STUDY ON THE EFFECTIVENESS OF MOODLE LMS IMPLEMENTATION IN DAWN INDIA CAREER SOLUTIONS (P) LTD

By

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BONAFIDE CERTIFICATE

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DAWN INDIA
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To

The Director,

Centre for Distance Education,

Anna University,

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Dear Sir/Madam

Subject : Project Completion Letter

This is to certify that Mr.Sanjeev.S has been completed his project as part of his final year MBA programme with our organization. The details of the project are given here below:

Title : STUDY ON THE EFFECTIVENESS OF MOODLE LMS IMPLEMENTATION IN DAWN INDIA CAREER SOLUTIONS (P) LTD

Duration : May – July 2013

Domain : IT / Learning Management System

Regards,

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Signature of the student

Sanjeev.S

ABSTRACT

A study is undertaken on the effective implementation of MOODLE in Dawn India Career Solutions Pvt Ltd. The software MOODLE helps to connect all students to the training academy. All students can connect the moodle system through their login at any time and take their course online by an interconnecting system. MOODLE is an LMS system which is using in most of the educational institutions and companies. Dawn India Career Solutions provide the training through online to any individual or a company. Dawn India Career Solutions offering recruitment process and training services. The goal of Dawn India Career Solutions is to provide the highest quality to the customer with the most cost effective, comprehensive and advanced solution. Here in this study the gap analysis is used to study the difference between the impact of before and after implementation of MOODLE in Dawn India Career Solutions. The existing manual training process in Dawn India Career Solutions, Coimbatore is studied. Company's strength and student's qualification are identified. The necessary information for the study through personal contact and by questionnaire method. Among the total population of 100 the study is to be conducted on selecting a sample of 50 students and non-probability sampling method is employed. The results of the study are to be submitted to Dawn India Career Solutions and recommended certain changes in the existing training process if necessary. Based on the study, new business ideas can be given to Dawn India Career Solutions Pvt Ltd.

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SYMBOL	ABBREVIATION
LMS	Learning Management System
MOODLE	Modular Object Oriented Dynamic Learning Environment

CHAPTER 1 – INTRODUCTION

1.1 RESEARCH BACKGROUND

Moodle stands for **Modular Object-Oriented Dynamic Learning Environment.** Moodle was originally developed by Martin Dougiamas to help educators create online courses with a focus on interaction and collaborative construction of content, and is in continual evolution. The first version of Moodle was released on 20 August 2002.

Moodle is an Open Source Course Management System (CMS), also known as a Learning Management System (LMS) or a Virtual Learning Environment (VLE). It has become very popular among educators around the world as a tool for creating online dynamic web sites for their students. To work, it needs to be installed on a web server somewhere, either on one of your own computers or one at a web hosting company. The focus of the Moodle project is always on giving educators the best tools to manage and promote learning, but there are many ways to use Moodle such as Moodle has features that allow it to scale to very large deployments and hundreds of thousands of students, yet it can also be used for a primary school or an education hobbyist. Many institutions use it as their platform to conduct fully online courses, while some use it simply to augment face-to-face courses (known as blended learning).

Dawn India Career Solutions Pvt Ltd is a dynamic and unique recruitment cum training company based in southern India. Its uniqueness comes out of being one of the very few companies in India to offer both recruitment and soft skill training services to clients, thereby, effectively meeting the human resources needs of over 50 multinational corporations in the IT, ITES, BPO, BANKING, FINANCIAL, MECHANICAL and TEXTILE sectors.

Dawn India Career Solutions is a gateway to a range of world class training and recruitment. We are direct recruiters to some of the biggest companies all over the world and offer a range of tailored and niche soft skill training packages to both companies and students. Dawn India has two specialized arms to its operations which work collaboratively and complement each other. They are 1) Training – Soft skills and 2) Recruitment

1.2 IDENTIFIED PROBLEM:

The problem identified in the implementation of MOODLE in Dawn India Career Solutions is that the implementation of MOODLE has great impact on the students of Dawn India Career Solutions. So this study is conducted with the students of Dawn India Career Solutions in order to analyse the impact before and after the implementation of MOODLE.

1.3 NEED FOR STUDY:

Moodle is the abbreviation for Modular Object-Oriented Dynamic Learning Environment, was created by an Australian educator as a means of providing an environment with a focus on interaction and collaborative construction of content and is an outcomes-oriented learning environment.

Moodle, an open-source course management system, offers a flexible management environment for users, and it can quickly add or modify available extension models.

The software Moodle helps to improve the manual training process. By implementing the Moodle students can take the training from any part of the world through online. 'LEARNING MANAGEMENT SYSTEM' (LMS) is a software application that automates the administration, tracking and reporting of training events. Moodle is an LMS system which is using in most of the educational institutions.

So throughout the world, educational institutions recently rely on developing and deploying Moodle software as per their need for the training and conducting the tests. Therefore, choosing this software can have a significant effect on a company's formulated business strategy. The investment required for Moodle, Learning Management System (LMS) is very low and any course material or software can be edited by any individual. So this study has concentrated on Moodle Implementation in Dawn India Career Solutions Pvt Ltd., Coimbatore.

1.4 OBJECTIVES & SCOPE:

Keeping in view the importance and gaps in research, a study with an objective to find the impact MOODLE implementation on Dawn India Career Solutions is under taken.

