

निर्वाणषट्केआत्मविचारः

Muthuselvi A* and Kasthuri P.K**

Department of Sanskrit, Sri Sarada College for Women, Tirunelveli 627 011.

Email: ** kasthurikeerthi16@gmail.com, *muthuselvi137@gmail.com

प्रस्तावना:- 'कोऽहम्' इतिप्रश्नः सर्वेषामनसिभवत्येव।
अस्यप्रश्नस्यउत्तरत्वेनश्रीमच्छङ्कराचार्येणनिर्वाणषट्कंविरचितम्।
सर्वेषाम्अन्तिमंलक्ष्यंस्वरूपचैतन्यसाक्षात्कारःएव।
परन्तुमायाकारणतःआत्मास्वरूपंविस्मृत्य "अहंस्थूलशरीरम्", "अहंसूक्ष्मशरीरम्",
"अहमिन्द्रियम्" इत्येवंमत्वाअज्ञानेभवति।
अतःइदंनिर्वाणषट्कंप्रतिआत्मानम्आत्मस्वरूपंदर्शयति। अर्थात्,
सच्चिदानन्दरूपशिवःएवआत्माइतिबोधयति।

निर्वाणषट्कम् :- निर्वाणषट्कस्यान्यान्यपिनामानिर्वर्तन्तेयथा- "आत्मषट्कम्" ,
"शिवोऽहम्" इत्यादीनि। षण्णांश्लोकानाम्अत्रसमाहारःवर्तते, अतः "षट्कम्"।
"निर्वाण" इतिब्रह्मणःविशेषणमेव। यतोहिब्रह्मस्वरूपंशब्दैःवक्तुमशक्यत्वात्।

श्रीआदिशङ्कराचार्यः :-

श्रीमत्परमहंसपरिव्राजकाचार्याःश्रीगोविन्दभगवत्पूज्यपादशिष्याःअद्वैतसिद्धान्तस्था
पकाःश्रीआदिशङ्कराचार्याःअस्माकंसनातनधर्मस्यपुनःस्थापनार्थं "कालटी"
पुण्यक्षेत्रेअवतीर्णाः। भगवत्पादाःसाक्षात्महेश्वरस्यरूपमेवेतिभारतीयानांविश्वासः।

अष्टवर्षेचतुर्वेदीद्वादशेशसर्वशास्त्रवित्।

षोडशेकृतवान्भाष्यंद्वात्रिंशेशेमुनिरभ्यगात्॥

इतिश्लोकःभगवत्पादानांमहिमानंप्रकटयति।

भगवत्पादाःशृङ्गेरी, पुरी, बद्री,
द्वारकाइत्येतेषुचतुर्षुपुण्यक्षेत्रेषुस्वपीठंप्रसारितवन्तः। एतेषुपीठेषुपीठाधिपाः
"श्रीशङ्कराचार्याः" इत्येवप्रख्याताः। अतःश्रीशङ्कराचार्याः "आदिशङ्कराचार्याः"
इतिनाम्नाभक्ताःपूजयन्ति।

श्रीआदिशङ्कराचार्याणांग्रन्थाःत्रिधाविभक्ताः- भाष्यम्, प्रकरणम्, स्तोत्रम् ।
तत्रभाष्ये-प्रस्थानत्रयस्यभाष्याणि, प्रकरणेतावत्उपदेशसाहस्री, आत्मबोधः,
अपरोक्षानुभूतिः, विवेकचूडामणिःइत्येवंप्रकरणग्रन्थाः। स्तोत्रेषुकनकधारास्तोत्रादिग्रन्थाः।
एवञ्चभगवत्पादैःत्रिविधग्रन्थाःविरचिताः।

निर्वाणषट्कोत्पत्तिकथा :-

“कर्णपरम्परा”

इत्येकाकथा श्रूयते यत्र स्वामी श्रीशङ्कराचार्यः अष्टवर्षेण नर्मदानदीतीरे गुरुगोविन्दभगवत्पादं ददर्श।
तत्समये गुरुः “कस्त्वम्?” इति पप्रच्छ।
तत्क्षणे एव बालशङ्करः निर्वाणषट्कं गुरुं प्रत्युत्तीर्य गुरुसन्निधिं प्राप्तः।
तस्मात् गोविन्दभगवत्पादः बालशङ्करं शिष्यरूपेण अङ्गीचकार।

अद्वैतम् :-

श्रीशङ्कराचार्यैः स्थापितस्य अद्वैतवेदान्तस्य संक्षिप्तसारः आचार्याणां
“ब्रह्मज्ञानवलिमाला” इति ग्रन्थे विद्यमाना त्विंशतितमात्सोकात्ज्ञातुं शक्यते यथा-

श्लोकार्धेन प्रवक्ष्यामि यदुक्तं ग्रन्थकोटिभिः।

ब्रह्मसत्यं जगन्मिथ्या जीवो ब्रह्मैव नापरः ॥ २० ॥

इति।

जीवो ब्रह्मैव नापरः :-

‘सत्यं ज्ञानमनन्तं ब्रह्म’, ‘सच्चिदानन्दं ब्रह्म’ इत्यादि ब्रह्मस्वरूपलक्षणानि उपनिषदः निरूपयन्ति।
ब्रह्म तु निष्क्रियं, निरवद्यं, शान्तं, निर्गुणम् इति ऋषयः वर्णयन्ति। ‘तत्त्वमसि’, ‘अहं ब्रह्मास्मि’
इत्यादि महावाक्येभ्यः निरूपितात्मस्वरूपम् अद्वैतसिद्धान्तः इति।
परन्तु माया इदं जगदुत्पाद्य ब्रह्मज्ञानं विक्षेपयति। अतः मानवाः “अहम्” इति चिन्तने “अहंशरीरम्”,
“अहमिन्द्रियम्”, “अहमनित्यसाधनम्” इति अज्ञाने जीवन्ति।
श्रीशङ्कराचार्याः अतएव जीवो ब्रह्मैव नापरः इति स्पष्टमुच्चिरे। “नापरः” इति वाक्यद्वारा आत्मा किं न
इति निर्वाणषट्कात्ज्ञातुं शक्यते।

निर्वाणषट्के आत्मज्ञानम् :-

प्रथमश्लोकस्य अर्थः यत् “अहं मनो बुद्ध्यहङ्कारचित्तानि अन्तःकरणानि न,
श्रोत्रादिज्ञानेन्द्रियाणि न, भूम्यादि पञ्चभूतान्यपि न, किन्तु अहम् आत्मा चिदानन्दरूपः शिवः एव” इति।

द्वितीयश्लोकस्य अर्थः यत् “अहं पञ्चप्राणाः न, पञ्चवायवाः न, सप्तधातवः न, पञ्चकोशाः न,
कर्मेन्द्रियाण्यपि न, किन्तु अहम् आत्मा चिदानन्दरूपः शिवः एव” इति।

तृतीयश्लोकस्य अर्थः यत् “अहं रागद्वेषमदमोहमात्सर्यादिविकाराः न, धर्मादिपुरुषार्थचतुष्टयं न,
किन्तु अहम् आत्मा चिदानन्दरूपः शिवः एव” इति।

चतुर्थश्लोकस्यार्थः यत् “अहम् आत्मा पुण्यपापसुखदुःखेत्यादीनि न,
किन्तु अहम् आत्मा चिदानन्दरूपः शिवः एव” इति।

पञ्चमश्लोकस्यार्थः यत् “अहम् आत्मा मृत्युशङ्काजातिभेदाः न,
किन्तु अहम् आत्मा चिदानन्दरूपः शिवः एव” इति।

षष्ठश्लोकस्यार्थः यत् “आत्मानिर्विकल्पनिराकारादिरूपं न, असङ्गतं न, मुक्तिरपि न,
किन्तु अहम् आत्मा चिदानन्दरूपः शिवः एव” इति।

उपसंहारः :-

“जीवो ब्रह्मैव नापरः” इतिपादे “नापरः” इतिवाक्यस्य विशिष्टं कारणमस्ति यत्प्रत्यात्मा
“अहंस्थूलशरीरम्” “अहंसूक्ष्मशरीरम्” “अहमिन्द्रियम्” इतिभ्राम्यति।
अतः अन्धकारे असर्पभूतायां रज्जौ सर्पारोपवत्मानवमनसि अद्यारोपः भवति।
सिद्धान्तरूपेण अद्वैतत्वं चित्ते भवति चेदपि मायाकारणतः मानवाः स्वात्मनः विस्मृत्य अन्धकारे जीवन्ति।
श्रीशङ्कराचार्यैः अनेकानि स्तोत्राणि रचितानि। स्तोत्रपारायणेन अर्थविचारेण च अज्ञानक्षयः भवति।

उद्धृतपुस्तकानि :-

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The Significant Role of English Teachers in Cross Cultural Communication

Rajeswari P

Department of English, Sri Sarada College for Women, Tirunelveli-627011.

Email: prajeswaritvl@gmail.com

Abstract: *Language communicative ability is of great significance in the course of English teaching. These days, more and more scholars both at home and abroad have come to understand the essence of language, and the cultivation of communicative competence being the key to language learning is well accepted. The aim of this paper is to analyze the chief problems and difficulties in current English teaching put into practice, demonstrates the relationship between oral English teaching and cross-cultural communication aptitude. On the one hand, cross-cultural communication plays an important role in oral English teaching; in addition, oral English teaching supports cross-cultural communication competence. Our oral English teaching impression should be constant with that of the world. We should lay equal anxiety on cross-cultural communication skill and oral English teaching for the function of improving the students' cross-cultural vocal communication capability.*

Keywords: *Cross-cultural communication competence, Oral English teaching, language culture*

Introduction

Language communicative skill is of great significance in the course of English teaching. Currently, more and more scholars both at home and abroad have come to appreciate the essence of language, and the cultivation of communicative proficiency being the key to language learning is well recognized. Guided by foreign language teaching theories, the main content of college English includes English language knowledge, application skillfulness, cross-cultural communication and learning approaches. It is somehow a teaching system which incorporates a variety of teaching mode and teaching methods. Therefore, college oral English teaching is not simply the input of language knowledge, but also refers to a blend between the language and its culture.

1. The Problems Confronting English Teaching

The objective of teaching English is to improve students' ability of English listening, speaking, reading and writing. Still the teaching objective fails to meet its aim in some way for a variety of reasons. Our foreign language teaching here lays scrupulous stress on language forms together with pronunciation, grammar, the meanings of the word, etc. In actual fact, we have trained a lot of students who are capable of grammar teaching, but they do not have the actual communicative skill, which makes our language learning senseless. The teachers should make an attempt to progress themselves and set a superior example for the students. If the teachers have a strong aspiration to improve themselves, the students will profit a lot for sure. The reason for this problem is also related to the students themselves. Contrasting the time when they were learning their

mother tongue, the students are scared of making mistakes when they speak English, which is clearly a big barrier for them to learn a foreign language, especially for the students who do not have a very good language surroundings. Last but not least, no matter what levels the students belong to, their main undertaking in the oral English class is still related to the sentence pattern drills, so after class the students still focus on reading as well as writing. So it is vital to change the teaching methods in the course of oral English teaching.

2. The Relationship between Cross-Cultural Communication and Oral English Teaching

Language is a part of culture; culture is also a part of language. It is difficult to separate both of them. This better explains the close relationship between culture and language. Krashen points out, "The basic function of the classroom is to provide students with the chance of knowledge input and place to which they get no access elsewhere." At the same time, teachers should offer students the opportunities to practice the language in the situation which the native speaker may encounter in their daily life and solve the culture conflicts along the way with the students. Oral English class is a place where students can get access to the opportunity to improve their verbal and nonverbal communication skills. Cross-cultural communication is the main part of it. The ultimate goal of language teaching is to communicate with others freely and improve the overall cultural accomplishments [1]

3. The Main Reasons of Cross-Cultural Communication Failure

- a. Lack of deep understanding toward the culture behind the language. For a long time, we put emphasis on systematic teaching of the language, that is, language knowledge, pronunciation, grammar and vocabulary in the process of oral English teaching. We just ignore the input the relevant cultures behind the language which is equally important. As a result, the students have no idea of the cultures and values of the English-speaking countries.
- b. Lack of the English-speaking environment. In the traditional oral English class, teacher's play a dominant role and students are merely passive listeners, just simply memorize the sentence patterns one by one. Undoubtedly, this kind of practice lacks of communicative efficiency. Finally, the students are thus reduced to a passive position.
- c. Lack of understanding the style of language. The choice of language form is constrained by a few factors. The relationship between the two sides; the content of the topic discussion, background and even ways of communication will influence the forms of conversation; traditionally, the students pay much more attention to memorizing grammar rules by rote learning and blurt out sentences without the real language context. In this way, the students can't use the language freely. In verbal communication, the students usually neglect the rank of the person he is talking to, the environment of the conversation and the wrong style of language leads to the

failure of intercultural communication[2].

4. **Ways to Improve Students' Cross-Cultural Competence in Oral English Teaching**

According to the characteristic of oral English, oral English teaching should be based on the relative pedagogy, psychology and linguistic theory. Oral English teaching involves multiple interactions in terms of teaching aim, teaching contents, teaching strategies, and evaluation methods. Student-oriented, network-driving, input-based, real language environment, interaction from all dimensions, all of these is the necessary factors in improving the students' intercultural communication skills.

- a. **Improving Teachers' Own Qualities** - As the organizer of the oral English class, teachers should set good examples for the students. Only by possessing certain knowledge about intercultural communication, can teachers handle the class with high proficiency. To achieve this goal, teachers should have a better language foundation and a strong intercultural communication competence. Therefore, we can invite some famous scholars and experts to give lectures about inter-culture to the teachers in the school. For another, we can send our teachers abroad as visiting scholar.
- b. **Enhancing Listening Practice, Increasing Language Input and Storage** - The main aim of enhancing the students' transfer competence of language knowledge is to help them to acquire knowledge, information by means of reading as well as

Listening, and recombine what they have heard through internalization, then it is possible for them to output the language. So the whole communication process is completed. As we know, language input is the essential condition to language output. Listening is the first and most important step in learning a foreign language and it is the important method of inputting information. The more you listen, the more exactly you know under what kind of circumstances you can say it, the more you want to express yourself in English when you encounter the situation. There is no doubt that verbal communication is the inevitable result of lots of listening practice.

- c. **Carrying Out Multimedia Integrated Teaching Model** - Multimedia teaching is the combination of the three—visual, audio, language. The students can experience what they have learned through this multisensory training as if they were in the real native language environment which is necessary for any language learners. Specific new media introductions are as follows, such as English Liu Li Shuo learning software. The lessons on it are very organized. One module has ten different lessons. A module will focus on one topic, such as business college life or travel. And each module consists of ten related dialogues, which allows you to learn English when it's convenient for you. It offers two different ways to learn: Practice and Quiz. In Practice, you can study the lesson at your own pace, while in quiz you can test what you have learned in the same lesson. If you study hard, it is possible to get on the leader board. There are a lot of different learning materials for different learners of

different levels. You are sure to find what you need[3].

Lizhi FM is useful learning software. This learning tool makes it possible for anyone who wants to be News Anchor. The students can record their favourite article with the beautiful background music they like and post it onto the new media platform, like Wechat, Blog etc to show off. In this way, students can make his voice be heard by other people, and also others can share it, comment it, and even have an online communication. Of course, the students can subscribe other people's channel and enjoy it anytime.

The English Dubbing Show is fantastic software for the English learners. You can realize your dream of becoming a famous voiceover to the movie you love. You can also invite other people to cooperate with you to finish the work. Once finished, you will get the sense of achievement which can drive you to practice oral English with confidence and happiness. Students can improve their oral expression ability and communicate with the native speakers in decent language through different types of language training.

- d. **Cultivating English Thinking Habit** - In oral English teaching, teachers are supposed to help their students form the good habit of communicating with others orally and think in English at the same time. Thinking in English means you have to understand, judge and express yourself in English. The people who don't have this kind of training experience might tend to translate what they have heard into their mother language and then store them in their memories. When it is time to output them, they would try their best to search for the corresponding expressions in their mother language and translate them into English. This is inevitably leads to the interference of one's mother language.
- e. **Enriching Culture Teaching Through Extracurricular Activities** - In view of the deficiency in our foreign language teaching in terms of teaching time, teaching method, teaching process, etc., we can barely undertake the task of cultivating the students' intercultural communication awareness and ability. Therefore, the abundant extracurricular activities play a key role in awaking the students' culture consciousness. In order to make up the deficiency of classroom teaching, students should be encouraged to make full use of their spare time and grasp the opportunities offered by the teachers to know more about English culture and cultivate their communicative competence. The school can organize some culture forums for the students and invite some teachers who have the overseas experiences or foreign teachers to introduce something about the culture and convention abroad that the students are eager to know. A wealth of extracurricular activities such as English Quiz Show, English Speaking Contest, English Imitating Contest or English Debating Contest can be organized on a regular basis, through which we can fully combine the language, culture study and after-school life.

