficient exercise sessions and mastery learning experiences for students to master the least mastered skills or competencies in Drawing. School-based teaching on the effective use of Drawing instructional methods and techniques should be undertaken to equip teachers on the productive use of these methods and strategies. To increase students' performance, school administrators should provide adequate administrative assistance to their programs, facilities, and projects relating to their Drawing subject. Finally, the college regulation on student engagement and absenteeism should be strictly followed in order to reduce absenteeism and guarantee students' regular attendance.

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