The study has been conducted in Dawn India Career Solutions Pvt Ltd in Coimbatore. Dawn India Career Solutions working with clients in the areas that impact and redefine the recruitment and training process. Dawn India Career Solutions offering recruitment process for companies and various training for individual / company. The goal of Dawn India Career Solutions is to provide the highest quality training to the customer with the most cost effective, comprehensive and advanced solution. So this study has concentrated on MOODLE Implementation in Dawn India Career Solutions Pvt Ltd, Coimbatore.

1.5 DELIVERABLES:

- Implementing MOODLE should not create any new issues in Dawn India Career Solutions (P) Ltd.
- Installing MOODLE should reduce the time spent by the trainers on the training part.
- Students can take up the training from anywhere through online by implementation of MOODLE.

CHAPTER 2 – LITERATURE SURVEY:

2.1 REVIEW OF LITERATURE

Despotović-Zrakić, M., Marković, A., Bogdanović, Z., Barać, D., & Krčo, S. (2012). "Providing Adaptivity in Moodle LMS Courses. *Educational Technology & Society*". describes Learning management systems (LMS) are powerful integrated systems that support a number of activities performed by teachers and students during the e-learning process. Teachers use an LMS to develop web-based course notes and quizzes, to communicate with students and to monitor and grade student progress. Students use it for learning, communication, and collaboration. LMS users belong to heterogeneous groups with different individual, sometime even adverse, characteristics and needs. The adaptation of e-education systems to an individual or to a group based on their characteristics, expectations, knowledge, and preferences of the students is the next step in the evolution of the e-learning systems.

Luck, Jones, McConachie and Danaher (2004) define LMS as software systems specifically designed and marketed to educational institutions to support teaching and learning. They typically provide an electronic platform for upload of learning materials, student assessment, presentation of study material and organisation of student activities.

Soekartawi, Prof. DR., "Module: Prinsip – Prinsip e-Learning", September 2004. The implementation of the e-learning method in particular subject to the students showed optimistic results , i.e. increase of the students' scores, their interest to the subject, their understanding of the subject benefit in science and engineering, and their approval of utilizing learning media. The effects of competitive learning on the satisfaction and the academic achievement of telecommunications students were examined in : significant results on the use of competitive elearning tools in study centres students' outcomes and satisfaction.

Martin L., Martinez D. R., Revilla O., Aguilar M. J., Santos O. C., Boticario J. G. (2008). "Usability in e-Learning Platforms" presents a usability evaluation of three well known open learning management systems (Moodle) by applying a heuristic evaluation to these systems. Maria et al. (2008) [8] describes an integrated usability evaluation method empirically tested within an instructional setting in various university. Their results indicate that an eLearning system must adequately meet the needs of the instructional process and support learners' behaviors and actions.

Martin Bean in the journal " **The Advantages of Learning Management Systems for the Individual Learner** " One of the major technological innovations that has taken place in IT learning over the past three to four years has been the emergence of learning management systems. A learning management system (LMS) is an automated system for administering the learning process within an organization. Recently, the deployment of learning management systems to help develop the human capital of organizations has become main stream in most successful, large corporations. Most discussions regarding learning management systems have focused on the benefits they deliver to the organization or to managers.

2.2 RESEARCH GAP

In MOODLE gap analysis is the study of the differences between two different types of training (ex; existing system i.e. manual training and new is MOODLE i.e. online training), often for the purpose of determining how to train the students from one state to a new state. A gap is sometimes spoken of as "the space between where we are and where we want to be."

The ground work for the improvement planning is laid when the deep analysis of the factors that have created the current state is identified. The gap analysis process can be used to ensure that the improvement process does not jump from identification of problem areas to proposed solutions without understanding the conditions that created the current state. Here in this study the gap analysis is used to study the difference between the impact of before and after implementation of MOODLE in Dawn India Career Solutions.

CHAPTER 3- METHODOLOGY

3.1 TYPE OF PROJECT

The software MOODLE helps to connect any student across the world to get trained. All the students of different course and branches in different parts are interfacing by an interconnecting system. MOODLE is an LMS system which is using in most of the educational institutions and companies.

MOODLE is an open source unique system that supports nearly all aspects in terms of training and information management.

MOODLE is freely available as open source software and was designed to be flexible and easy to modify. It is highly modular and supports a large active community worldwide, including programmers who are continually modifying and expanding its code. Such modifications are incorporated into the main software, and thus the project continually develops and expands to reflect the needs and interests of the MOODLE community.

PRIMARY OBJECTIVE:

To study the existing manual training process and identify the effectiveness on implementation of MOODLE LMS in Dawn India Career Solutions (P) Ltd, Coimbatore.

SECONDARY OBJECTIVES:

(i) To collect the necessary information for the study through personal contact and by Questionnaire method.

(ii) To identify what kind of difference would MOODLE implementation would bring in the training.

(iii) To recommend new business ideas to Dawn India Career Solutions (P) Ltd based on the study.

3.2 TARGET RESPONDENTS

The method of reaching the intended respondents should constitute part of the questionnaire design process. The main methods available in survey research are: personal interviews, group or focus interviews, mailed questionnaires, telephone interviews. The target respondents for the study on the effectiveness of the MOODLE implemented the students of the Dawn India Career Solutions are used in order to analyze the impact of before and after implementation of MOODLE in Dawn India Career Solutions.