5. **Conclusion**

In a word, in the process of foreign language teaching, English teachers should give up their traditional teaching concept, try some new teaching methods and new strategies, and social and cultural knowledge teaching should be carried out throughout the teaching of language knowledge and skills. In addition, the cultivation of intercultural communication competence doesn't just focus on culture and neglect language. It is also not a culture-centered thing. It is a kind of method of teaching language from the culture point of view. As an organic component of teaching, the cultivation of intercultural communication competence has a long way to go. College English teachers should cultivate the students' ability of acquiring the language knowledge as well as their ability of social communication. This is a very important task for English language teaching.

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Enhancing Quality through Student Centered Instruction

Annalakshmi T* and Geetha S**

Department of English

* Sri Sarada College for Women Tirunelveli - 627011

** Sri K. G. S Arts College Srivaikuntam – 628601

*Email:anitha2799@gmail.com

Abstract: *In student centered instruction, the teacher provides students with opportunities to learn independently and from one another. In recent decades a wide variety of student centered instructional methods are available and this leads to increased motivation to learn, greater retention of knowledge, deeper understanding and more positive attitudes toward the subject being taught. Student-centered learning puts students' interests first, acknowledging student voice as central to the learning experience. A student-centered classroom is constructed on autonomy and the exclusion of traditional teaching practices. The student-centered classroom activates on collaboration, project-based learning, technology integration, and plenty of conversation between students and teachers about learning. Many faculty members have enlarged and used approaches to teaching that fit the standard for student-centered learning. Many of these academicians have created names for these approaches. As a result, there is a broad variety of approaches. This paper tries to analyze some of these approaches which enhance quality through student centered instruction.*

Keywords: *Student centered instruction, traditional teaching practices, approaches, project-based learning, and technology integration.*

Introduction

In student centered instruction, the teacher provides students with opportunities to learn independently and from one another and coaches those in the skills they need to do so effectively. In recent decades a wide variety of student centered instructional methods are available and this leads to increased motivation to learn, greater retention of knowledge, deeper understanding and more positive attitudes toward the subject being taught.

A learner-centered approach focuses the attention on the learning process: what the student is learning, how the student is learning, the conditions under which the student is learning, whether the student is retaining and applying the learnt matter and how current learning prepares the student for future learning. In learner-centered instruction the action focuses on what the students are doing and not what the teachers are doing. In this approach the students, accepts, cultivates and builds on the ultimate responsibility that the students have for their own learning.

This section analyzes some of the approaches which enhance quality through student centered instruction. The teacher has to give brief or extended writing assignments which will make the students explain portions of the readings in their own words. Well created writing assignments help students to process material actively, to identify important points or connecting the material to their previous knowledge[1].

Most of the students have never been taught to think critically or formulate problems. The teacher has to collect their products and provide constructive comments. After giving several assignments and feedback sessions, students will give one another meaningful feedback in group work. This approach serves a double purpose; the students gain more skill and confidence and the teaching assistants can also help each other to learn. By the end of the course some may perform at a surprisingly high level.

Cooperative learning is said to be the hardest student centered method, especially to high academic achievers and strong introverts. Many research studies have confirmed that students who learn cooperatively get higher grades than students who try to learn the same material individually.

Students should be persuaded to involve with interest in order to make the instructional approach work. The instructor must also structure group exercises to promote positive interdependence among team members, promise individual accountability for all work done, facilitate progress of teamwork skills, and provide for intervallic self-assessment of group functioning. Instructors new to cooperative learning are advised to have several such references helpful when planning activities and assignments[2].

Student-centered classrooms are big on teamwork. They have desks or tables arranged so that it's easy for students to collaborate on projects or on analyzing readings. The teacher becomes a contributor and co-learner in discussion, asking questions and perhaps correcting delusions, but not telling learners what they need to know[3].

Brainstorming or resolving conflicts or offering tips in class is another student centered approach. Brainstorming is a group creativity technique by which attempts are made to find a conclusion for a specific problem by gathering a list of ideas instinctively contributed by its members. In other words, brainstorming is a situation where a group of people meet to create new ideas and solutions around a specific domain of interest by removing embarrassments.

Discovery learning is a technique of inquiry-based student centered learning and is considered a constructivist based approach to education. It is also known as problem-based learning, experiential learning and 21st century learning. Discovery learning takes place in problem solving circumstances where the learner draws on his own experience and previous knowledge and is a method of instruction through which students work together with their environment by exploring and influencing objects, struggling with questions and controversies, or performing experiments. Discovery-based learning is obviously characterized by having minimal teacher guidance, fewer teacher explanations, solving problems with multiple solutions, use of hand-on materials, negligible repetition and memorization.

In the learner-centered model, the teacher plays the role of facilitator, guide, coach, conductor. This is because the students are doing the work of problem solving, discussing and creating. At the outset, this may feel like the teacher's job has been

replaced by her students. However, the teacher's voice becomes more serious because she is now engaging her students as they work through higher order thinking skills of application, evaluation, and creation. Moreover, teachers who use this approach want to cover all areas of growth including social, emotional, and physical. Student-centered teachers engage in an active learning process. They want to help the students develop the knowledge and skills needed in all content areas. Further than that, teachers serve many other roles in the classroom. Teachers set the quality of their classrooms, build a warm environment, guides and nurture students, become role models, and listen and look for signs of problem.

Conclusion

Regardless of the benefits of student-centered learning, the challenge remains for instructors to be open to change and alter their teaching habits. Because resigning control of the classroom can be intimidating, it can be useful for instructors to take small steps and practice new approaches incrementally; this can help lessen the anxiety that often results from unexpected changes. Instructors must bear in mind that this is a learning process for all—experience and continued practice will donate to successful change.

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On Edge Geodetic Domination Number for Some Special Graphs

Aiswarya S.R., Mahalakshmi A and Ammani S

Department of Mathematics

Sri Sarada College for Women, Tirunelveli-627011

Email:lakshmi19maths@gmail.com,amshappy.av@gmail.com

Abstract: A set of vertices S of a graph G is an edge geodetic domination set (EGD set) if it is both edge geodetic set and a domination set of G . The minimum cardinality among all the EGD sets of G is called edge geodetic domination number (EGD number) and is denoted by $\gamma_{ge}(G)$.

In this paper, edge geodetic domination number of some special graphs was found.

Keywords: Domination, Edge geodetic domination set, Edge geodetic domination number.

Introduction

A Graph G consists of a pair (V, E) , where $V(G)$ is a non- empty set whose elements are called the vertices and $E(G)$ is a set of unordered pairs of distinct elements of $V(G)$. [1]The elements of $E(G)$ are called the edges of the graph [2,4].For vertices u and v in a connected graph G , the distance $d(u, v)$ is the length of a shortest u - v path in G . The u - v path of length $d(u, v)$ is called a u - v geodesic [5]. A geodetic set of G is a set $S \subseteq V(G)$ such that every edge of G is contained in a geodesic joining some pair of vertices in S . The geodesic number $g(G)$ of G is the minimum order of its geodetic sets and any geodetic set of order $g(G)$ is a geodesic basis. An edge geodetic set of G is a set $S \subseteq V(G)$ such that every edge of G is contained in a geodesic joining some pair of vertices in S . The edge geodetic number $g_e(G)$ of G is the minimum order of its edge geodetic sets [1, 7]. Let $G_1 = (V_1, X_1)$ and $G_2 = (V_2, X_2)$ be two graphs with $V_1 \cap V_2 = \emptyset$ we define: The product $G_1 \times G_2$ as having $V = V_1 \times V_2$ and $u = (u_1, u_2)$ and $v = (v_1, v_2)$ are adjacent if $u_1 = v_1$ and u_2 is adjacent to v_2 in G_2 or u_1 is adjacent to v_1 in G_1 and $u_2 = v_2$. A closed walk $v_0, v_1, \dots, v_n = v_0$ in which $n \geq 3$ and v_0, v_1, \dots, v_{n-1} are distinct is called a cycle of length n . The graph consisting of a cycle of length n is denoted by C_n . The (m, n) – Tadpole graph is a special type of graph consisting of a cycle graph on m (at least 3) vertices and a path graph on n vertices, connected with a bridge denoted by $T(m, n)$ with vertices = $m + n$ and edges = $m + n$. A graph $A(m, n)$ is obtained by attaching m pendant edges to the vertices of the cycle C_n is called Actinia graph. A fan graph obtained by joining all vertices of a path P_n to a further vertex, called the centre. Thus F_n contains $n+1$ vertices say $C, \{v_1, v_2, v_3, \dots, v_n\}$ and $(2n-1)$ edges, say $cv_i, 1 \leq i \leq n$, and $vv_{i+1}, 1 \leq i \leq n-1$. [5]The jewel graph J_n is a graph with the vertex set $V(J_n) = \{u, v, x, y, u_i / 1 \leq i \leq n\}$ and the edge set $E(J_n) = \{ux, uy, xy, xv, uu_i, vu_i / 1 \leq i \leq n\}$. The jelly fish graph $J(m, n)$ is obtained from a 4-cycle v_1, v_2, v_3, v_4 by joining v_1 and v_3 with an edge and appending m pendant edges to v_2 and n pendant edges to v_4 . The Helm H_n is a graph obtaining from a wheel by attaching a pendant edge at each

vertex of the n-cycle [3]. A set D of vertices in a graph G is a dominating set if every vertex in V-D is adjacent to at least one vertex in D [6].

Some Results

Theorem: 2.1

For a Product graph $P_2 \times P_{3n}$, $\gamma_{ge}(P_2 \times P_{3n}) = \begin{cases} \lceil \frac{3n}{2} \rceil & \text{if } n \text{ is odd} \\ \frac{3n}{2} + 1 & \text{if } n \text{ is even.} \end{cases}$

Proof:

Let $V(P_2) \times P_{3n} = \{(u_1, v_1), (u_1, v_2), \dots, (u_1, v_{3n}), (u_2, v_1), \dots, (u_2, v_{3n-1}), (u_2, v_{3n})\}$.

Case: 1 If n is odd.

Here, $D = \{(u_1, v_1), (u_1, v_5), \dots, (u_1, v_{3n}), (u_2, v_3), \dots, (u_2, v_{3n-2})\}$ is the minimum edge geodetic dominating set of $P_2 \times P_{3n}$ and $|D| = \lceil \frac{3n}{2} \rceil$.

Thus, $\gamma_{ge}(P_2 \times P_{3n}) = \lceil \frac{3n}{2} \rceil$.

Case: 2 If n is even.

Here, $D = \{(u_1, v_1), (u_1, v_5), \dots, (u_1, v_{3n}), (u_2, v_3), \dots, (u_2, v_{3n-1})\}$ is the minimum edge geodetic dominating set of $P_2 \times P_{3n}$ and $|D| = \frac{3n}{2} + 1$.

Hence, $\gamma_{ge}(P_2 \times P_{3n}) = \begin{cases} \lceil \frac{3n}{2} \rceil & \text{if } n \text{ is odd} \\ \frac{3n}{2} + 1 & \text{if } n \text{ is even.} \end{cases}$

Theorem: 2.2

For any Cycle C_n with $n \geq 4$, $\gamma_{ge}(C_n) = \lceil \frac{n}{3} \rceil$.

Proof:

Let $V(C_n) = \{v_1, v_2, v_3, \dots, v_n\}$ and let $k \geq 1$.

Case: 1 Let $n = 3k, k > 1$.

Here, $D_1 = \{v_1, v_4, v_7, \dots, v_{3k-2}\}, D_2 = \{v_2, v_5, v_8, \dots, v_{3k-1}\}$ and $D_3 = \{v_3, v_6, v_9, \dots, v_{3k}\}$ are the minimum edges geodetic dominating sets.

Thus, $|D_1| = |D_2| = |D_3| = \frac{3k}{3} = \frac{n}{3}$.

Therefore, $\gamma_{ge}(C_n) = \frac{n}{3}$, where $n = 3k$.

Case: 2 Let $n = 3k + 1, k \geq 1$.

Here, $D_1 = \{v_1, v_4, v_7, \dots, v_{3k-2}, v_{3k-1}\}, D_2 = \{v_2, v_5, v_8, \dots, v_{3k-2}, v_{3k}\}$ and $D_3 = \{v_3, v_6, v_9, \dots, v_{3k-2}, v_{3k+1}\}$ are the minimum edge geodetic dominating sets.

Thus, $|D_1| = |D_2| = |D_3| = \frac{3k}{3} + 1$
 $= \frac{3k+3}{3}$
 $= \frac{3k+1}{3} + \frac{2}{3}$
 $= \frac{n}{3} + \frac{2}{3}$
 $= \lceil \frac{n}{3} \rceil$.

Therefore, $\gamma_{ge}(C_n) = \lceil \frac{n}{3} \rceil$, where $n=3k+1$.

Case: 3 Let $n = 3k + 2, k \geq 1$.

Here, $D_1 = \{v_1, v_4, v_7, \dots, v_{3k-2}, v_{3k+1}\}$ and $D_2 = \{v_1, v_4, \dots, v_{3k}, v_{3k+1}\}$ are the minimum edge geodetic dominating sets.

$$\begin{aligned} \text{Thus, } |D_1| = |D_2| &= \frac{3k}{3} + 1 \\ &= \frac{3k+3}{3} \\ &= \frac{3k+2}{3} + \frac{1}{3} \\ &= \frac{n}{3} + \frac{1}{3} \\ &= \left\lceil \frac{n}{3} \right\rceil. \end{aligned}$$

Therefore, $\gamma_{ge}(C_n) = \left\lceil \frac{n}{3} \right\rceil$ where $n=3k+2$.

Theorem: 2.3

For a Tadpole graph $T_{(m,n)}$, $\gamma_{ge}(T_{(3n,1)}) = n + 1, \forall n > 1$.

Proof:

Let v be the pendant vertex and $V(T_{(3n,1)}) = \{v, v_1, v_2, \dots, v_{3n}\}$ and

$$E(T_{(3n,1)}) = \{v_i v_{i+1} / i = 1, 2, \dots, 3n - 1\} \cup \{v_1 v_{3n}\} \cup \{v_{3n} v\}.$$

Here, $D = \{v, v_2, v_5, v_8, \dots, v_{3n-1}\}$ is the minimum edge geodetic dominating set.

Thus, the minimum cardinality is $|D| = n + 1$.

Therefore, $\gamma_{ge}(T_{(3n,1)}) = n + 1$.

Theorem: 2.4

For an Actinia graph $A(m, n)$, $\gamma_{ge}(A(m, n)) = mn$.

Proof:

Let $V(A(m, n)) = \{v_i / 1 \leq i \leq n\} \cup \{u_{ij} / 1 \leq j \leq m, 1 \leq i \leq n\}$ and

$$E(A(m, n)) = \{v_i v_{i+1} / i = 1, 2, 3, \dots, n\} \cup \{v_i u_{ij} / i = 1, 2, 3, \dots, n, j = 1, 2, 3, \dots, m\}.$$

Here, $D = \{u_{ij} / 1 \leq j \leq m, 1 \leq i \leq n\}$ is the set of pendant vertices, which is minimum edge geodetic set of $A(m, n)$ and also it is a dominating set.

Therefore, $\gamma_{ge}(A(m, n)) = n(m) = mn$.

Theorem: 2.5

For the Jellyfish graph $J_{m,n}$, $\gamma_{ge}(J_{m,n}) = m + n +$

2.

Proof:

Let $V(J_{m,n}) = \{x, y, u, v\} \cup \{x_i / i = 1, 2, 3, \dots, m\} \cup \{y_j / j = 1, 2, 3, \dots, n\}$

$$\text{and } E(J_{m,n}) = \{xu, xv, yu, yv, uv\} \cup \{x x_i / i = 1, 2, 3, \dots, m\} \cup \{y y_j / j = 1, 2, 3, \dots, n\}.$$

Here, $D = \{x_i / i = 1, 2, 3, \dots, m\} \cup \{y_j / j = 1, 2, 3, \dots, n\} \cup \{u, v\}$ is the minimum edge geodetic dominating set of $J_{m,n}$. Thus, $|D| = m + n + 2$.

Therefore, $\gamma_{ge}(J_{m,n}) = m + n + 2$.

Theorem: 2.6

For the Jewel graph J_n , $\gamma_{ge}(J_n) = 4$

Proof:

Let $V(J_n) = \{x, y, u, v\} \cup \{u_i / i = 1, 2, 3, \dots, n\}$ and

$$E(J_n) = \{xu, xv, yu, yv, xy\} \cup \{u u_i / i = 1, 2, 3, \dots, n\} \cup \{v u_i / i = 1, 2, 3, \dots, n\}$$

Here, $D = \{x, y, u, v\}$ is the minimum edge geodetic dominating set of J_n and $|D| = 4$.

Thus, D is the unique minimum edge geodetic dominating set of J_n .

Therefore, $\gamma_{ge}(J_n) = 4$.

Theorem: 2.7

For the Fan graph F_n , $\gamma_{ge}(F_n) = n + 1$.

Proof:

Let $V(F_n) = \{v\} \cup \{v_i/i = 1, 2, 3, \dots, n\}$ and

$E(F_n) = \{v v_i/i = 1, 2, 3, \dots, n\} \cup \{v_i v_{i+1}/i = 1, 2, 3, \dots, n - 1\}$.

Here, $D = \{v\} \cup \{v_i/i = 1, 2, 3, \dots, n\}$ is the minimum edge geodetic dominating set of F_n and $|D| = n + 1$.

Therefore, $\gamma_{ge}(F_n) = n + 1$.