3.3 ASSUMPTIONS

- ✓ Dawn India Career Solutions will adapt its training practices to those supported by the configuration of the MOODLE software and limited programmed extensions.
- ✓ Dawn India Career Solutions will be responsible for the delivery of end-user training.
- ✓ The students of Dawn India Career Solutions should find it easy to study with the MOODLE implemented.
- ✓ Implemented MOODLE should not have adverse effect on the training productivity.

CONSTRAINTS AND LIMITATIONS

- **Time Factor**
  The researcher had only limited period for study. The elaborate topic could not be fully covered. Hence a complete picture could not be obtained.
- **Experience**
  The researcher had limited experience in the field being a student.
- **Response**
  Some of the respondents failed to express their reactions clearly.
- **Sample Survey**
  Since the information is being collected from a sample of population, their view cannot be generalized on large population.

3.4 SAMPLING METHODS

It is incumbent on the researcher to clearly define the target population. There are no strict rules to follow, and the researcher must rely on logic and judgment. The population is defined in keeping with the objectives of the study.

Sometimes, the entire population will be sufficiently small, and the researcher can include the entire population in the study. This type of research is called a census study because data is gathered on every member of the population.

Usually, the population is too large for the researcher to attempt to survey all of its members. A small, but carefully chosen sample can be used to represent the population. The sample reflects the characteristics of the population from which it is drawn.

Sampling methods are classified as either *probability* or *nonprobability*. In probability samples, each member of the population has a known non-zero probability of being selected. Probability methods include random sampling, systematic sampling, and stratified sampling.

In nonprobability sampling, members are selected from the population in some non-random manner. These include convenience sampling, judgment sampling, quota sampling, and snowball sampling. The advantage of probability sampling is that sampling error can be calculated. Sampling error is the degree to which a sample might differ from the population. When inferring to the population, results are reported plus or minus the sampling error. In nonprobability sampling, the degree to which the sample differs from the population remains unknown.

Random sampling

The purest form of probability sampling. Each member of the population has an equal and known chance of being selected. When there are very large populations, it is often difficult or impossible to identify every member of the population, so the pool of available subjects becomes biased.

Systematic sampling

It is often used instead of random sampling. It is also called an Nth name selection technique. After the required sample size has been calculated, every Nth record is selected from a list of population members. As long as the list does not contain any hidden order, this sampling method is as good as the random sampling method. Its only advantage over the random sampling technique is simplicity. Systematic sampling is frequently used to select a specified number of records from a computer file.

Stratified sampling

It is commonly used probability method that is superior to random sampling because it reduces sampling error. A stratum is a subset of the population that share at least one common characteristic. Examples of stratums might be males and females, or managers and non-managers. The researcher first identifies the relevant stratums and their actual representation in the population. Random sampling is then used to select a *sufficient* number of subjects from each stratum. "*Sufficient*" refers to a sample size large enough for us to be reasonably confident that the stratum represents the population. Stratified sampling is often used when one or more of the stratums in the population have a low incidence relative to the other stratums.

Convenience sampling

It is used in exploratory research where the researcher is interested in getting an inexpensive approximation of the truth. As the name implies, the sample is selected because they are convenient. This nonprobability method is often used during preliminary research efforts to get a gross estimate of the results, without incurring the cost or time required to select a random sample.

Judgment sampling

It is a common nonprobability method. The researcher selects the sample based on judgment. This is usually and extension of convenience sampling. For example, a researcher may decide to draw the entire sample from one "representative" city, even though the population includes all cities. When using this method, the researcher must be confident that the chosen sample is truly representative of the entire population.

Quota sampling

It is the nonprobability equivalent of stratified sampling. Like stratified sampling, the researcher first identifies the stratums and their proportions as they are represented in the population. Then convenience or judgment sampling is used to select the required number of subjects from each stratum. This differs from stratified sampling, where the stratums are filled by random sampling.

Snowball sampling

It is a special nonprobability method used when the desired sample characteristic is rare. It may be extremely difficult or cost prohibitive to locate respondents in these situations. Snowball sampling relies on referrals from initial subjects to generate additional subjects. While this technique can dramatically lower search costs, it comes at the expense of introducing bias because the technique itself reduces the likelihood that the sample will represent a good cross section from the population.

Statistical significance:

Significance is a statistical term that tells how sure you are that a difference or relationship exists. To say that a significant difference or relationship exists only tells half the story. We might be very sure that a relationship exists, but is it a strong, moderate, or weak relationship? After finding a significant relationship, it is important to evaluate its strength. Significant relationships can be strong or weak. Significant differences can be large or small. It just depends on your sample size.

Many researchers use the word "significant" to describe a finding that may have decision-making utility to a client. From a statistician's viewpoint, this is an incorrect use of the word. However, the word "significant" has virtually universal meaning to the public. Thus, many researchers use the word "significant" to describe a difference or relationship that may be strategically important to a client (regardless of any statistical tests).

In these situations, the word "significant" is used to advise a client to take note of a particular difference or relationship because it may be relevant to the company's strategic plan. The word "significant" is not the exclusive domain of statisticians and either use is correct in the business world. Thus, for the statistician, it may be wise to adopt a policy of always referring to "statistical significance" rather than simply "significance" when communicating with the public.