Theorem: 2.8

For the Helm graph H_n , $\gamma_{ge}(H_n) = n + 1$.

Proof:

Let $V(H_n) = \{v\} \cup \{v_i/i = 1, 2, 3, \dots, n\} \cup \{u_i/i = 1, 2, 3, \dots, n\}$, where u_i 's are pendants.

$E(H_n) = \{v v_i/i = 1, 2, 3, \dots, n\} \cup \{v_i v_{i+1}/i = 1, 2, 3, \dots, n - 1\} \cup \{v_i u_i/i = 1, 2, 3, \dots, n\}$.

Here, $D = \{u_i/i = 1, 2, 3, \dots, n\} \cup \{v\}$ is the minimum edge geodetic dominating set of H_n .

Thus, $|D| = n + 1$.

Therefore, $\gamma_{ge}(H_n) = n + 1$.

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On Strong Split Domination Number of Graphs

Kamali S, Ramalakshmi K* and Ammani S**

Department of Mathematics,

Sri Sarada College for Women, Tirunelveli-627011

Email: * krams1983@gmail.com, ** amshappy.av@gmail.com

Abstract: For a connected graph G , a set of vertices D in G is called a strong split dominating set if D is both dominating and the induced subgraph $V - D$ is totally disconnected. The minimum cardinality of a strong split dominating set of G is its strong split domination number and is denoted by $\gamma_{ss}(G)$. In this paper, strong split domination number of some special graphs were found.

Keywords: Domination, strong split domination and strong split domination number.

Introduction

The concept of domination in graphs was introduced by Ore and Berge [6]. Let $G = (V, E)$ be a finite undirected graph with neither loops nor multiple edges. A subset D of $V(G)$ is a dominating set of G if every vertex in $V - D$ is adjacent to atleast one vertex in D . The minimum cardinality of a dominating set of G is called the domination number of G and is denoted by $\gamma(G)$. The concept of strong split domination in graphs was introduced by V. R Kulli & B. Janakiram [5]. A dominating set D of a graph $G = (V, E)$ is a strong split dominating set if the induced sub graph $V \setminus D$ is totally disconnected.

The strong split domination number $\gamma_{ss}(G)$ of G is the minimum cardinality of a strong split dominating set. They defined the strong split dominating set, the strong split domination number and also obtained several results regarding the strong split domination number of some standard graphs. Motivated by these results, strong split domination number of some special graphs were obtained in this paper.[1]

The **Friendship graph** T_n is a set of n triangles having a common central vertex. [2,3]The **Jelly fish graph** (m, n) is obtained from a 4-cycle v_1, v_2, v_3, v_4 by joining v_1 and v_3 with an edge and appending m pendant edges to v_2 and n pendant edges to v_4 . The **Jewel graph** J_n is a graph with the vertex set $V(J_n) = \{u, v, x, y, u_i / 1 \leq i \leq n\}$ and the edge set $E(J_n) = \{ux, uy, xy, xv, uu_i, vu_i / 1 \leq i \leq n\}$. A **Fan graph** obtained by joining all vertices of a path P_n to a further vertex, called the centre. Thus, F_n contains $n+1$ vertices say $\{c, v_1, v_2, v_3, \dots, v_n\}$ and $(2n-1)$ edges, say $cv_i, 1 \leq i \leq n$, and $vv_{i+1}, 1 \leq i \leq n-1$. The graph $A(m, n)$ is obtained by attaching m pendant edges to the n vertices of the cycle C_n is called **Actinia graph**. [4]

Strong Split Domination Number of Some Special Graphs

Theorem: 2.1

For the Friendship graph, $\gamma_{ss}(T_n) = n + 1$.

Proof :

Let $V(T_n) = \{v, v_1, u_1, v_2, u_2, \dots, v_n, u_n\}$.

Let v be the central vertex of T_n . Here, $S_1 = \{v, v_1, v_2, \dots, v_n\}$ and $S_2 = \{v, u_1, u_2, \dots, u_n\}$ are the minimum strong split dominating set of T_n and $|S_1| = |S_2| = n + 1$.

Therefore, $\gamma_{ss}(T_n) = n + 1$.

Theorem: 2.2

For the Jellyfish graph $J_{m,n}$, $\gamma_{ss}(J_{m,n}) = 3$.

Proof :

Let $V(J_{m,n}) = \{x, y, u, v\} \cup \{x_i/i = 1, 2, 3, \dots, m\} \cup \{y_j/j = 1, 2, 3, \dots, n\}$

and $E(J_{m,n}) = \{xu, xv, yu, yv, uv\} \cup \{x x_i/i = 1, 2, 3, \dots, m\} \cup \{y y_j/j = 1, 2, \dots, n\}$.

Here, $S_1 = \{x, y, v\}$ and $S_2 = \{x, y, u\}$ are the minimum dominating set of $J_{m,n}$ and $|S_1| = |S_2| = 3$. We remove these subsets from the vertex set then the graph will be totally disconnected. Therefore, $\gamma_{ss}(J_{m,n}) = 3$.

Theorem: 2.3

For the jewel graph, $\gamma_{ss}(J_n) = 3$.

Proof :

Let $V(J_n) = \{x, y, u, v\} \cup \{u_i/i = 1, 2, 3, \dots, n\}$ and

$E(J_n) = \{xu, xv, yu, yv, xy\} \cup \{u u_i/i = 1, 2, 3, \dots, n\} \cup \{v u_i/j = 1, 2, 3, \dots, n\}$.

Here $S_1 = \{u, v, x\}$ and $S_2 = \{u, v, y\}$ are the dominating set of J_n and $|S_1| = |S_2| = 3$.

Also, $\langle V - S_1 \rangle$ and $\langle V - S_2 \rangle$ are totally disconnected.

Hence, S_1 or S_2 is the minimum strong split dominating set of J_n . Therefore, $\gamma_{ss}(J_n) = 3$.

Theorem: 2.4

For the Fan graph, $\gamma_{ss}(F_n) = \begin{cases} \lfloor \frac{n}{2} \rfloor & \text{if } n \text{ is odd} \\ \frac{n}{2} + 1 & \text{if } n \text{ is even} \end{cases}$.

Proof :

Let $V(F_n) = \{v\} \cup \{v_i/i = 1, 2, 3, \dots, n\}$ and

$E(F_n) = \{v v_i/i = 1, 2, 3, \dots, n\} \cup \{v_i v_{i+1}/i = 1, 2, 3, \dots, n - 1\}$.

Let v be the vertex of degree n .

Case(i) : n is odd

Consider the set $S = \{v_2, v_4, \dots, v_{n-3}, v_{n-1}\} \cup \{v\}$ is a dominating set of F_n .

Here, $\langle V-S \rangle$ is totally disconnected and $|S| = \frac{n-1}{2} + 1 = \frac{n+1}{2} = \frac{n}{2} + \frac{1}{2} = \left\lceil \frac{n}{2} \right\rceil$.

Therefore, $\gamma_{ss}(F_n) = \left\lceil \frac{n}{2} \right\rceil$.

Case(ii) : n is even

Consider the sets, $S_1 = \{v\} \cup \{v_1, v_3, \dots, v_{n-3}, v_{n-1}\}$ and $S_2 = \{v\} \cup \{v_2, v_4, \dots, v_{n-2}, v_n\}$.

Here, both $\langle V-S_1 \rangle$ and $\langle V-S_2 \rangle$ are totally disconnected which is also dominating sets of F_n and $|S_1| = |S_2| = \frac{n}{2} + 1$. Therefore, $\gamma_{ss}(F_n) = \frac{n}{2} + 1$.

Hence from the two cases we get, the result.

Theorem: 2.5

For the Actinia graph $A(m,n)$, $\gamma_{ss}(A(m,n)) = n$.

Proof :

Let $V(A(m,n)) = \{v_i / i = 1, 2, \dots, n\} \cup \{u_{ij} / i = 1, 2, \dots, n \text{ and } j = 1, 2, \dots, m\}$ and $E(A(m,n)) = \{v_i v_{i+1} / i = 1, 2, 3, \dots, n\} \cup \{v_n v_1\} \cup \{v_i u_{ij} / i = 1, 2, \dots, n \text{ and } j = 1, 2, \dots, m\}$.

Here, $S = \{v_i\}$ where $i = 1$ to n and $S_1 = \{u_{ij}\}$ where $i = 1$ to $n, j = 1$ to m are the dominating set of $A(m,n)$ and so, $|S| = n$. If we remove S from the vertex set V then the graph is totally disconnected. Therefore, $\gamma_{ss}(A(m,n)) = n$.

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Growth and characterization of L-Asparagine admixed with magnesium chloride(LAMC) Crystal

Vela T

Department of physics, Sri Sarada college for women, Tirunelveli-11

Email: vela20041977@gmail.com

Abstract: Pure L-asparagine and magnesium chloride are taken in the ratio 2:1 and sodium chloride solution (1N) was used as solvent. By using slow evaporation technique, the crystal size $4*3*2 \text{ mm}^3$ was grown in 25-28 days. The structural confirmation of grown crystal was done by powder X-ray diffraction. The various functional groups of the grown crystals were identified from FTIR study and the corresponding IR frequencies were assigned. The UV-transmittance gave lower cut off at 220nm for the grown crystal and hence the forbidden energy gap for grown crystal is 5.64eV. From the mechanical study, the grown crystal belonged to the category of hard material.

Keywords : L-Asparagine, X-ray, FTIR, UV

1. Introduction

Crystals are the pillars of modern technology [1]. It is the human nature to study his environment and to seek to understand many natural processes that it manifests. The word crystals originates from the Greek word 'krystallos' meaning 'clear ice' [2]. Real crystals often exhibit a variety of imperfections. But in a single crystal the periodicity extends throughout the material that is it is having perfect order [3]. Crystals are used in electronic industry, photonic industry, fiber optic communications, which depend on materials such as semiconductors, superconductors, polarizers, transducers, radiation detectors, ultrasonic amplifiers, magnetic garnets, solid state lasers, non-linear optics, piezo-electric, electro-optic, acousto-optic, photosensitive, refractory of different grades, crystalline films for microelectronics and computer industries. From such important application point of view, there is a great demand to synthesize new NLO materials with unique properties and to grow their good quality single crystals [4,5]. Amino acids are interesting materials for NLO applications as they contain a proton donor carboxyl acid (COO^-) group and a proton acceptor amino (NH^{+2}) group in them. L-Asparagine monohydrate (LAM) is an interesting material from amino acid family to investigate because it crystallizes in a structure exhibiting a complex network of hydrogen bonds among asparagine molecules and between asparagine and water molecules [6-8].

2. Synthesis and Growth

The synthesis of L-asparagine admixture with magnesium chloride using sodium chloride solution as solvent (LMCSC) was carried out by taking L-asparagine and magnesium chloride in the molar ratio 2:1. To grow L-asparagine based crystal, the synthesized salts of LMCSC was used. The solutions were stirred well for about 2 hours and filtered separately. Then it was allowed for slow evaporation for the growth. As a

result, the LMCS crystal of size $4 \times 3 \times 2 \text{ mm}^3$ in 25-28 days was grown and shown in fig.1.



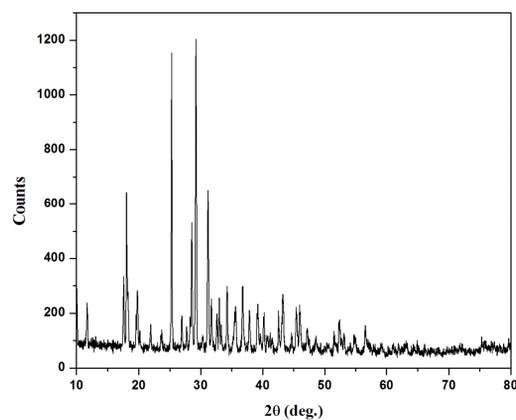
Fig. 1. Photograph of LMCS crystal

3. Result and discussion

3.1. Powder X-ray diffraction

The powder X-ray diffraction data recorded for as-grown pure and L-Asparagine based crystals were finely powdered and subjected to powder XRD analysis using the X'PERT-PRO Diffractometer system. The samples were examined with CuK_α radiation ($\lambda = 1.54056 \text{ \AA}$) in a 2θ range of $10^\circ - 80^\circ$ at a scan rate of $2^\circ/\text{min}$ and in step size [2°Th.]. The powder X-Ray diffraction of LMCS crystal is shown in fig. 2.

fig. 2. Powder X-ray diffraction of LMCS crystal



3.2 FTIR studies

In order to qualitatively analyze the presence of functional groups in the grown crystals, the FT-IR spectrum were recorded in the range 400–4000 cm^{-1} using a KBr pellet on SHIMADZU – FTIR – 8400S spectrometer and the recorded spectra were shown as Fig. 3. The Fourier transform infrared analysis is a technique in which almost all the functional groups in a molecule absorb characteristic frequencies.

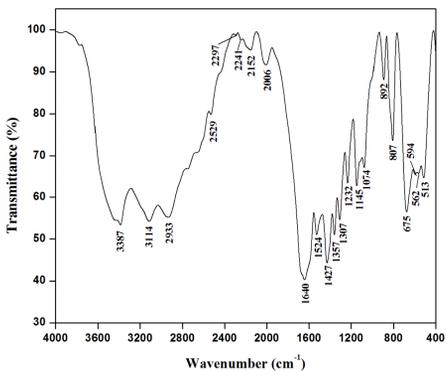


Fig. 3. FTIR pattern of LMCS crystal

3.3 UV-Visible Spectroscopy Analysis

The UV–Vis transmission spectrum of pure L-Asparagine and based single crystal was recorded between 190 nm and 1200 nm using Perkin Elmer Lambda 35 UV-Vis Spectrometer. The recorded spectrum is shown in Fig. 4. The transparent wave band of grown crystal lies in the range of 200- 1100 nm.

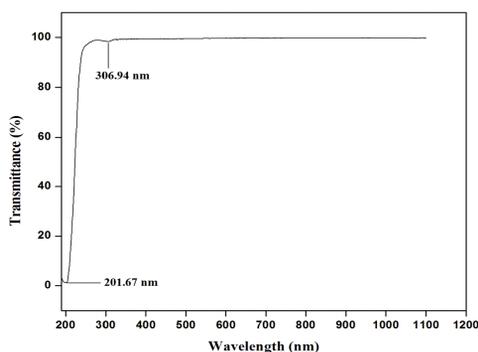


Fig. 4. UV- Visible Transmittance of LMCS crystal

3.4 Mechanical studies

Microhardness studies of LMCSC was carried out by using a Leitz microhardness tester fitted with a diamond pyramidal indenter. The crystals were mounted properly on the base of the microscope and the selected faces were indented gently by loads varying from 25 to 100 g for a period of 10 s using Vickers diamond indenter attached to an optical microscope. The Vickers hardness (H_v) numbers at different loads were calculated using the relation,

$$H_v = 1.8544 P/d^2 \text{ kg-mm}^{-2}$$

Where P is the applied load in kilogram and d is the average diagonal length of the indentation marks in millimeter and 1.8544 is a constant of a geometrical factor for the diamond pyramid. The Vickers microhardness number as a function of the applied test load shown in figure 5. The work hardening coefficient can be estimated from the slope of log P versus log d plot shown in Fig. 6.

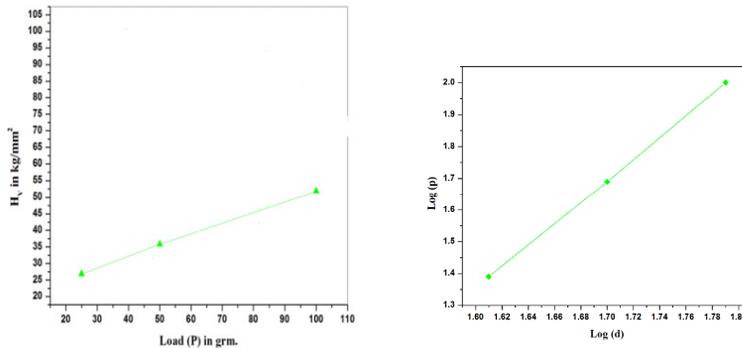


Fig. 5: Plots between hardness number (H_v) and applied load for LMCSC crystals.

Fig. 6: Plot of log P versus log d for LMCSC crystal.

3.5 Conclusion

The method adopted for growing crystal in this work is slow evaporation technique. The powder XRD patterns of the sample gives the crystalline property. The various functional groups of the grown crystal was identified from FTIR study. The UV-Vis-NIR transmittance spectrum gives lower cutoff at 220nm and the forbidden energy gap is 5.64eV. From mechanical study, the grown crystals belongs to category of hard material. The dielectric constant and dielectric loss decreases with increasing value of frequency.

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Growth of L-Alanine Admixture HCL Crystal by Slow Evaporation Method and its Characterization such as Structural, Optical and Spectral Properties

Niranjana Devi K* and Vela T**

Department of Physics, Sri Sarada College for Women, Tirunelveli-627011.

Email: * niranjanamariam@gmail.com, ** vela20041977@gmail.com

Abstract: In this work, L-alanine Hydrogen chloride (LAHCL) salt was synthesized using the materials such as L-alanine and hydrogen choric acid in the molar ratio of 1:1 by slow evaporation technique. The solubility using deionised water was determined at different temperatures. Grown crystals were subjected to powder X-ray diffraction study to study their structural characteristics. FTIR analysis was performed to identify the presence of the various functional groups in the crystals. In addition, the UV-Vis-DRS analysis was carried out to study the optical properties of the grown crystals. It is observed that, LAHCL crystal belongs to orthorhombic system with space group $P2_12_12_1$ and its crystalline size of 76 nm, micro strain of 490×10^{-6} and the dislocation density of the crystal of $1.7450 \times 10^{14} (L/l^3)m^{-2}$. The functional groups present in LAHCL crystal was confirmed by the FTIR spectral analysis. Energy band gap of LAHCL crystal was found to be 5.5 EeV.

Keywords: L-alanine, Powder XRD, FTIR, energy band gap.

Introduction

L-alanine is an inorganic compound material. The L-alanine with Hcl crystal appearance is white in colour and good transparency crystal[1,2]. The LAHCL salt solubility was determined using gravimetric method..

Experimental Method

Solubility study was carried out using a hot-plate magnetic stirrer and a thermometer. Initially, the temperature was maintained at 35°C. The sample was added step by step to 100 ml of de-ionized water in an air tight container kept on the hot-plate magnetic stirrer and stirring was continued till a small precipitate was formed. This gave configuration of supersaturated condition of the solution. Then, 5 ml of the solution was pipette out and taken in a petri dish and it was warmed up at 40°C till the solvent was evaporated out. By measuring the amount of salt present in the petri dish the solubility of the sample in de-ionized water was determined. This method of measuring solubility is known as gravimetric method[3] Solubility diagram for L-alanine admixture with hydrochloric acid using water as solvent at various temperatures ranging from 35°C to 50°C are presented in the figure1.

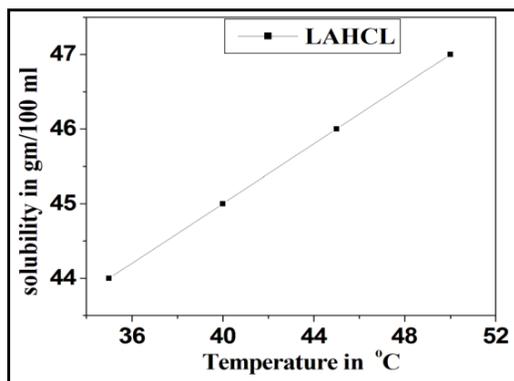


Figure 1 Solubility graph for LAHCL crystal.

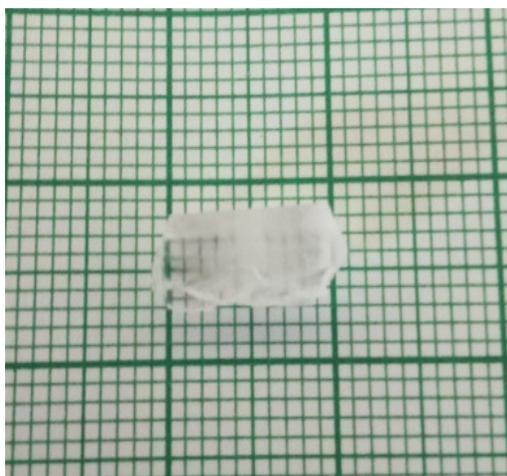


Figure 2 Photograph for LAHCL crystal

Characterization

Structural Study

Powder XRD provides an efficient and practical method for the structural characterization of crystal. The sample is scanned over the range for 2 theta (0° to 80°) degrees. The input voltage and current is 40 kV and 30 mA respectively[4].

Table 1

CRYSTALLITE SIZE (D) Nm	Micro strain (ϵ) $\times 10^{-6}$	Dislocation density $10^{14} (L/1^3)m^{-2}$
75	490	1.745

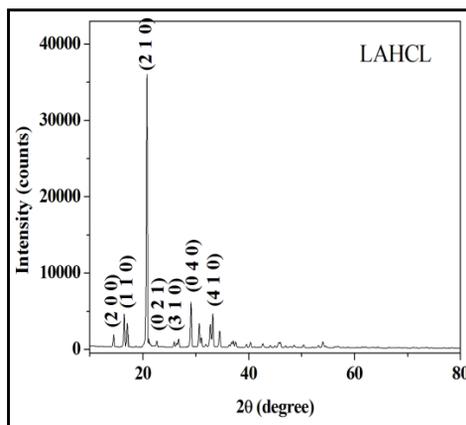


Figure 3 XRD Pattern of LAHCL crystal

Spectral Study

The Fourier Transform Infrared Spectrum of LAHCL crystal was recorded in the region $500\text{--}4000\text{ cm}^{-1}$. The sample was prepared by pressing LAHCL with KBr into pellet form. They also understand the existence of bonding nature[5]. Then functional groups present in the crystals were confirmed by the detailed FTIR spectral analysis.

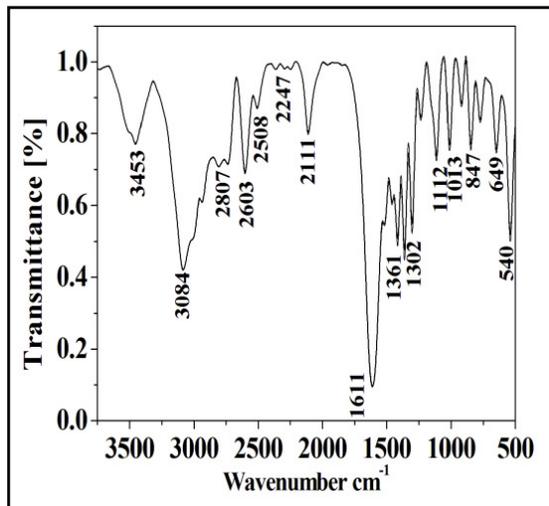


Figure 4 FTIR Spectrum of LAHCL crystal

Table 2 FTIR assignments of LAHCL

Wave number (cm ⁻¹)	Assignments
3084	OH – Stretching
2807	Symmetric stretching
2603	Combination bonds
2508	CH ₃ Stretching
2247	NH ₃ ⁺ asymmetric stretching & torsional oscillation
2111	NH ₃ ⁺ degenerate mode & NH ₃ ⁺ torsion
1611	NH ₃ Asymmetric deformation
1361	CH ₃ Symmetric bending
1112	COO ⁻ Symmetric stretching
847	C-H Out of plane bending
649	COO ⁻ Scissoring mode
540	COO ⁻ rocking

Optical Study

L-alanine is mainly used for optical applications. The study of the optical transmission range of the grown crystals is thus very important[6]. The LAHCL crystals with a thickness of 2 mm without any antireflection coating were cut and used for optical measurements. The energy band gap was found to be $E_g=5.5$ eV.

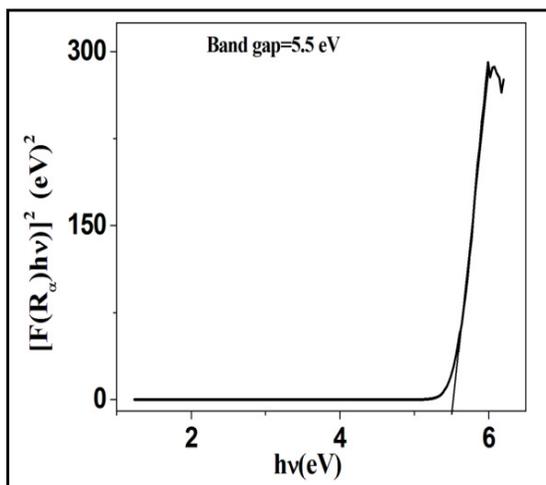


Figure 5 UV –visible spectrum energy band gap for LAHCL crystal

Result and Conclusion

In this work, single crystals of L-alanine hydrogen chloride were grown from aqueous solution by slow evaporation technique. Bulk single crystals of LAHCL are transparent, colourless and have good morphological edges. The solubility of all grown

crystals was increases with increase of temperature. The grown crystals are recrystallized to improve the transparency. The XRD patterns of LAHCL crystal compared with their based crystals. There is slight variation of intensity and shifting of peaks occurs. Single crystal X-ray analysis reveals that the crystal belongs to orthorhombic system with space group $p2_12_12_1$. Crystalline size, micro strain and dislocation density of LAHCL crystal are 75 nm, 490×10^{-6} and 1.7450×10^{14} (L/l^3) m^{-2} . With the present of LAHCL crystal functional groups in FTIR study confirmed the formation (or) growth of LAHCL. The band gap of LAHCL crystal was determined from optical studies.

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A Survey of Diabetic Retinopathy Techniques

Deviga K* and Ratha Jeyalakshmi T**

Department of Computer Applications

Sri Sarada College for Women, Tirunelveli-627011

Email: * deviga2004@gmail.com,** drtradha.jl@gmail.com,

Abstract: *Diabetic Retinopathy (DR) is one vascular disorder where the retina is damaged because fluid leaks from blood vessels into the retina. Systematic screening for DR has been identified as a cost-effective way to save health services resources. Automatic retinal image analysis is emerging as an important screening tool for early DR detection, which can reduce the workload associated to manual grading as well as save diagnosis costs and time. This paper provides an overview of existing research in the area of automated diagnosis of Diabetic Retinopathy and reviews 30 journal articles and conference papers. This paper status of the research in DR since 2013 to 2018. Existing research is discussed with respect to the automated DR approaches and the performance evaluation r criteria used in the studies.*

Keywords: *Diabetic Retinopathy, automated analysis system, Diabetic retinopathy, fundus image ,Image classification.*

Introduction

Diabetes is one of the major problems being faced by the world today. According to the survey of World Health Organization, the global prevalence of diabetes is estimated 2.8% in 2000 and will rise to 4.4% in 2030 [1]. The factors contributing to the increased rate of diabetes are obesity, physical inactivity and aging population. The digital fundus camera in ophthalmology provides us with digitized data which could be used for automatic detection of disease. The patient of type I diabetes of having DR after 20 years of diabetes increases by 99%,and 60% with type II diabetes [2]. The two types of Diabetic Retinopathy are Non-proliferate Diabetic Retinopathy and Proliferate Diabetic Retinopathy. Microaneurysms, exudates, cotton wool spots, Dot and blot haemorrhages and Macular edema are some of the signs of DR.

In this study, we provide a literature review of diagnosis of DR techniques based on 20 papers accessed from the following five electronic databases: IEEE Explorer, ACM Digital Library, Science Direct, Springer, and Wiley. The objective of this study is to categorize the published papers into several groups, explain the proposed methods in each group, and provide a basis for the improvement of future researches on automated diagnosis of DR.

The main contribution of this work is to present an overview of algorithms for early detection of diabetic retinopathy in fundus photographs. Smartphone-based retinal imaging has emerged as one of the recent cost-effective ways of screening for retinopathy in the community [3–5]. However, till date irrespective of the type of fundus camera used, the retinal images had to be graded for the presence and severity of DR by ophthalmologists (retinal specialists) or trained graders [3–5].

In this survey an automated approach for classification of the disease diabetic retinopathy. Using AI is presented. Given the alarming increase in the number of people with diabetes and shortage of trained retinal specialists and graders of retinal photographs, an automated approach involving a computer-based analysis of the fundus images would reduce the burden of the health systems in screening for DR [6–8]. There is hence an increasing interest in the recent past in the development of automated analysis software using computer machine learning/artificial intelligence (AI)/deep neuronal learning for analysis of retinal images in people with diabetes [7, 9].

AI is simulation of human intelligence by a software/machine. It is a specialised field which is based on teaching the machine to recognise specific patterns. It has been used for different kinds of technical tasks including accurate classification of high-resolution images. AI for detection and classification of DR happens by providing thousands of retinal images of varying grades of DR to the system for learning. The machine after being exposed to a lot of annotated retinal images learns to grade DR by itself. Some studies done in the recent past have shown that AI could be used to grade retinal images taken using the conventional fundus cameras and determine which patients with DR need referral to the ophthalmologist [7–9]. Many of the AI algorithms have been trained and developed using retinal images from high quality conventional fundus cameras.

Section II typical symptoms of diabetic retinopathy are explained. In Section III an overview of image preprocessing operations for early detection of diabetic retinopathy is given. In Section IV currently available databases for image processing algorithms testing and evaluation are presented. In section V Contains comparison methods. Finally in Section VI we give a short conclusion. Application of Image Processing they are Medicine, Security, Transportation, Industrial, automation, Image/video databases, pattern reorganization and many more.

Neural Networks

Neural Networks have also been used in three-class classification of DR. Nayak et al., [11] proposed features such as the area of exudates and the area of blood vessels together with texture parameter. Features are fed into neural network to classify images into normal, non-proliferative retinopathy and proliferative

Sinthanayothin et al., (Sinthanayothin et al., 1999)[21], they proposed 112 TIF (tagged image format) images were captured using a Topcon TRC-NW5S non-mydratic retinal camera. Neural Network First applied for preprocessing Then locate the blood vessels by implement PCA of the image and edge detection of the first component of PCA. The fovea are recognize using matched filters. Finally applied for classification.

Deep Convolutional Neural Networks (DNN)

Mrinal Haloi et al.,[15] have created an advanced deep Convolutional Neural Network learning based computer-assist system for microaneurysm diagnosis another deep neural network, it required less preprocessing, vessel extraction and more deep layers for training and testing the fundus image dataset. It add up to five layers such as convolutional, max-pooling, Dropout and maxout layer. Maxout layer is used to improving accuracy; it achieved low false positive rate and diabetic mass screening.

Vishakha Chandore et al.,[11] In this paper by using deep Convolutional Neural Network to achieves an augmented image be easily created using Python Imaging Library (PIL), less preprocessing and no manual feature extraction. Convolutional Neural Network (CNN), multi-layer deep architecture are implemented using caffe[10] libraries open sourced by BVC. DNN architecture with dropout techniques provides notable classification accuracy. JIT yielded by Anaconda, continuum analytics was used to decrease the computation time.

Pritam Bawankar et al.,[18] The Bosch DR Algorithm uses deep convolutional neural network to automatically identify a fundus image has DR affected, healthy, or inconclusive. Images were recorded using a Bosch Mobile Eye Care fundus camera Deep learning is based on artificial intelligence method. Input images passed to several filters and automatically extract best features. The Bosch algorithm developed by the Google team. CNN achieves every minute to classify 1000 images. The Bosch algorithm correctly identified 531 out of 560. Mainly used in real-time applications.

Alex Krizhevsky et al.,[20], AlexNet is the one of the best CNNs today. We utilized this model by loading the pretrained weights, and only retrain the final fully connected layer to predict 5 classes rather than 1000. Google Net developed by Google. Motivations for using this model was a deeper architecture.

Support Vector Machine

Acharya et al.,[10] have created an automated method for identifying the five classes. Five class classification method by calculating the areas of several features such as hemorrhages, micro-aneurysms, exudate and blood vessel. The features determined to be the most crucial; blood vessels, micro.SVM mainly used for classification.SVM is the one of the machine learning model, mainly based on supervised learning algorithm. Optimal way to find out the fundus images into appropriate classes.

M.R.Thansekhar and N.Balaji [1982] possible Images are classified into normal classes and Diabetic Retinopathy. Based on the vector value, funds images are classified in two types, whose value is 1 denotes hemorrhage affected retina and 0 denotes normal retina. Svm classifier validated have only been small test sets of approximately 100 images...

Adarsh et al.,[17], have proposed automated diagnosis of DR through detection of blood vessels, exudate, micro-aneurysms and texture features. To construct the feature vector for multi class SVM the micro-aneurysms and texture features.

Artificial Neural Network

Artificial Neural Network are important classification tool for Data Mining. ANN consists of three layers namely Input, Output and Hidden layer. ANN usually learns by examples. ANN idea behind back propagation algorithm is quite simple.

Jagadish Nayak et al.,[19], they used a comparative classifier using two classifier that are Bayesian statistical classifier and Artificial neural network for classification. In this research used neural network for classification of severity of diseases and it gives better result than Bayesian statistical classifier.

Echo State Neural Network (ESNN)

C.JayaKumari, and R.Maruthi [14], they mainly focused on contextual clustering algorithm used to segment the exudates. These inputs are fed into Echo State Neural Network (ESNN) to find out the normal and abnormal image. In this network totally using the 50 images as inputs and 35 for normal image and remaining images are abnormal image.

Decision Tree Algorithm and Random Tree Algorithm:

R.Geetha Ramani et al.,[13], they proposed a comparative approach. This research contains two algorithms that are C4.5 Decision Tree Algorithm and Random Tree Algorithm. Both These Algorithms, were used for comparative classification.

Performance Evaluation Metrics

The performance evaluation matrices is based on the sensitivity, specificity, and accuracy. In medical field, fundus images which are common in DR are calculated via sensitivity and specificity of each image.

True Positive (TP) - Correctly detected DR images

True Negative (TN) - Correctly detected Non-DR images

False Positive (FP) - Number of Non-DR images are detected wrongly as DR images

False Negative (FN) - Number of DR images are detected wrongly as Non-DR images

At last, the Sensitivity, Specificity, and Accuracy are measured for each fundus images available in the database.