One-Tailed and Two-Tailed Significance Tests

One important concept in significance testing is whether you use a one-tailed or two-tailed test of significance. The answer is that it depends on your hypothesis. When your research hypothesis states the direction of the difference or relationship, then you use a one-tailed probability.

For example, a one-tailed test would be used to test these null hypotheses:

Females will not score significantly higher than males on an IQ test. Blue collar workers are will not buy significantly more product than white collar workers. Superman is not significantly stronger than the average person. In each case, the null hypothesis (indirectly) predicts the direction of the difference. A two-tailed test would be used to test these null hypotheses: There will be no significant difference in IQ scores between males and females. There will be no significant difference in the amount of product purchased between blue collar and white collar workers. There is no significant difference in strength between Superman and the average person. The one-tailed probability is exactly half the value of the two-tailed probability.

There is a raging controversy (for about the last hundred years) on whether or not it is ever appropriate to use a one-tailed test. The rationale is that if you already know the direction of the difference, why bother doing any statistical tests. While it is generally safest to use two-tailed tests, there are situations where a one-tailed test seems more appropriate.

The bottom line is that it is the choice of the researcher whether to use one-tailed or two-tailed research questions.

Procedure Used to Test for Significance

Whenever we perform a significance test, it involves comparing a test value that we have calculated to some critical value for the statistic.

It doesn't matter what type of statistic we are calculating (e.g., a t-statistic, a chi-square statistic, an F-statistic, etc.), the procedure to test for significance is the same.

1. Decide on the critical alpha level you will use (i.e., the error rate you are willing to accept).
2. Conduct the research.
3. Calculate the statistic.
4. Compare the statistic to a critical value obtained from a table.

If your statistic is higher than the critical value from the table:

- Your finding is significant.
- You reject the null hypothesis.
- The probability is small that the difference or relationship happened by chance, and p is less than the critical alpha level (p <alpha).

If your statistic is lower than the critical value from the table:

- Your finding is not significant.
- You fail to reject the null hypothesis.

- The probability is high that the difference or relationship happened by chance, and p is greater than the critical alpha level (p >alpha).

Modern computer software can calculate exact probabilities for most test statistics. If you have an exact probability from computer software, simply compare it to your critical alpha level. If the exact probability is less than the critical alpha level, your finding is significant, and if the exact probability is greater than your critical alpha level, your finding is not significant. Using a table is not necessary when you have the exact probability for a statistic.

3.5 DATA PROCESSING

Data collection instrument:

The instrument used for data collection is through Questionnaire. A questionnaire consists of a number of questions written or printed in a definite order or a form or set of forms. It is a tool or device for securing answers to the questions by the respondent who fills in the form of questionnaire himself. It is a systematic compilation of questions that are submitted to a sampling of population from which data / information is desired.

- **Dichotomous questions**

A fixed-alternative question in which respondents are asked to indicate which of two alternative responses most closely corresponds to their position on a subject.

E.g. Yes/No

- **Open-ended questions**

Open-ended questions are questions to which there is not a definite answer. These questions give respondents an opportunity to answer in their own words.

An open-ended question is designed to encourage a full, meaningful answer using the subject's own knowledge and/or feelings. It is the opposite of a *closed-ended question*, which encourages a short or single-word answer. Open-ended questions also tend to be more objective and less leading than closed-ended questions.

Open-ended questions typically begin with words such as "Why" and "How", or phrases such as "Tell me about...". Often they are not technically a question, but a statement which implicitly asks for a response.

Open-ended questions allow respondents to include more information, including feelings, attitudes and understanding of the subject. This allows researchers to better access the respondents' true feelings on an issue. .

Open-ended questions cut down on two types of response error: respondents are not likely to forget the answers they have to choose from if they are given the chance to respond freely, and open-ended questions simply do not allow respondents to disregard reading the questions and just "fill in" the survey with all the same answers (such as filling in the "no" box on every question).

Because they allow for obtaining extra information from the respondent, such as demographic information (current employment, age, gender, etc.), surveys that use open-ended questions can be used more readily for secondary analysis by other researchers than can surveys that do not provide contextual information about the survey population.

E.g.
How did you and your best friend meet?
How will you help the company if you are hired to work for us?

- **Closed-ended questions**

Closed-ended questions have a finite set of answers from which the respondent chooses. The benefit of closed-ended questions is that they are easy to standardize, and data gathered from closed-ended questions lend themselves to statistical analysis.

Closed ended questions are answerable by a simple yes or no. In other cases, it may target a definite answer or a piece of information. It is basically used for clarification, verifying information, and taking control of a conversation. Closed ended questions can take on a presumption, probing, or used as a leading technique. It is otherwise known as a saturated manner of questioning as answers are restrictive and finite.

• Closed-ended questions are more easily analysed. Every answer can be given a number or value so that a statistical interpretation can be assessed. Closed-ended questions are also better suited for computer analysis.
• Closed-ended questions can be more specific, thus more likely to communicate similar meanings.
• In large-scale surveys, closed-ended questions take less time from the interviewer, the participant and the researcher, and so is a less expensive survey method.