Sensitivity (Recall) = $TP / (TP + FN)$ (1)

Specificity = $TN / (TN + FP)$ (2)

Accuracy = $(TP + TN) / (TP + FN + FP + TN)$ (3)

Precision

Gardner et al.,[12] used Neural Networks and pixel intensity values to achieve sensitivity and specificity results of 88.4%. Neural Networks achieve classification accuracy of 93%, sensitivity of 90% and specificity of 100%.

Pritam Bawankar et al.,[18] used Bosch DR Algorithm and achieved sensitivity, specificity, PPV, and NPV were 91.18%, 96.9%, 94.4%, and 95.0% respectively.

Harry Pratt et al., [] CNN network achieved, 95% specificity, 75% accuracy and 30% sensitivity.

The classifications in the network were defined numerically as: 0 - No DR 1 - Mild DR 2 - Moderate

DR 3 - Severe DR 4 - Proliferative DR.

Adarsh et al.,[17] proposed SVM method achieved accuracies of 96% and 94.6% on the public 89 and 130 image databases.

Acharya et al.,[10], also used SVM method achieved sensitivity of 82%, specificity of 86% and accuracy of 85.9%. These methods were performed on relatively lower real-time applications when compared to CNN.

R.Geetha Ramani et al.,[13] they proposed Decision Tree Algorithm and Random Tree Algorithm achieved accuracy of both the classifier is as follows: For Decision Tree 72.5% accuracy and Random Tree 65% accuracy.

Alex Krizhevsky et al.,[20] , have proposed AlexNet achieved a training accuracy of 72.9%.

GoogLeNet higher training accuracy than validation accuracy (74.2% vs. 41.7%).

C.JayaKumari, R.Maruthi (2012)[14], It achieves classification result is 93 % sensitivity and 100% specificity.

Error Analysis term used to misclassified images when compared to correctly classified images.

On the other hand, many researches use the area under the Receiver Operating Characteristic (ROC): ROC curve is a non-linear function between TPR and FPR values. Optimal area under ROC is one for an optimal performance.

Conclusion

Various types of classifier and its implementation are tested for the automated diagnosis of diabetic retinopathy from the features extracted. Implementation analysis of various classifiers is done in terms of sensitivity, specificity analysis. There are various detection algorithms that have previously been developed and proposed which perform

satisfactorily. This survey paper can act as a resource for the future researchers focused in automated detection of abnormal signs of diabetic retinopathy and assist them to receive an overview of this field in order to develop more efficient algorithms.

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Edge Computing and its Revelation

Parvathi Devi B

Department of Computer Applications
Sri Sarada College for Women, Tirunelveli – 627011
Email: parvathikeerthi82@gmail.com

***Abstract:** Cloud computing is a technology which provides a simple way to access servers, storage, databases and a broad set of application services over the Internet. But the Edge computing is a method of optimizing cloud computing systems by performing data processing at the edge of the network, near the source of the data.[1] This reduces the communications bandwidth needed between sensors and the central datacenter by performing analytics and knowledge generation at or near the source of the data. Edge computing covers a wide range of technologies including wireless sensor networks, mobile data acquisition, mobile signature analysis, cooperative distributed peer-to-peer ad hoc networking.[2] In this paper I present several services in the field of edge computing, and I hope this paper will gain attention from the community and inspire more research in this direction*

***Keywords:** Mobile Edge Computing, Fog Computing, Mobile Data Acquisition, Mobile Signature Analysis, P ad hoc networking.*

Introduction

Edge computing refers to the enabling technologies allowing computation to be performed at the edge of the network, on downstream data on behalf of cloud services and upstream data on behalf of IoT services. It pushes applications, data and computing power (services) away from centralized points to the logical extremes of a network. There are two emerging architectures that will define the edge compute paradigm: Mobile Edge Computing (MEC), and Fog Computing.

Mobile Edge Computing (MEC) is a network architecture concept that enables cloud computing capabilities and an IT service environment at the edge of the cellular network.[3,4] The basic idea behind MEC is that by running applications and performing related processing tasks closer to the cellular customer, network congestion is reduced and applications perform better. MEC technology is designed to be implemented at the cellular base stations, and enables flexible and rapid deployment of new applications and services for customers.

Fog computing, also known as fog networking or fogging, is a decentralized computing infrastructure in which data, compute, storage and applications are distributed in the most logical, efficient place between the data source and the cloud[5].

Advantages of Edge Computing

- Edge application services significantly decrease the volumes of data that must be moved, the consequent traffic, and the distance the data must travel, thereby reducing transmission costs, shrinking latency, and improving quality of service (QoS)[6].

- Edge computing eliminates, or at least de-emphasizes, the core computing environment, limiting or removing a major bottleneck and a potential point of failure.
- The ability to "virtualize" (i.e., logically group CPU capabilities on an as-needed, real-time basis) extends scalability[7].

Now we move on to some of the visions related to Edge computing

Revelations

A) Online Shopping

The first application that could benefit from edge computing is online shopping services. A customer may manipulate the shopping cart frequently. By default, all these changes on his/her shopping cart will be done in the cloud, and then the new shopping cart view is updated on the customer's device. This process may take a long time depending on network speed and the load level of servers[8]. It could be even longer for mobile devices due to the relatively low bandwidth of a mobile network. As shopping with mobile devices is becoming more and more popular, it is important to improve the user experience, especially latency related. In such a scenario, if the shopping cart updating is offloaded from cloud servers to edge nodes, the latency will be dramatically reduced. As we mentioned, the users' shopping cart data and related operations (e.g., add an item, update an item, delete an item) both can be cached at the edge node.

B) Video Analytics

Here we see an example of finding a lost child in the city. Nowadays, different kinds of cameras are widely deployed in the urban area and in each vehicle. When a child is missing, it is very possible that this child can be captured by a camera. However, the data from the camera will usually not be uploaded to the cloud because of privacy issues or traffic cost, which makes it extremely difficult to leverage the wide area camera data. Even if the data is accessible on the cloud, uploading and searching a huge quantity of data could take a long time, which is not tolerable for searching a missing child. With the edge computing paradigm, the request of searching a child can be generated from the cloud and pushed to all the things in a target area. Each thing, for example, a smart phone, can perform the request and search its local camera data and only report the result back to the cloud. In this paradigm, it is possible to leverage the data and computing power on every thing and get the result much faster compared with solitary cloud computing[9].

C) Smart Home

Edge computing is considered perfect for building a smart home: with an edge gateway running a specialized edge operating system (edgeOS) in the home, the things can be connected and managed easily in the home, the data can be processed locally to release the burdens for Internet bandwidth, and the service can also be deployed on the edgeOS for better management and delivery[10].

Challenges

In this section, we will further summarize some challenges In edge computing technology.

A) Programmability

In the edge computing, computation is offloaded from the cloud, and the edge nodes are most likely heterogeneous platforms[11]. In this case, the runtime of these nodes differ from each other, and the programmer faces huge difficulties to write an application that may be deployed in the edge computing paradigm.

B) Naming

The naming scheme in edge computing is very important for programing, addressing, things identification, and data communication[12]. However, an efficient naming mechanism for the edge computing paradigm has not been built and standardized yet. Edge practitioners usually needs to learn various communication and network protocols in order to communicate with the heterogeneous things in their system.

C. Data Abstraction

Various applications can run on the edgeOS consuming data or providing service by communicating through the air position indicators from the service management layer. Data abstraction has been well discussed and researched in the wireless sensor network and cloud computing paradigm. However, in edge computing, this issue becomes more challenging. With IoT, there would be a huge number of data generators in the network[13].

Conclusion

Nowadays, more and more services are pushed from the cloud to the edge of the network because processing data at the edge can ensure shorter response time and better reliability. Moreover, bandwidth could also be saved if a larger portion of data could be handled at the edge rather than uploaded to the cloud. In this paper, I came up with understanding of edge computing, with the rationale that computing should happen at the proximity of data sources. Then we list several cases whereby edge computing could flourish from cloud offloading to a smart environment such as home. At last this paper list some challenges in edge computing technology. I hope this paper will give more ideas in Edge computing.

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Online Marketing- A Review

Esakkiammal D* and Malarvizhi M**

Department of Commerce

Sri Sarada College for Women, Tirunelveli-627011

Email: * esakkiammal93@gmail.com, ** ravimalar1959@gmail.com

***Abstract:** In the past few years, the internet and e-commerce business activities have become one of the fastest growing technologies that playing a significant role in the daily life of human being. Today, E- marketing is one of the most emerging technologies in IT and E-Commerce sector. E-marketing is also referred to as Internet marketing (IM), online marketing or web-marketing, means using the internet to market and sell goods and services. E- Marketing helps to find out the right audience to whom goods and services are to be provided by the business organizations. It consists of all processes and activities with the purposes of attracting, finding, winning and retaining customers. The scope of E- Marketing is deemed to be broad in scope it does not only use to promote marketing over the internet but also helps in marketing as well through e-mail and wireless media. Here we analyzed to find out the opportunities and challenges of Internet marketing in India.*

***Keywords:** Online Marketing, E-Marketing, Consumers, Technology*

Introduction

Due to globalization, not only nations are coming closer to each other but also different sector undergoes into significant changes. And marketing sector is also affected by this and experiencing so many changes continuously. To sell our product through internet or digital media is known as E- marketing. Types and size of business organization affects marketing traditionally but in today's scenario, digital technology is a valuable addition. E- Marketing is also known as web marketing and online marketing. E- Marketing helps to find out the right audience to whom goods and services are to be provided by the business organizations. It consists of all processes and activities with the purposes of attracting, finding, winning and retaining customers[1]. Creative use of internet technology is made by using various multimedia, text, graphics etc. with different languages to create catchy advertisements, forms, e-shop where product can be promoted, viewed and sold. The scope of E- Marketing is deemed to be broad in scope it does not only use to promote marketing over the internet but also helps in marketing as well through e-mail and wireless media. E-marketing also joins technical and creative aspects of the Internet, including: development, design, advertisement and sales. Use of websites are made by e-marketing in combination with online promotional techniques such as social medial marketing, search marketing (SEM), interactive online ads, e-mail marketing, online directories, viral marketing, affiliate marketing and so on.

Online marketing uses internet to deliver promotional marketing messages to consumers. It includes email marketing, search engine marketing, social media marketing, many types of display advertising (including web banner advertising), and mobile advertising. Like other advertising media, online advertising frequently involves

both a publisher, who integrates advertisements into its online content, and an advertiser, who provides the advertisements to be displayed on the publisher's content. Other potential participants include advertising agencies that help generate and place the ad copy, an ad server who technologically delivers the ad and tracks statistics, and advertising affiliates who do independent promotional work for the advertiser.

Objectives

1. To review the present status of Online Marketing.
2. To study importance of e-Marketing.
3. To study the different type of e- Marketing.
4. To study the advances and disadvantages of e- Marketing.

Below are some of the reasons why it is absolutely important for any business to invest in online marketing for their brands.

Cost effective

IM (internet marketing) is one of the best cost effective ways of advertising because marketing products on the internet is less expensive in comparison to physical marketing due to short chain of middlemen in online marketing as well as less expenses on the physical outlet of the showrooms and the use of marketing articles or social media in establishing an online presence is minimal and you don't have to incur cost of rental property and its maintenance because you will not have to purchase stocks in bulk for display in a store[2].

Convenient

Internet marketing enables to provide 24*7 services without worrying about the opening and closing hours of a physical store. It's also convenient for your customers because they can browse your online store at any time and from any place worldwide and place their orders at their own convenient time.

Increase website traffic

The use of articles or social media as a marketing strategy will help to increase traffic to a business website. The more people visiting the site the more likelihood to closing with more sells and generating more interests of people in the products.

One-to-one Marketing

Internet marketing overcomes barriers of distance is overcome by internet marketing because you can sell goods in any parts of the world without setting up a local outlet over there, thus the scope of target market becomes very wide. However if you want to sell the product or services internationally you will have to use localization services to ensure that your products are suitable for local markets and comply with local business rules and regulations. Localization of services includes translation and product modification which reflect the differences in local market [3].

Improves customer seller relationship

Better platform to build relationships with customers to increase customer retention level is provided by internet. For example when a customer has purchased a product, first step to begin the relationship by sending a follow up e-mail to confirm the transaction and then thank the customer. You can also invite the potential customers to give product reviews on your website regarding the existing product and this will help to build a sense of community.

Personalization

By building a profile of their purchasing history and preferences, internet marketing will help a business to personalize offers for customers. You can do this by tracking the product information and web pages that helps to prospect, visit and make targeted offers which reflect their interests[4]

Increases sales

Internet marketing will increase your sales because it provides the consumers opportunity to purchase the products online rather than physically going to a place or sending an order form by mail. This will increase the impulse rate of purchasing power resulting in an increase of revenue for business organizations and an excellent return on their investments.

Always available to consumers

Using internet marketing techniques businesses can give their consumers a 24 hour outlet for finding the products they want; in physical outlets shopping is done in only normal working hours which impact the work schedule and lifestyle of the customers.

Better conversion rate

If you have a website of your business organization, then your customers are only few clicks away from completing a purchase from your website. Unlike other media, e-marketing is seamless, which require people to get up and make a phone call, post a letter or go to a shop.

Types of Internet Marketing

Search Engine Optimizer

Search engine optimizer or SEO for short, is possible for popular search engine to index a website and boost it up to the top of the result page.

- He should revise the structure of website, WebPages or blog.
- He should correct the errors.

- He should develop his own content.
- He should manage online campaign.

Social Media Marketing

Social media marketing (SMM) is the process of gaining website traffic or attention through social media sites. The goal of SMM is to produce content that users will share with their social network to help a company increase brand exposure and broaden customer reach. The use of social media services to garner attention and website traffic is gaining just as much popularity as the networks themselves.

- Listening: Know when to engage
- Sharing: Turn your buyers into salesmen
- Measuring: Track ROI in social

Blog Marketing:

Blog marketing is any process that publicizes or advertises a website, business, brand or service via the medium of blogs. This includes,

- To raise the visibility of our company.
- To increase the sale growth and profit
- To make a contribution to our industry.
- To give the public a look at what goes on within a real live publishing company about the feature of their upcoming products

Pay per Click Advertising PPC:

Stands for *pay-per-click*, a model of internet marketing in which advertisers pay a fee each time one of their ads is clicked. Essentially, it's a way of buying visits to your site, rather than attempting to —earn those visits organically.

- It based on advertisers' keyword list to show relevant content to the user.
- Using Pay per Click is the quick measurement of success.
- It creates a highly targeted audience to attract visitors.

E-mail Marketing:

Email marketing is a way to reach consumers directly via electronic mail[5]. Unlike spam, direct email marketing reaches those interested in your business' area of expertise. It includes,

- It's the easy, effective, and affordable way to keep your customer coming back
- It should be professional to attract
- About new product
- Promoting their products by wishing special events
- While giving feedback they put information about their product too
- Save paper and postage.

Networking

A business model in which a distributor network is needed to build the business. Usually such businesses are also multilevel marketing in nature in that payouts occur at more than one level. The advantages of network marketing include:

- Flexibility of time
- More Freedom
- High chances at success
- Free Training
- Easy Business plan
- Work at Home

Advantages of Online Marketing:

One of the most important advantages is the fast availability of the information. The clients/users can easily get information, by navigating the internet, about the products that they wish to purchase, and besides that, they can check the information at anytime of the day.

i. It allows the companies to save money, an aspect that is really taken into account by the companies since the online marketing campaigns don't require a large amount of investment.

ii. The previous mentioned aspect, gives less importance to the differences between large and small companies in some way, thus increasing the competition and giving that way advantages to the customers.

iii. Presence on the Internet can help the expansion of the company from a local market to national and international markets at the same time, offering almost infinite expanding possibilities.

iv. On the internet everything can be measured, thus it's easier for the companies to know almost instantly if their campaign is working or not, what company or user is interested in their products, from what cities or countries are they, etc.

Disadvantages of Online Marketing

i. Slow internet connections can cause difficulties. If the companies build too complex or too large websites, it will take too long for users to check them or download them and they will get bored eventually.

ii. The e-commerce doesn't allow the user "to touch" the merchandise before purchasing it. Because of this, some salesmen are starting to guarantee the possibility of returning the product. In Germany, where a law that regulates e-commerce and guarantees the customers the total refund of the money exists since 2000, the electronic commerce is very popular.

iii. Other factor is the payment: many users still don't trust in the electronic methods of paying and give up buying online because of this.

iv. One of the major disadvantages may be the lack of trust of the users because of the constant virtual promotions that appear to be frauds. This is an aspect that deteriorates the image and reputation of quality and honest companies.

v. Other disadvantage is the cash on delivery system, since it doesn't guarantee the 100% purchase of the product. This is also the case of thousands of users that dedicate themselves to daily mock big companies by ordering on the internet using false identities.

Conclusion

E-marketing also offers businesses the opportunity to garner data about their consumer based to an extent that has till now been very difficult to achieve via traditional marketing methods. The development of internet marketing and social media advertising has led to examples of businesses in recent years that upper to little more than categories and filter information relating to products and services on the Internet, taking a small cut from any transaction that may occur as a result. In the next few years, online marketing in India will strengthen even further. However, long-standing sustainability directly depends on factors like changes in the market, innovations end interactivity by market players. Owing to increased penetration of credit cards and easy access of computing witnessed a promising growth. Moreover, bargain-hunting consumers are latching on this trend as Internet retailers are known to offer products at special discounted prices compared to store-based retailers. Consumers in the country can now truly expect a well streamlined, efficient and world-class shopping experience supported by the best technology.