E.g:
- Does four plus four equal eight?
- Is that haunted house really scary?

- **Multiple choice questions**

When you want respondents to pick the best answer or answers from among all the possible options, consider writing a multiple-choice question. Multiple-choice questions are easy to layout on a written survey.

Multiple choice items consist of a stem and a set of options. The *stem* is the beginning part of the item that presents the item as a problem to be solved, a question asked of the respondent, or an incomplete statement to be completed, as well as any other relevant information. The options are the possible answers that the examiner can choose from, with the correct answer called the key and the incorrect answers called distractors.

E.g.

If a=1, b=2.

What is a+b?

A. 12 B.**3** C.4 D.10 E.8

In the equation

$2x + 3 = 4$, solve for x.

A. 4 B.10 C.**0.5** **D.**1.5 E.8

Ideally, the MCQ should be asked as a "stem", with plausible options.

For example:

The IT capital of India is

A. **Bangalore** B.Mumbai C.Mysore D.Mexico

A well written multiple-choice question avoids obviously wrong or silly distractors (such as Mexico in the example above), and "All of the above" or "None of the above".

If "All of the above" is used, then technically the student is correct no matter which option is selected! so - the question needs to make sense when read with each of the distractors, and with the correct answer.

A more difficult and well-written multiple choice question:

Consider the following:

I. An eight-by-eight chessboard.
II. An eight-by-eight chessboard with two opposite corners removed.
III. An eight-by-eight chessboard with all four corners removed.

Which of these can be tiled by two-by-one dominoes (with no overlaps or gaps, and every domino contained within the board)?

A. I only
B. II only
C. I and II only
D. **I and III only**
E. I, II, and III

- **Likert scale question**

When you want to know respondent's feelings or attitudes about something, Likert scale question is used. The respondents must indicate how closely their feelings match the question or statement on a rating scale. A Likert scale is a psychometric scale commonly involved in research that employs questionnaires.

It is the most widely used approach to scaling responses in survey research, such that the term is often used interchangeably with rating scale, or more accurately the **Likert-type scale**, even though the two are not synonymous.

The scale is named after its inventor, psychologist Rensis Likert. Likert distinguished between a scale proper, which emerges from collective responses to a set of items (usually eight or more), and the format in which responses are scored along a range.

Technically speaking, a Likert scale refers only to the former. The difference between these two concepts has to do with the distinction Likert made between the underlying phenomenon being investigated and the means of capturing variation those points to the underlying phenomenon.

When responding to a Likert questionnaire item, respondents specify their level of agreement or disagreement on a symmetric agree-disagree scale for a series of statements.

Thus, the range captures the intensity of their feelings for a given item, while the results of analysis of multiple items (if the items are developed appropriately) reveals a pattern that has scaled properties of the kind Likert identified.

The format of a typical five-level Likert item,

for example,

1. Strongly disagree
2. Disagree
3. Neither agree nor disagree
4. Agree
5. Strongly agree

3.6 TOOLS FOR ANALYSIS

- **Percentage Analysis**

Percentage method is used in making comparison between two or more series of data. Percentages are based on descriptive relationship. It compares the relative items. Since the percentage reduces everything to a common base and thereby allow meaning comparison.

$$\text{Percentage} = \frac{\text{Number Of Respondents}}{\text{Total number of Respondents}} * 100$$

- **Weighted average method**

The term weight stands for relative importance of different items. Weights have been assigned to various ranks. The weighted score is then calculated by multiplying the number of respondents in a cell with their relative weights and the whole number is summed up to give the weighted score for that factor. In this method weights are assigned to the items. The formula for computing weighted average is

$$\text{weighted average} = \frac{\sum[(\text{weight}) * (\text{Total number of Respondents})]}{\text{Total weights}}$$

- **Chi- Square Test**

Chi- square is an important non-parametric test and as such no rigid assumptions are necessary in respect of the type of population. χ^2 test enables us to explain whether or not two attributes are associated. In such a situation, we proceed with the null hypothesis are independent. On this basis we first calculate the expected frequencies and then work out the value of χ^2.

If the calculated value of χ^2 is less than the table value at a certain level of significance for given degrees of freedom d.f = (n-1), we conclude that null hypothesis stands which means that the two attributes are independent or not associated. But if the calculated value of χ^2 is greater than its table value, then null hypothesis does not hold good which means the two attributes are associated.

It may, however, be stated here that χ^2 is not a measure of the degree of relationship, but is simply a technique of judging the significance of association or relationship between two attributes. In order to apply chi – square test χ^2 is calculate as follows

$$\chi^2 = \sum \frac{(O_i - E_i)^2}{E_i}$$

Where

O_i= observed frequency

E_i= expected frequency

CHAPTER 4 – DATA ANALYSIS AND INTERPRETATION

4.1. Showing respondent's age studying in the organization

Category – Age	Number of respondents	Percentage of respondents
10 – 20 years	12	12.00
20 - 30 years	58	58.00
30 – 40 years	24	24.00
40 – 50 years	6	6.00
Total	**100**	**100.00**

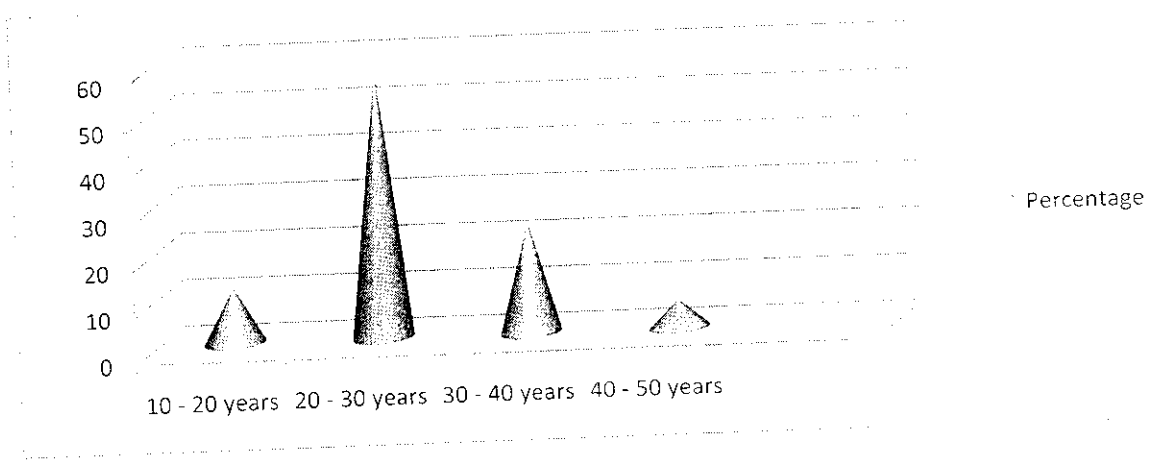
Findings:

From the above table, it was observed that, 12% of the respondents belongs' to 10 – 20 years of age, 58% belonged to 20 - 30 years of category, 24% belonged to 30 – 40 years of category and 6% belonged to 40 – 50 years of age category in the organization.

Inference:

Majority of the respondents' age belongs to 20 – 30 years in the organization.

Chart: Showing respondent's age studying in the organization



4.2. Showing respondent's educational level in the organization

Category	Number of respondents	Percentage of respondents
High School	11	11.00
Higher Secondary	18	18.00
Diploma	24	24.00
Graduate	31	31.00
Post Graduate	16	16.00
Total	**100**	**100.00**

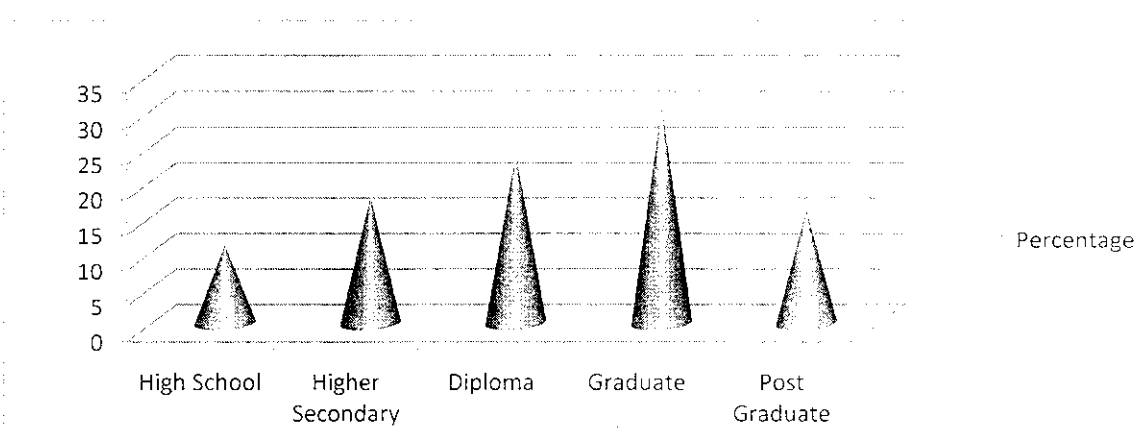
Findings:

From the above table, it was observed that, 11% of the respondents completed their High School, 18% completed their Higher Secondary, 24% completed their Diploma, 31% completed their Graduate and 16% of the respondents are Postgraduate students studying in the organization.

Inference:

Majority of the respondents' educational level belongs to Graduate in the organization.

Chart: Showing respondent's educational level in the organization



4.3. Showing respondent's days of studying with the organization

Category	Number of respondents	Percentage of respondents
< 10 days	18	18.00
10 - 30 days	26	26.00
30 – 60 days	23	23.00
60 – 90 days	12	12.00
>90 days	21	21.00
Total	**100**	**100.00**