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A Study on Innovation in Waste Management in Tirunelveli District

Supriya B* and Muthulakshmi R**

Department of Commerce, Sri Sarada College for Women,
Tirunelveli-627011

Email: * supriyabalraj93@gmail.com, ** muthulakshmisarada@gmail.com

Abstract: *This paper explores whether there are discernible differences in the environment innovation and performance of chemical firms that can be explained by differences in the management practices and characteristics of the firms. Using data from a firm visits, and phone interviews, this research assesses the pervasiveness of the adoption of environmental management practices. It also assesses whether the adoption of these practices is related to leadership in environmental innovation and performance. This paper shows high levels of adoption of several practices for improving environmental innovation and performance. Firms are using practices such as total quality management, certification of suppliers, R&D, and the involvement of employees in innovation and training to integrate environmental management with their production systems. In addition, firms with the highest adoption levels of environmental practices have substituted cleaner materials and changed their production processes for cleaner production, and they are leaders in reducing their generation of chemical waste. Hence the study was made in the tirunelveli area and 80 respondents were randomly selected for the study.*

Keywords: *Environmental management systems, Innovation, Performance, Chemical industry*

Introduction

Global systems of production and consumption continue to impose considerable consequences on the environment and public health. Most of the used natural resources return to the environment in the form of waste, which in most cases is toxic and unsuitable for recycling [1]. Waste is a global issue and if not properly dealt with, waste poses a serious threat not only to the biosphere, but also to public health. It is a growing issue linked directly to the way society produces and consumes. Meanwhile, global trends such as population growth, urbanization and the emerging 'consumer middle class' in many developing countries are expected to drive steady growth in global competition for resources in coming decades. The problem is further exacerbated by the consequences of the enhanced technological progress which leads to generation of more waste products which do not dissolve. Addressing these challenges will require fundamental changes in global systems of resource use and economic growth. That is why one of the pressing issues for developing countries will be a shift away from a linear model of resource consumption towards a circular economy where nothing is wasted. Proper waste management is one of the most important contributions humanity can make to reducing its impact on the natural world. Environmental sustainability is the core issue that will need to be addressed for development to focus on human wellbeing and yet stay

within the limitations of planet's capacity. Environmentally sound waste management is one of the key elements for sustainable development [2].

Objectives

1. To analysis of recovered materials through recycling.
2. To explain digestate - an organic fertiliser and soil improver
3. To study on Carbon credits – additional revenues
4. High calorific fraction refuse derived fuel - Renewable fuel content dependent upon biological component
5. Residual unusable materials prepared for their final safe treatment.

Scope

Researchers and Scientific experts of Advances in recycling discipline are encouraged to publish innovative ideas in Open Peer-Review Journals. Advances in recycling Journals broadly covers Solid waste recycling, organic waste recycling, waste water recycling, agricultural waste recycling, sustainable production and consumption patterns, Innovation processes, valorizing waste, Material flow analysis, Life cycle assessment and management of resources etc. Advances in recycling Impact Factor Journals allows quick publication and open discussion will enhance the clarity and information dissemination of a specific topic[3]. The rapid and editorial bias free publishing system will aid the readers to access and disseminate knowledge for the betterment of the scientific society.

Method of data collection

This study is based upon the analysis of two types of data sources available data collection i.e.

1. Primary data was collected from 80 respondents about waste management from in Tirunelveli district and the tools like percentage analysis and rank were used to analysis the data which is collected from the respondents.
2. Then secondary data from many articles and journals related to competiveness in Human resource management and from the websites related to the same.

Analysis of Data

Table-1

Gender	No of Respondent	Percentage
Male	50	62.5
Female	30	37.5
Total	80	100
Age wise		
Below 25 years	25	31.25
25-35 years	20	25
35-45 years	18	22.5
45-55 years	15	18.75
Above 55 years	2	2.5
Total	80	100
Monthly income		
Below Rs 25000	15	18.75
Rs 25000-35000	20	25
Rs 35000-45000	20	25
Above Rs 45000	25	31.25
Total	80	100
Educational Qualification		
Hsc	10	12.5
Graduate	15	18.75
Post Graduate	20	25
Professionals	25	31.25
Others	10	12.5
Total	80	100

Source: Primary data

Table 1 shows that out of 80 respondents 62.5 percentage of the respondents are male, Next 31.25 percentage of the respondents are under below 25 years, Next 31.25 percentage of the respondents are under monthly income of Above Rs 45000. Next 31.25 percentage of the respondents are professionals.

Table-2: Ranking of waste management

Particulars	Total	Mean score	Rank
Recycling	365	73	1
Raw materials	275	55	4
Fertilizer	330	66	2
Products goods	313	62.6	3

Source: Primary data

Table-2 shows that updating treatment of recycling ranked first score 365 , next lack of treatment of fertilizer second score 330, next treatment of Products goods ranked third score 313, next treatment of raw materials ranked fourth score 275.

Findings

The findings of the present revealed the following

- The majority of the respondents are male.
- The majority of the respondents were laid on between Above Rs 25000 monthly income.
- The majority of the respondents are under the age group of Below 25 years.
- The majority of the respondents are professionals.
- The majority of the respondents says that raw materials is more information overload.

Suggestions

- It should be ensured that all states have verbatim same provisions for rates, levy, administration and procedures. Only negative list or exemptions may vary based on regional issues.
- A large number of compliances / returns / reconciliations are proposed. This will only burden all stakeholders; will make waste inefficient and a regressive tax. Cost of compliance will be major issue which may take away the benefits of waste management.
- Smooth, transparent and simple transition provisions are needed rather than revenue centric provisions.
- Refund of any credit balance other than for exports is not allowed. This should be allowed subject to safeguards / limitations.
- Special focus on awareness and training of all-officers, professionals and assesseees is required including making available literature on waste available in different languages.

Conclusion

This trend is typical for the developed countries where the waste management process is increasingly open, democratic, and covered by the media. State agencies and local authorities present plans and forecasts in this sphere, inform the society about events, run active campaigns promoting waste minimization, encourage the population to have social responsibility for waste disposal and treatment, express the public opinion, and conduct effective exchange of information between the authorities and the civil society. Using waste management as a way to combat GHG and climate change is one of the most innovative and common-sense concepts in waste today. The role that the waste industry can play in helping to avert climate change must not be underestimated. Given the correct legislation to work to the technologies which are already making great leaps in this area will show how much good they can really do. Although the costs of implementing these processes is often seen as prohibitive, the cost to the planet and the resulting financial cost of dealing with this, make all of these moves more than worthwhile.

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Work Life Balance of Women in Various Phases – An Exploration with Cognitive Content in the Recent Era

Rajalakshmi V

Department of Business Administration
Sri Sarada College for Women, Tirunelveli-627011
EmailId:- rala2020@gmail.com

***Abstract:** Managing work life balance has become an issue for both the employees and HR departments since work life balance tensions may reduce performance, overall job satisfaction and finally increase the turnover rate. Having a balance between family and work is a biggest challenge for the professional people. The role of working women has changed throughout the world due to economic conditions and social demands. This has resulted in a scenario in which working women have tremendous pressure to develop a career. The ever-increasing work pressure is taking a toll on the working women leaving them with less time for themselves. This affects the person's physical, emotional and social well-being. Thus, achieving work life balance is a necessity for working women to have a good quality of life. This paper is an attempt to explore the phases of women and tough challenges faced by working women in maintaining a balance between their personal and professional life.*

***Keywords:** Work- Life Balance, Working Women balance between Personal Life & Professional Life.*

Introduction

“Women are the real architects of society”

This paper is an attempt to explore the phases of women and tough challenges faced by working women in maintaining a balance between their personal and professional life. As it the cognitive content let us proceed with the definition given by the business dictionary and discuss about various process involved in it.

Definition of Cognitive: Psychological processes involved in acquisition and understanding of knowledge, formation of beliefs and attitudes, and decision making and problem solving. They are distinct from emotional and volitional processes involved in wanting and intending. Cognitive capacity is measured generally with intelligence quotient (IQ) tests[1].

Women are multi-taskers by nature and enfold tasks within tasks. Women have 5 stages in her life cycle. They are

1. Preadolescence (0 to12 years)
2. Adolescence (13years to 18 years)
3. Young Adult (18 years to 35 years)
4. Adult (36 years to 55 years)
5. Mature Adult. (Above 55 years)

Preadolescence, also known as pre-teen or teen, is a stage of human development following early childhood and preceding adolescence. It commonly ends with the beginning of puberty, but may also be defined as ending with the start of the teenage years. The following are the various phases of preadolescence stages, they are as follows:

1. Newborn: 0–28 days
2. Baby/Infant : 1–12 months
3. Toddler: 1–3 years
4. Pre-schooler: 3–5 years
5. Primary schooling: 5–12 years

In this stage a girl child within 12 years of age, enjoying her school life. The initial of this stage is termed as infant. The term "infant" is typically applied to young children between one month and one year of age; however, definitions may vary and may include children up to **two years** of age. When a human child learns to walk, the term "toddler" may be used instead.

Learning process takes place in this stage, before going to school or under any of the education system. The toddler started learning from her mother and family. Mother is the first teacher to teach all good things and habits. Pre-schooler means when the kid joins in kinder garden they started mingling with the society. They earn friends and learning the sharing habit. In kinder garden the pre-schooler plays and learning with fun. When they enter in to primary schooling they started learning various subjects. Some teachers become favourite and their subject is favourite to them i.e., if the child likes the science teacher she shows the interest in that subject.

Adolescence (from Latin adolescence, *meaning* 'to grow up') is a transitional stage of physical and psychological development that generally occurs during the period from puberty to legal adulthood (age of majority). ... For example, puberty now typically begins during preadolescence, particularly in females[2].

The Growing Child: (13years to 18 years) the teenage years are also called **adolescence**. An **adolescent** may require special attention as it is the growing stage

The World Health Organization (WHO) defines **adolescents** as those people between 10 and 19 years of **age**.

Stages of Adolescence: they are divided into three stages as follows

1. Early **adolescence** generally ages eleven to fourteen; Characterized by a spurt of growth and the development of secondary sexual characteristics[3].
2. Middle **adolescence**, ages fifteen to seventeen; this stage is distinguished by the development of a separate identity from parents, of new relationships with peer groups and the opposite sex, and of experimentation[4].

3. Late **adolescence**, ages eighteen to twenty-one - At this stage, adolescents have fully developed physical characteristics (similar to adults), and have formed a distinct identity and have well formed opinion and ideas[5].

Young adults are defined as people between 18 to 35 years of age. This group includes people who are

- College students at any institution of higher education.
- Seeking full time employment,
- Working full time.
- Married.
- Not married yet
- Parents.

In this stage the most important events are career, love, relationship, marriage and becoming parents. Let us discuss about career stages as follows:

The **Career Stages** refers to the stages of career development that an individual passes through. Basically, there are 5 career stages, which an individual has to undergo during his lifetime.

Career Stages

1. **Exploration:** The exploration stage is the pre-employment stage, wherein the individuals are in their mid-twenties and enter from their college life to the work environment. The individuals narrow down their work preferences on the basis of the directions had shown by their parents, friends, family, and teachers. At this stage, several expectations about the work are created that may be the fantasies, or unrealistic beliefs about the work, very much before entering into the firm.

2. **Establishment:** At this stage, an individual actually experiences the work culture in his first job. Here, all the expectations and fantasies come to an end, and one has to face the reality of life. This stage covers about 10 years from the 25 years of age. It is also called as a learning stage; wherein the fresher learns under the guidance of a mentor. At this stage, the fresher commits many mistakes and try to learn from these, thereby gaining a position in the society and working for his career advancement.

3. **Mid-Career:** This stage covers the age period of 35 to 45 years. At this stage, the individual is no longer considered to be a fresher and his mistakes are taken seriously by the senior management. Here, the employee must evaluate his current career position, i.e. whether he is advancing, or has stabilized or has started to decline and look for the future career prospects. At this stage, an individual has to maintain a balance between his career and his personal life i.e. spouse and children.

4. **Late-Career:** At this stage, an individual reaches to a particular position in the organization hierarchy, on the basis of his career graph which is characterized by growth or stagnation. If an individual grows even after the mid-career (i.e. 20 years after mid-

forties), then he is considered to be having the pleasant experience with the work. Here, an individual becomes the mentor and guide others through his experiences.

5. **Decline:** This is the last stage of career development. At this stage, an individual has to step out of his work or get a retirement from his official commitments. It is considered as one of the difficult stages, as it is very hard for the employees to leave the firm who are doing excellent even after their late career. Thus, every individual passes through these five stages of career development as they move along their life cycle.

Adult: The people belong to the age group of 35 years to 55years. The term **adult** additionally has meanings associated with social and legal concepts. In contrast to a "minor", a legal **adult** is a person who has attained the age of majority and is therefore regarded as independent...(especially of a young person) having reached a stage of mental or emotional development characteristic of an **adult**. 'A young man **matures** beyond his years'.

It is critical for **work and family** research to fully understand the conditions under which the married **women employees** experience conflict between their roles. ... It is clear from the current study that married **women employees** indeed experience Work Life Conflict while attempting to **balance their work and family lives**.

Women typically suffer workplace-related consequences after having a child, commonly known as the "Motherhood Penalty." Research shows that new moms are perceived to have lower competence and commitment, and they face higher professional expectations and a lower chance of hiring and promotion when compared with men and childless women.

Women are often expected to take care of most of the household work, sometimes to the point where it becomes another "job" on top of the priority. A women's career breaks after having a child to take her of them.

Why Work Life Balance is Important to Women? Today's career women are continually challenged by the demands of full-time work and when the day is done at the office, they carry more of the responsibilities and commitments to home. The majority of women are working 40-45 hours per week and 53% are struggling to achieve work/life balance. Women reported that their lives were a juggling act that included multiple responsibilities at work, heavy meeting schedules, business trips, on top of managing the daily routine responsibilities of life and home. "Successfully achieving work/life balance will ultimately create a more satisfied workforce that contributes to productivity and success in the workplace." Employers can facilitate WLB with many schemes that can attract women employees and satisfy their needs.

Some of these are

- ❖ Facilities for child care
- ❖ Financial planning services for employees who need them

- ❖ Flexi-timings
 - ❖ Work sharing
 - ❖ Part time employment
 - ❖ Leave plans - both paid and unpaid - to suit employee's needs
 - ❖ Subsidized food plans
 - ❖ Insurance plans
 - ❖ Counseling services for problems like managing work and the home
 - ❖ Rest rooms, food preparation services
 - ❖ Jobs with autonomy and flexibility
 - ❖ Realistic workloads
 - ❖ Review of work processes to see if the burden on employees can be lightened
- Maintaining dialogue with the employees and considering their suggestions on a continuous basis.

Top 5 Strategies to Strike a Balance

1. Budget your time both in and out of the office - Schedule your time efficiently at work. Put yourself on your calendar and take some time for you and your family / friends. Leave work on time at least three days per week - There are times when working late just can't be helped, but schedule your time to leave on time three days per week.
2. Control interruptions and distractions - Stay focused while in the office, and budget your time effectively. Try to schedule a block of time during the day without meetings when you can focus on your tasks with minimal interruptions.
3. Explore the availability of flex-time - Research flex-time options within your organization. If available, it may be a helpful solution
4. Seize the weekend - Plan your time off as you plan your work week.
5. Schedule activities with family and friends, a weekend trip, or just something fun. Make your time away from work count!

Conclusion

For working women, getting caught in the work/life balance trap will continue to be an ongoing challenge. Careful planning and personal effort is the advice from those who have found balance in both career and home life. As one respondent summarized, "Plan, prioritize and schedule as efficiently as possible... and don't be afraid of hard work!" Work-life balance is a person's control over the conditions in their workplace. It is accomplished when an individual feels dually satisfied about their personal life and their paid occupation. It mutually benefits the individual, business and society when a person's personal life is balanced with his or her own job. The work-life balance strategy offers a variety of means to reduce stress levels and increase job satisfaction in the employee while enhancing business benefits for the employer. In our increasingly hectic world, the work-life strategy seeks to find a balance between work and play. A sentence that brings the idea of work life balance to the point is: "Work to live. Don't live to work."