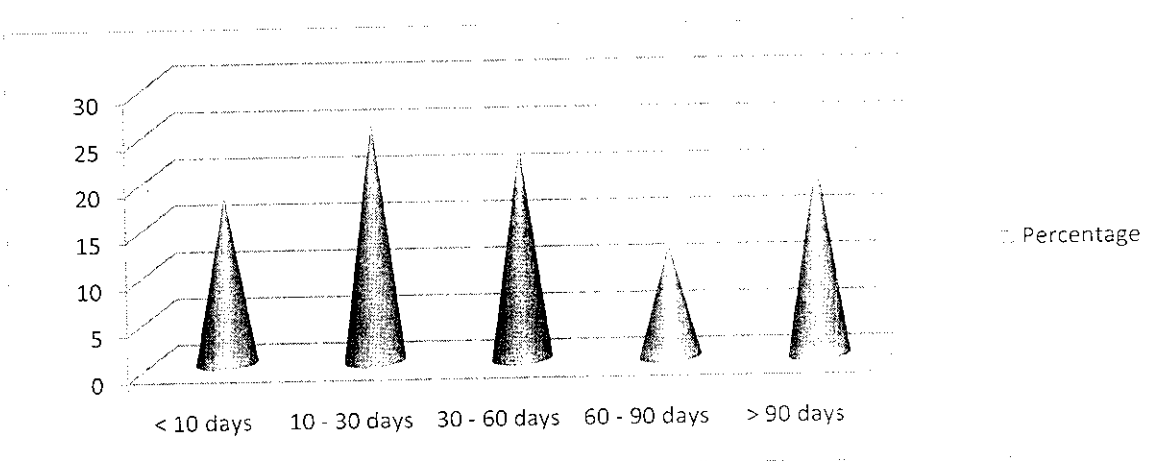
Findings:

From the above table, it was observed that, 21% of the respondents have studied more than 90 days, 12% belonged to 60 – 90 days category, 23% belonged to 30 - 60 days category, 26% belonged to 10 – 30 days category and 18% of the respondents are studying less than ten days in the organization.

Inference:

Majority of the respondents studying belongs to 10 – 30 days in the organization.

Chart: Showing respondent's days of studying in the organization



4.4. Showing extent to which improvements required to improve the effectiveness of MOODLE Implementation

Improvements needed	**5**	**4**	**3**	**2**	**1**
Less Training Duration	19	10	23	42	6
Individual attention	5	12	13	24	46
Fun in Training	28	34	19	11	8
Implementation of new ideas	19	47	11	19	4

WEIGHTED AVERAGE METHOD

$$\text{Weighted Average} = \frac{\sum (\text{Weight of column} \times \text{No of respondents})}{\text{Total weight}}$$

[Strongly agree = 5 Agree = 4 Neutral = 3 Disagree = 2 Strongly Disagree = 1]

4.5: Showing weighted average method for the extent to which improvements required to improve the effectiveness of MOODLE implementation

Improvements needed	Weighted total	Weighted average	Rank
Less Training Duration	294	29.4	III
Individual attention	206	20.6	IV
Fun in Training	363	36.3	I
Implementation of new ideas	358	35.8	II

Findings:

It was observed from the study that of the various improvements needed Fun in Training ranked first followed by Implementation of new ideas, Less Training Duration and Individual attention.

Inference:

Major improvement required to improve the effectiveness of MOODLE Implementation is Fun in Training.

CHI SQUARE TEST

Null Hypothesis (H0): Improvements are not required to improve the effectiveness of MOODLE Implementation

Alternate Hypothesis (H1): Improvements are required to improve the effectiveness of MOODLE Implementation

Table 4.6: Showing chi square test for the extent to which improvements required to improve the effectiveness of MOODLE implementation.

O_i	E_i	$(Oi - E_i)$	$(Oi - Ei)^2$	$(Oi - Ei)^2 / E_i$
29.4	30.53	1.13	1.28	0.04
20.6	30.53	9.93	98.60	3.23
36.3	30.53	5.77	33.29	1.09
35.8	30.53	5.27	27.77	0.91
				χ^2_{cal} 5.27

d.f. = n-1

d.f. = 3

Critical value of $\chi^2_{(\alpha = 0.05)} = 7.815$

$\chi^2_{(\alpha = 0.05)} = 7.815$

Critical value < Calculated value

7.815 < 5.27

Accept H0

Inference:

Improvements are required to improve the effectiveness of MOODLE implementation.

Table 4.7 Showing problems faced by students due to the implementation of MOODLE

Problems faced	Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree
Stress	14	32	21	18	15
Lack of interest	8	20	24	27	21
Lack of technical support	10	20	13	38	19
Non maintenance of class records	0	0	12	45	43
Non implementation of new ideas	5	17	36	25	17

WEIGHTED AVERAGE METHOD

$$\text{Weighted Average} = \frac{\sum (\text{Weight of column} \times \text{No of respondents})}{\text{Total weight}}$$

[Strongly agree = 5 Agree = 4 Neutral = 3 Disagree = 2 Strongly Disagree = 1]

Table 4.8: Showing weighted average method for problems faced by students due to the implementation of MOODLE

Problems faced	Weighted total	Weighted average	Rank
Stress	312	31.2	I
Lack of interest	267	26.7	III
Lack of technical support	264	26.4	IV
Non maintenance of class records	159	15.9	V
Non implementation of new ideas	268	26.8	II

Findings:

It was observed from the study that of the various problems faced by students in Dawn India Career Solutions are Stress ranked first, followed by Non implementation of new ideas, Lack of interest, Lack of technical support and Non maintenance of class records .

Inference:

Major problem faced of MOODLE implementation is Stress.

CHI SQUARE TEST

Null Hypothesis (H0): Problems faced by employees has no impact on effectiveness of MOODLE implementation.

Alternate Hypothesis (H1): Problems faced by employees has no impact on effectiveness of MOODLE implementation.

Table 4.9: Showing chi – square test for problems faced by students have impact on effectiveness of MOODLE implementation

O_i	E_i	$(Oi - E_i)$	$(Oi - Ei)^2$	$(Oi - Ei)^2 / E_i$
31.2	20	11.2	125.44	6.27
26.7	20	6.7	44.89	2.24
26.4	20	6.4	40.96	2.04
15.9	20	4.1	16.81	0.84
26.8	20	3.2	10.24	0.51

χ^2_{cal} = 11.81

d.f.= n-1

d.f. = 4

Critical value of $\chi^2_{(\alpha = 0.05)}$ = 9.488

$\chi^2_{(\alpha = 0.05)} = 9.488$

Critical value < Calculated value

9.488< 11.81

Reject H0

Inference:

Problems faced by students have impact on effectiveness of MOODLE implementation.

CHAPTER 5 –CONCLUSIONS

5.1 SUMMARY OF FINDINGS

12% of the respondents belonged to 10 – 20 years of age. 58% belonged to 20 - 30 years of category, 24% belonged to 30 – 40 years of category and 6% belonged to 40 – 50 years of age category in the organization.

11% of the respondents completed their High School, 18% completed their Higher Secondary, 24% completed their Diploma, 31% completed their Graduate and 16% of the respondents are Postgraduate students studying in the organization.

21% of the respondents have studied more than 90 days. 12% belonged to 60 – 90 days category, 23% belonged to 30 – 60 days category, 26% belonged to 10 – 30 days category and 18% of the respondents are studying less than ten days in the organization. Majority of the respondents studying belongs to 10 - 30 days in the organization.

Students of Dawn India Career Solutions are not satisfied with the existing manual process but the implanted MOODLE is found to be effectively useful.

Majority of the respondent's educational level is graduation.

Implemented MOODLE does not create any adverse effect on the training of Dawn India Career Solutions.

There is difficulty in the beginning in technical aspect due to improper training. It is found that implementing MOODLE in Dawn India Career Solutions reduced work pressure for the employees.

The various improvements needed are Fun in Training ranked first followed by Implementation of new ideas, Less Training Duration and Individual attention. Major

improvement required to improve the effectiveness of MOODLE Implementation is Fun in Training.

The various problems faced by students in Dawn India Career Solutions are Stress ranked first, followed by Non implementation of new ideas, Lack of interest, Lack of technical support and Non maintenance of class records . Major problem faced of MOODLE implementation is Stress.

Educational level is a contributing factor for effective implementation of MOODLE in Dawn India Career Solutions, Coimbatore.

5.2 SUGGESTIONS AND RECOMMENDATIONS

Students should be given freedom to express their views in any new changes that is brought in the organization.

Employees need to be trained with new problem solving tools & new methods operations practiced in the industry.

Organization should make the students and employees aware of the benefits of MOODLE implementation.

Various problems faced by the students to be analyzed and to resolve the problems and hence to improve the efficiency.

Organization should take effective measures in order to achieve the various objectives of implementing MOODLE.

Proper training should be given on technical perspective.

Knowledge on MOODLE can be made as strict criteria for taking part in the team to work on the implemented new software.

More Team members can be arranged per team for a class towards group objective.

Employees need to be motivated by the organization for learning new advanced technologies.

Students' records on learning through new software should be maintained properly and verification should be done at regular intervals of time.

Evaluation of the new software implemented should be done without bias.

5.3 CONCLUSIONS

Dawn India Career Solutions provide the training through online to any individual or a company. Dawn India Career Solutions offering recruitment process and training services. After the implementation of MOODLE in Dawn India Career Solutions provides the high quality training and other service to the customer with the most cost effective, comprehensive and advanced solution.

5.4 DIRECTIONS FOR FUTURE RESEARCH

The report on the study of effectiveness of MOODLE implemented in Dawn India Career Solutions, Coimbatore is documented for future reference and can be so used as a source of information for MOODLE implementation in any educational institutions. It can also be used as a tool to study the effectiveness of any new software implemented in an organization. With the help of this report one would be able to understand the effectiveness in the implementation of MOODLE.

APPENDICES

Questionnaire on MOODLE LMS Implementation

1. Name:

2. Sex:

Male		Female	

3. Age:

10 to 20	
20 to 30	
30 to 40	
40 to 50	

4. Educational level

High School	
Higher Secondary	
Diploma	
Graduate	
Post Graduate	

5. Respondent days studying with the institution

< 10 days	
10 to 30 days	
30 to 60 days	
60 to 90 days	
> 90 days	

6. Extent to which improvements required to improve the effectiveness of SAP Implementation

Improvements needed	5	4	3	2	1
Less Training Duration					
Individual attention					
Fun in Training					
Implementation of new ideas					

7. Problems faced by you due to the implementation of MOODLE

Problems faced	Strongly Agree Agree	Neutral	Disagree	Strongly Disagree
Stress				
Lack of interest				
Lack of technical support				
Non maintenance of class records				
Non implementation of new ideas				

8. How would you rate the difficulty of the usability of LMS implemented?

Very Difficult	
Difficult	
Average	
Useful	
Very useful	

9. Implementing MOODLE increased your interest on learning or reduced

Increased	
Reduced	

10. If you have any other comments or insights about MOODLE implementation at your institution, please feel free to share them with us, below

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