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Student's Attitude towards Accessing Website – A Study

Uma Kamalavathi M

Sri Sarada College of Physical Education for Women, Salem-636016

Email: mduma@ymail.com

***Abstract:** The purpose of the study was to find out the student's attitude towards accessing website. To achieve the purpose of the study 200 post graduate students in physical education were selected as participants from the physical education institutions in Tamil Nadu, India. The age of the subjects were ranged from 18-25 years. Website is selected as criterion variable. Motive factors such as entertainment, information and social interaction were selected as independent variables for this study. The data collected on the selected criterion variable by using the survey questionnaire which was developed by Taesoo Ahn during the year 2010. Pearson, Multiple Correlation and Multiple Regression was used to find out the motive factors such as entertainment, information and social interaction which contribute or closely related to the attitude towards access website. The level of confidence was fixed at .05 levels. It was concluded that, there was a positive attitude of students towards accessing of website. Moreover, significant relationship was found between attitude toward access website and motive dimensions such as entertainment, information and social interaction*

***Keywords:** Attitudes, Entertainment, Information, Social Interaction*

Introduction

The expansion in media capacity has brought with it range of problems that sports and media organizations have had to resolve. The relationship between media and sport has become of particular interest to media scholars over the last decade. However, as sport itself has been of interest in a variety of other disciplines, the study of the ways in which media and sport interact crosses boundaries and can be found in literature concerned with the sociology of sport, history of sport, gender studies, cultural studies, journalism, leisure studies and beyond (Rafaeli, 1988). [1]

The Internet has undoubtedly had a dramatic impact on the environment in which the sports-Media industry now operates. Throughout the late 1990s sports organizations and clubs developed websites to provide corporate information, breaking news and e-commerce (predominantly the sale of merchandise) to sports fans. It is no exaggeration to suggest that all major spectator sports now have a presence on the internet in some shape or form.[2] The degree of engagement with new media clearly varies, but there is general consensus among sports organizations that the internet presents a range of new possibilities for communicating with various publics (Rubin, 2002).

Statement of the Problem

The purpose of this paper was to find out the student's attitude towards accessing website.

Methodology

The purpose of the study was to find out the student's attitude towards accessing website. To achieve the purpose of the study 200 post graduate students in physical education were selected as participants from the physical education institutions in Tamil Nadu, India. The age of the subjects were ranged from 18-25 years. Website is selected as criterion variable. Motive factors such as entertainment, information and social interaction were selected as independent variables for this study. The data collected on the selected criterion variable by using the survey questionnaire which was developed by Taesoo Ahn during the year 2010.[3] Pearson, Multiple Correlation and Multiple Regression was used to find out the motive factors such as entertainment, information and social interaction which contribute or closely related to the attitude towards access website. The level of confidence was fixed at .05 levels.

Analysis and Interpretations of Data

The data on motive dimensions and attitude towards access website of 200 respondents were analysed and presented in table I and II. The correlation between motive dimensions and attitude toward access website were graphically represented in figure I.

Table I: Pearson Product Moment and Multiple Correlation between Motive Dimensions and Attitude Towards Access Website

Dependent Variable	Independent Variables	Pearson r_{12} value	R-Value
1. Attitude toward accessing website	2. Entertainment	0.55*	0.867*
	3. Information	0.69*	
	4. Social Interaction	0.56*	

*Significant at 0.05 level with df 398 is 0.141.

It is evident from the table that there was a significant relationship between attitude toward accessing website and motive dimensions such as entertainment, information and social interaction separately. [4]Multiple regression was computed only if the multiple correlation is sufficiently high to warrant prediction from it. Then, the correlation identifies the independent variables to be included and their order in the regression

Figure I: Correlation between Motive Dimensions and Attitude Towards Accessing Website

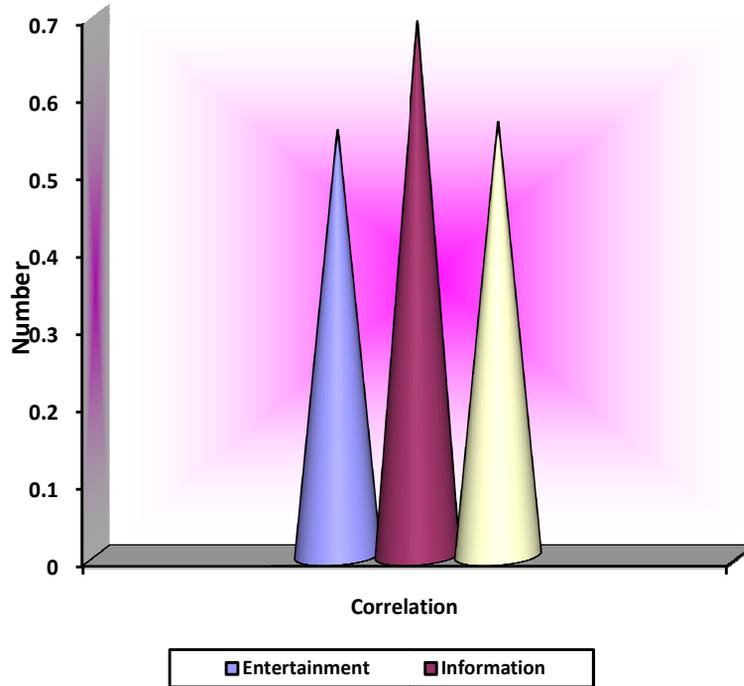


Table II: Multiple Correlation Coefficient for the Predictors of Attitude towards Access Website

S. No	Variables (Forward Selection)	R	R Square	R Square Change
1	Information	0.725	0.525	0.456
2	Information & Entertainment	0.762	0.656	0.131
3	Information, Entertainment & Social Interaction	0.867	0.751	0.094

From the table II, it was found that the multiple correlation coefficient for predictors such as information, entertainment and social interaction is 0.867 which produce highest multiple correlation with attitude towards access website. R square values showed that the percentage of contribution of predictors to the attitude towards access website (dependent variable) in the following order.

About 75% of the variation in the attitude towards access website was explained by the regression model with three predictors such as information, entertainment & social interaction.

Discussion on Findings

The findings of the present study were supported by the following research findings. Papacharissi and Rubin et al have also reported that the people may have positive attitude towards website. Carolyn Lin (2002) and Flanagin et al (2001) also observed the similar findings in their study. [5]

The conceptualization of media accessing received considerable confirming evidence. As was the case for Charney and Greenberg (2001), defining Information seeking and social interaction were considerable additional variance in usage beyond outcome expectations, indicating the value of adding these concepts to models of Internet usage.[6]

Interpersonal utility, convenience, information seeking, entertainment, and to pass time are motives for access website found by Papacharissi and Rubin (2000).

Other researchers have found that motives for interpersonal mediated communication have included persuasion, social bonding, relationship maintenance, and problem solving (Flanagin & Metzger, 2001).

In interpersonal communication, many of the students were the followers of international familiar players. Hence, Social bonding may also serve as a functional alternative to mass communication channels and vice versa (Papacharissi & Rubin, 2000).[7]

Hence it is concluded from the result of the study and also inferred from the above literature cited, students having the positive attitude towards access website.

Conclusion

There was a positive attitude of students towards accessing of website. Significant relationship was found between attitude toward access website and motive dimensions such as entertainment, information and social interaction. The multiple regression revealed that all selected motivations: entertainment, information and social interaction are significantly related with attitude toward access website. The R² was .75, indicating that the selected factors explained 75% of the total variance of attitude toward access website. Hence, all selected factors are significantly related to attitude toward access website.

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Skill Development for Library and Information Science Professionals in Digital Era-An overview

Gomathy S

Librarian, Sri Sarada College For Women, Tirunelveli-627011

Email: gomathy190365@gmail.com

***Abstract:** Profession in library Information Science is one of the most challenging professions in the society. Now a days librarians are facing problems in the context of information, communication technology . Librarian is responsible for providing library information services and maintains the library collections to create knowledge based or information based society. This paper explain the professional skill and technology skill which are necessary for the library professionals in the ever changing technological environment and also meet the future challenges of the 21st century..*

***Keywords:** communication technology, knowledge, skill, information*

Introduction

Due to technological development information explosion are in many ways. Information plays a vital role in an every aspect of human life. First libraries considered as a store house of information and motto of the library is 'to provide information to the right person at the right time'. Now a days the library environment has changed considerably in terms of collection ,organisation and services. Now e.resources have occupied in the library collection. The transaction of library materials are fully automated and web based services are offered by libraries. This changes are mainly due to technology development. The role of librarians and information professionals has been strongly influenced by these changes.

Library Professional in E-Library Environment

Technology development has brought a revolutionary in organisation and management of information. Now libraries are entering into the era. The role of library and information science professionals is adapting to the changing technologies and customer expectations. Librarians are not only to provide the traditional library and information services but also to deliver online information services.

Challenges for Library and Information Service Professionals

In a rapid changing, digital information environment libraries are facing a variety of Complex challenges from multiple sector of the knowledge society in the 21st century.

The major challenges are :

- Information explosion
- Information and communication Technology Revolution
- Explosive growth and usage of web resources.
- Technology applications in library operation and services

- Paper based resources to digital based resources
- Shift from acquisition to accessing the resources.

The following are the some important items of new technologies on which library information science professionals need to seriously think about improving their competencies for their effective utilization deliver to need based quality information service to the user community.

ICT Trends

- Metadata Standards
- Web technology
- Search technology
- Digital information resources
- Subject gateways
- Information portal
- E-learning
- Online information services

Skills required for Librarians

Skill is required for librarian to plan and perform an action designed to achieve the goals. some of the skills required for the staff [1].

- Technology skill
- Professional skill
- Management skill
- Information and communication technology skill
- Understanding customer need skill
- Communication skill
- Marketing skill
- Presentation skill
- Time management skill

Technology Skill

It means skill required to handle information technology and other fields such as computer operation, media, creation and developing of online databases, designing of searching information resources from the internet etc ., by this the librarian handle IT and its application in the library environment.

Professional Skill

It means to adequate knowledge about searching process, search techniques, search engines and search technology. Librarian should be able to find and evaluate the information resources according to their user needs and he should be expert in searching of OPAC and web sources[3]

Management Skill

Management skill include technical skill, human skill and conceptual skill. The technical skill involves process or technique knowledge and proficiency in certain specialized field. Librarian understanding the nature of the job that people under him have to perform. Human skill involve the ability to interact effectively with people. Conceptual skill involve the formulation of ideas, conceptualization about abstract and complex situation levels.

Information and Communication Technology Skill

Information professional adapt the skills and practices in order to gain an awareness of technological advances. Librarian has capable of using and demonstrating information communication technology. There is a need for training to enhance the traditional skill knowledge base with a competency in ICT use.

Understanding Customer Need Skill

Customers gain maximum benefit from a service, they must know how to use it. so, properly planned user education is a must for an academic library. support systems should reflect customers priorities. Questionnaire given to the regular customers to get feedback from them for improving services.

Communication Skill

Proper communication skill is very important to the library professionals. Librarian act as a mediator between the user and information resources or information providers[2].

Marketing Skill

Marketing of information product and services is an integral part of administration especially as a means for improving user satisfaction and promoting the use of services by current and potential user. Three main factors namely information explosion, technology revolution and escalation cost are responsible for encouraging the library profession to develop marketing approach in its operations and services.

Presentation Skill

It is a formal method for bringing people together to plan, monitor and review its progress. It helps to promote the reading habit among all the level of user. It increases awareness of the role of libraries and librarians in promoting information literacy.

Time Management Skill

As a fourth law of library science is 'save or the time of the users' it is essential skill for the librarian. Time is most important factor to provide better or effective service to the user. Librarians need to handle the tasks and assignment in a timely manner.

Steps can be adopted for Skill Enhancement of Library Professionals

1. Introduce skill based curriculum providing of more provision of specialization.
2. Updating the syllabus and the facility of well equipped computer laboratory to cop up with the frequently changed technological environment are highly necessary.
3. Short term courses for skill enhancement of library worker
4. Different seminars, workshops conferences should be organised by different organization opportunity should be made for participating in such seminar.

Conclusion

Technologies will come and go .change is inevitable . But if librarians can adapt embrace change, can easily learn technologies, can keep up with the changes in the profession .Along With the working skills the library professionals should have the positive attitude to work for the benefit of institutions for achieving the goals.

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இருபதாம் நூற்றாண்டுக் கவிதைகளில்- பெண்ணியம்

ஜெயலெட்சுமி.மு

பகுதிநேரம் -முனைவர் பட்ட ஆய்வாளர்
மனோன்மணியம் சுந்தரனார் பல்கலைக்கழகம்,

திருநெல்வேலி 627012 -

எஸ்.வஜ்ரவேல்

கல்வி இயல் மேம்பாட்டு நிறுவனம்(IASE)

சென்னை -600015-

முன்னுரை :

பல்வேறு செயல்பாடுகளையும் பரிமாணங்களையும் கொண்டவற்றை ஒரு குறிப்பிட்ட வடிவிற்குள்ளோ வரையறைக்குள்ளோ கொண்டு வர இயலாது .இது கவிதைக்கும் பெண்ணுரிமைக்கும் பொதுவான பண்பாகும் .

'கவிதை அவ்வப்போது மனித உணர்வில் புரட்சிகளை ஏற்படுத்துகிறது. கவிதை தொன்று தொட்டு வரும் மதிப்பீடுகளை உடைத்தெறிகிறது. கவிதை புத்தம் புதிதான உலகைக் காணுமாறு மக்களைச் செய்துவிடுகிறது.

- தமிழ்ப்புதுக்கவிதை) ஒரு திறனாய்வு- முரைனுன் ,
ஞானி (XXVII-V.பக்)

எனும் கூற்றுக்கேற்ப கவிதை அவ்வக்காலப் புதுமைக் கருத்துக்களைக் கூறி மக்களை விழிப்படையச் செய்கிறது. அத்தகு கவிதை இயற்றும் கவிஞனைச் சமகால நிகழ்வுகளே பெரிதும் பாதிக்கின்றன.

தமிழ்க் கவிஞர்களில் பெண் விடுதலையை முன்னெடுத்துச் சென்ற முன்னோடிகளில் பாரதி குறிப்பிடத்தக்கவராவார். அவர் பாடிய இருநூற்று முப்பத்து மூன்று தலைப்புகளில் மூன்றில் ஒரு பங்கு என்றளவில் ஏறத்தாழ எழுபத்திரண்டு தலைப்புகளில் பெண்மை, பெண்விடுதலை என்ற அடிப்படையில் கவிதைகளைப் படைத்துச் சென்றுள்ளார். இவ்வகையில் பத்தொன்பதாம் நூற்றாண்டின்

பிற்பகுதியிலும் இருபதாம் நூற்றாண்டின் முற்பகுதியும் தமிழக வரலாற்றில் முக்கியத்துவம் வாய்ந்த காலங்களாகும் .

**"மாதர் தம்மை இழிவு செய்யும்
மடமையைக் கொளுத்துவோம் "**

- பாரதியார் கவிதைகள்) பாரதியார் பக்(355.

என்று பாரதி தொடங்கி வைத்த பெண் விடுதலைச் சிந்தனை எவ்வாறு பின் வந்த கவிஞர்களால் வளர்த்தெடுத்துச் செல்லப்பட்டது என்பதை வரையறுத்து உணர வேண்டிய தேவை உள்ளது. அதன்வழி அமைந்ததே இக்கட்டுரையாகும்.

நால்வகைப் பண்புகள் :

ஆண்களைப் போன்றே பெண்களும் சமூக உயிரிகளே என்னும் எண்ணப்போக்கு இல்லாத நிலை உள்ளது. எனவே ஆண்களுக்கென்றும், பெண்களுக்கென்றும் தனித்தனியான பண்புநலன்கள் சொல்லப்பட்டன. அவ்வகையில் பெண்களுக்கு

**'அச்சமும் நாணும் மடனும் முந்துறுதல்
நிச்சமும் பெண்பாற்கு உரிய என்ப'**

)தொல்காப்பியம்- பொருளதிகாரம் - களவியல் நூ (96 :

என்று தொல்காப்பியம் கூறுகிறது' .என்ப' என்ற தொடரால், தொல்காப்பிய காலத்துக்கு முன்னரே தொடங்கப்பட்ட கோட்பாடாக இதனைக் கொள்ளலாம் .

மடமை அல்லது பேதமை பெண்களுக்கு அணிகலனாகவும், அடங்கி அஞ்சி நடத்தலே பண்பாட்டை மீறாத்தன்மை என்பதால், இளமை முதல் இத்தகைய குணங்களைப் பழக்கப்படுத்திக் கொள்ள வேண்டும் என்றும் அறிவுறுத்தப்பட்டாள் .

ஆயினும் இரண்டாயிரம் ஆண்டுகால மரபுவழிச் சிந்தனையிலிருந்து மீள முடியாத தமிழ்க்கவிஞர்கள் பலரும் பொறுமை மற்றும் அடங்கிப் போகிற பண்புகளின் குறியீடாக பெண்மையைப் பெண்களிடம் எதிர்பார்க்கின்றனர். அத்தகைய

பண்புகளைப் பெற்றுள்ள பெண்கள் வாழ்கவென வாழ்த்துப்பாவும் இசைக்கின்றனர் .

'பெண்மை என்பது மண்ணடிப் பெருவேர்
ஆண்மை மேலே அசையும் பசங்கிளை
பெருவேர் வாடினால் மாணுடம் வாடும் '

- மலையமான் கவிதைகள்) மலையமான் - பக்(32.

என்று பெண்ணை, பெண்மையைப் பண்பாட்டு வேராகச் சித்தரிக்கின்றனர்.

கற்பு வாழ்த்து :

அச்சம் முதலிய பண்புக் கோட்பாடு போன்றே கற்புக் கோட்பாடும் பெண்களுக்கே உரியதாகப் பேசப்பட்டு வருவதை அறிய முடிகிறது. இத்தகைய கற்பு வாழ்க்கையைத் தலைக்கற்பு, இடைக்கற்பு, கடைக்கற்பு என்று மூன்றாகப் பிரித்து மணிமேகலை பேசுவதை அறியலாம். அந்த மரபில் நின்று இன்றைய கவிஞரொருவர் ,

'கனல் தெறிக்கும் சீற்றத்தால் மதுரை தீய்த்த
கண்ணகியின் பெருங்கற்பு வீர்ப்பெண்மை
மனமொத்த காதலரைப் பிரிந்தும் வாழ்ந்த
மாதவியின் உள்ளந்தான் அமைதிப் பெண்மை

)உனக்காகப் பாடுகிறேன் .உதயை - மு.வீரையன் பக்(87.

என்று இன்றைய நோக்கில் கற்பை வகைப்படுத்துவதைக் காண முடிகிறது.

கற்பின் வழி வந்த கண்ணகி, மாதவி ஆகியோரின் கற்பு வகையை எடுத்துக்காட்டாக்கிப் பாடுவதை இன்றைய கவிஞர்களிடையே காண முடிகிறது.

மங்கையர் பிறப்பும்- சிறப்பும் :

பெண்களின் பிறப்பு பெருமைப்படத்தக்க ஒன்றெனப் புகழும் கவிஞர்கள் நடைமுறையில் பெண்ணாய்ப் பிறப்பதற்கு

வருந்தும் கருத்தையும் சுட்டிக்காட்டி அதற்கு சமாதானமும் கூறிச் செல்கின்றனர் .

"மங்கையராகப் பிறப்பதற்கே- நல்ல
மாதவம் செய்திட வேண்டுமம்மா !
பங்கயக் கைந்நலம் பார்த்தலவோ - இந்தப்
பாரில் அறங்கள் வளரும்மா "

என்று பாடும் கவிமணி ,

"மங்கையராகப் பிறந்ததனால் மனம் -
வாடித் தளர்ந்து வருந்துவேன் ?
தங்கு புவியில் வளர்த்திடும்- கற்பகத்
தருவாய் நிற்பதும் நீர் அல்லவோ?"

)மலரும் மாலையும் கவிமணி பக் (150 - 148 .

என்று பாடுகிறார்.

பெண்களைப் புகழ்தல் :

கடவுள் வாழ்த்து அளவுக்குப் பெண்மை வாழ்த்தும்
பேசப்படுவதைத் தமிழ்ப் படைப்புலகின் பல்வேறு தளங்களிலும்
காணலாம் .

'மாதா, பிதா, குரு, தெய்வம்' என்று தாயே முதல்
தெய்வமாக முன்னிறுத்தப்பட்ட நிலை' ,தாயிற்சிறந்த
கோயிலில்லை' என்று கோயிலாகப் பார்த்த நிலை' ,தாய்
சொல்லைத் தட்டாதே' என்பன போன்ற திரைப்படத் தலைப்புகள்
கிளர்ச்சி ஏற்படுத்திய நிலையெல்லாம் இங்கே அன்றாட வழக்கில்
உள்ள நிலையாகும் .

'ஒவ்வொரு வீட்டிலும் தெய்வம் வர முடியாது என்பதால்
தாயைப் படைத்தான் இறைவன்' என்பன போன்ற
சொல்வடைகளும் சுவையாகப் படைக்கப்பட்டு உலாவருவதைக்
காண முடிகிறது.

தாய்மைச் சிறப்பு :

பெண்களைப் போற்றிப்பாடும் கவிஞர்கள் பெண்களிடம் உள்ள தாய்மைப்பண்பைச் சிறப்பித்துப் பாடுவதில் நிறைவு அடைகின்றனர். ஒரு பெண், தாயாக நின்று தன் குழந்தைக்கு ஆற்றும் செயல்களையெல்லாம் ஒரு குழந்தையின் நிலையில் நின்று பட்டியலிடும் கவிஞர் இறுதியில் ,

”உன்னை போல வளர்த்திடவே
உலகில் உண்டோ வேறொருவர்
என்னைக் காக்கும் அம்மாவே
எனக்குத் தெய்வம் நீதானே“

- மலரும் உள்ளம்)

அழ- வள்ளியப்பா. பக் (50 - 49.

என்று குழந்தை கூறுவதாக அமைத்துள்ளார். குழந்தை முதலே தாயைத் தெய்வமாகப் பார்க்கக் கூடிய மனநிலையை வளர்க்க இத்தகைய கவிதைகள் பயன்படுகின்றன. பிள்ளை வளர்ப்பு என்னும் பெரும் பொறுப்பை நிறைவேற்றும் தாய் தெய்வமாகப் போற்றப்பட வேண்டியவள் என்று போதிப்பதன் மூலம் பெண்ணடிமைக் கொடுமைகள் மறையக்கூடும் என்று கவிஞர்கள் கருதினர். ஆனால், பெரும்பாலான குடும்பக் கடமைகளை ஆற்றும் பெண்ணைத் தெய்வமெனப் போற்றிப் பாராட்டுவதோடு மனநிறைவு கொண்டுவிடும் போக்கே இன்று அனைவரிடமும் காணப்படுகிறது.

போர்க்குணம் நாடல் :

பழமை போக்கிப் புதுமை விளைவிக்க வேண்டுமெனில் போர்க்குணம் தேவை என்று கூறும் கவிதைகள் பலவும் காணக் கிடைக்கின்றன .

புண்ணான” புதுமைகளைப்
போக்கிநற் பயிர் விளைக்கப்
போர்க்குணம் வேண்டுமடி தோழி- இனிப்
போர்க்குணம் வேண்டுமடி தோழி“

- பொற்கோவின் கவிதைகள் 39 .பொற்கோ பக் ,

என்று பொறுமைக் குணத்தில் புதைந்து கிடக்க வேண்டும் .

”நீ
பட்டுக்கும் ஜரிகைக்கும்
மனதை அலைபாய விடுபவள் அல்ல !
போருடை அணிந்து
புறப்பட வேண்டியவள்“

)விசாரணைகள்- இளையபாரதி - பக்(79.

என்ற கவிதை வரிகள் பெண்களைப் போர்வீரர்கள் தோற்றத்தில் காண முற்படுவதாகவும் கவிஞர் கூறுகின்றார்.

பாரதி பார்வையில் பெண் :

மகாகவி பாரதியார் பெண்களைச் சிறப்பித்துப் பேசும் இயல்பினர். புதுமைப்பெண் என்னும் கருத்தாக்கத்தை உருவாக்கியவர். அதன் மூலம் பெண் விடுதலைக்கான களங்களை அமைத்துத் தந்தவர். அந்த வகையில் அவர் தாய்மையைப் போற்றத்தக்க வகையில் பாடியுள்ளார் .

”தாய்க்குமேல் இங்கேயோர் தெய்வம் உண்டோ
தாய் பெண்ணே யல்லனோ? “

)பாரதியார் கவிதைகள்- பாரதியார் பக் (335.

என்று குறிப்பிட்டு அறிவுறுத்தியுள்ளார் .

பெண், மனைவி என்ற நிலையில் அமர்ந்து குடும்ப அமைப்பின் அச்சாணியாகச் செயல்படுகிறாள். கணவன் மனைவியரிடையே உயர்வு தாழ்வில்லை என்பதை உணர்த்தவே வாழ்க்கைத்துணை என்ற சொல் பயன்படுத்தப்படுவதாக கருதலாம் .

”மண்ணுக்குள் எவ்வுயிரும் தெய்வம் என்றால்
மனையாளும் தெய்வமன்றோ? மதிகெட்டிரே“

)பாரதியார் கவிதைகள்- பாரதியார் பக்(335.

என்று கேட்கும் பாரதியார், கணவனைத் தெய்வமாகக் கருதக் கட்டளையிடும் சமுதாயத்தைப் பார்த்து மனைவியைத் தெய்வமாக மதிக்கக் கட்டளையிடுகிறார்.

பாரதிதாசன் பார்வையில் பெண் :

பாரதி கண்ட புதுமைப் பெண்ணுக்கு உருவம் கொடுத்தாற்போல் பாரதிதாசன் எழுதிய காவியங்களில் பல பெண் பாத்திரங்கள் உயிர்ப்பாத்திரங்களாக உலவுகின்றனர் . வீரத்தாய் என்னும் காப்பியத்தின் தலைவி அனைத்துக் கலைகளையும் கற்றவளாக உறுதிமிக்கவளாகப் படைக்கப்பட்டுள்ளதை அறிய முடிகிறது .

**"அரசியோ வீரம் மிக்காள் உறுதி அமைந்தாள்
அவையினர் மிச்சம் சர்வகலையினள்"**

- பாரதிதாசன் கவிதைகள்) பாரதிதாசன் பக் (44.

என்று அரசியானவள் கல்வி, வீரம் இரண்டிலும் சிறந்து விளங்குவதாக உருவாக்கப்பட்டுள்ளாள் .

மேலும் பாரதிதாசனின் பெண் பாத்திரங்கள் பலரும் வீரவுணர்வு, தமிழ் இன உணர்வு மிக்கவர்களாக புதுமைப் பெண்ணின் இலக்கணத்தைக் கடைப்பிடிப்பவர்களாக வீட்டைக் காக்கும் போதே நாட்டையும் காக்க எண்ணுபவர்களாகப் படைக்கப்பட்டுள்ளதைக் காண முடிகிறது .

பாரதிதாசன் எழுதிய 'குடும்ப விளக்கு' எனும் காப்பியம் பெண்ணின் பொறுப்புணர்ச்சியைப் பாராட்டும் வகையில் எழுதப்பட்ட காப்பியம் ஆகும் .

இவ்வகையில் தமிழ்க்கவிஞர்களின் பெண்கள் பற்றிய பார்வை காலத்திற்கேற்ப விரிவடைந்து வந்துள்ள நிலையைக் காண முடிகிறது.

பெண் விடுதலையின் அடிப்படை :

பெண்ணடிமை ஏற்பட்ட சூழலைப் புரிந்து பெண் விடுதலைக்கான சூழலை ஏற்படுத்த வழிகாட்டும் கவிதைகளும் பரவலாகக் காணப்படுகின்றன .

”கல்வியில் விடி

அரசியல் தெளி

சட்டங்கள் செய்

ஊர்வலம் போ

முழக்கமிடு பெண்ணைப் பேசப்

பெண்ணே எழு “

)அறிவுமதி கவிதைகள்- அறிவுமதி பக்(165.

என்று கூறும் அறிவுமதியின் கவிதை வரிகள், பாரதியின் அடியொற்றி பெண்ணடிமைக்கான காரணங்களைக் கண்டறிந்து பெண்ணுரிமைக்கான வழிமுறைகளை எடுத்துரைப்பதை அறிய முடிகிறது.

பெண்ணுரிமைக்கு வித்திட்ட பெண்கள் :

அன்னிபெசன்ட், கமலாதேவி சட்டோபாத்தியா, ராணி லட்சுமிபாய் ஆகியோரும் பெண்ணுரிமை சிந்தனைக்கு வித்திட்டவர்களில் குறிப்பிடத்தக்கவர்கள். பெண்களின் உரிமைப் போராட்டத்தில் ஒரு சில பெண்கள் மட்டுமே வெற்றியடைந்தாலும் மேலும் மேலும் பெண்கள் படிப்பறிவினாலும் உலகியல் அனுபவத்தினாலும் இந்தப் பாதையைப் பின்பற்ற வெற்றி நடைபோட இந்தப் பெண்ணிய அலை வகுவழித்தது. அரசியல் சாசனத்தில் அடிப்படை உரிமைகளைக் குறிப்பிடும் பகுதியில் பெண்களுக்கென பல தகுதிகள் புதிதாகச் சேர்க்கப்பட்டுள்ளன. மேலும் மேலும் சேர்த்துக் கொண்டே வரும் நிலைமையும் உருவாகி வருகிறது. இதன் விளைவு இன்று பலவிதத் தொழில்களையும் பதவிகளையும் ஆண்களுக்கு நிகராகச் செய்து வருகின்றனர். இதற்குக் காரணம் பெண்ணியத்தின் எழுச்சி மிகு தோற்றம் மற்றும் அதன் வேகமான வளர்ச்சி ஆகியவையாகும்.

முடிவுரை:

கவிதைகள் சிக்கல்களை எதிர்கொண்டு மக்களிடம் கொண்டு சென்று விழிப்புணர்வை ஏற்படுத்தும் கலை வடிவமாகும். இந்த அடிப்படையில் தமிழ்க்கவிஞர்களும், தமிழ்க்கவிதைகளும் பெண்ணியச் சிந்தனைகளை மக்களிடம் கொண்டு சென்றனர் .

அரசியல் பொருளாதார விடுதலைகள் பெண் விடுதலையையும் உள்ளடக்கியதே என்ற உண்மை சுதந்திரப் போராட்டக் காலத்திலேயே உணர்த்தப்பட்டது. அதனை ஆற்றலோடு வெளிப்படுத்திய பாரதியே பெண்விடுதலை முன்னோடியாகக் கருதப்படுகிறார் .

இவ்வகையில் பல நிலைகளில் கருத்தோட்டங்கள் கவிதைகளில் வெளிப்பட்டிருப்பதை இக்கட்டுரை எடுத்துக் காட்டுவதன் மூலம் தமிழ்க்கவிதைகளில் பெண்ணியக் கருத்துகளின் படிநிலை வளர்ச்சி புலப்படுத்தப்பட்டுள்ளது.

துணை நூல் பட்டியல்

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Farmer's Greenhouse Management System

Elakkiyadevi E

Research Scholar

Department of Computerscience

Sri Sarada College for women, Tirunelveli.627 011.

Email: edevi98@gmail.com

Extended Abstract

To facilitate remote area farmers to buy agriculture products, there is a need to build an online agriculture product store. Through the Internet, customer and business owner can communicate with each other, share a different type of information and resources. In the today's e-commerce world, different types of organizations are going to build their businesses through the Internet. For this purpose, different types of e-commerce websites are developed to sell their products and services etc.

Nowadays technology is well improved and widely used. Its application is wide. The automation of greenhouse system is very helpful to maintain plant seed details and fertilizers data and reduces the time while comparing to manual operation. It improves accuracy. It's compatible and platform independent. The project can be executed at minimum system requirements also. The project consists of user-friendly screen that is helpful to the user without taking any assistance of skilled persons. This project will help the users and benefit from it immensely. This project has been developed for the computerization of the seed and fertilizer. This project gets all the details about the greenhouse details. This makes the administrator who manages the greenhouse details easily and can retrieve the information easily.

The title of the project is Farmer's Green house Management System. The front end used is ASP.NET with VB.NET. The back end used is SQL SERVER. This project allows you to purchase seed and fertilizer. The user interface design is very important for any application. The interface design describes how the software communicated within itself, to system that interpreted with it and with humans who use it. The interface is a packing for computer software if the interface is easy to learn, simple to use. If the interface design is very good, user will fall into an interactive software application. The project was designed in such a way that future modifications can be done easily. The following conclusions can be deduced from the development of the project.

In this project, we will build a user-friendly website in order to buy and sell agriculture products online. The main purpose to build this store is to facilitate farmer to buy seeds, pesticides, and fertilizers from anywhere through internet connectivity.

Keywords: Agriculture,e-commerce,automation,greenhouse,manual operation.

Design and Development of Income Tax Management System

Brindha Devi B

Research Scholar,

Department of Computer Science,

Sri Sarada College for Women, Tirunelveli 627 011.

Email: brindhab98@gmail.com.

Extended Abstract

Calculating the tax is a hectic task and is supposed to be accurate. The tax calculation is based on the user's age and the annual income. This project makes it effective and efficient. It also reduces human resources and paper work. This project aims to reduce the manual process in the Taxation Department. So that if any user paid the tax, alert will automatically go to the clients mobile. Also if any client signs up into our site, his user name and password could be sent to his mobile. In India, individual income tax is a progressive tax with three slabs. There are close to 35 million income tax payers in India.

The title of the project is Design and Development of Income Tax Management System Project is user friendly software developed in VB.net programming language as front end and SQL server database as back end. It can lead to error free, secure, reliable and fast management system. The main advantage of this project is easily calculating the tax amount by using the value in the income box with government norms. One of the initiatives of the Income Tax Department was the beginning of electronic filling of income tax returns (ITRs) to make the filling process easier for taxpayers as well as to reduce the time required for data entry on receipt of returns.

The application of the project is very useful. In Income Tax Management System, a client register himself enters all the details that are necessary for preparation of tax to their annual income. The client can also view his tax details. In future it can also edit his profile if any updation is required. Sessions are created for each client. So no interference takes place. This project allows you to pay your tax staying back at home, anywhere, anytime through online

This is an online application developed to make time efficient. The project was designed in such a way that future modifications can be done easily. The project consists of user friendly screen that is helpful to the user without taking any assistance of skilled person. This project will help the users and benefits from it immensely.

key Words: taxation,incometax return,management system,electronic filing.

The computerized System of School Administration & Management Services

Balakarhika

Research Scholar

Department of Computerscience

Sri Sarada College for Women, Tirunelveli 627 011

Email: karthika050598@gmail.com

Extended Abstract

The technological advancements have influenced the society so as to take a leap towards success. Every technological reform is a small step towards advancement and progress of mankind. Developments in information technologies have also been impacting upon educational organizations. The introduction of technology in schools can thus result in a decreased use of paper and in bringing most of the school office work in an e-format. Thus, the schools should employ management information systems to improve the efficiency of administrative services. A school management information system (SMIS) is a system or process that provides the information necessary to manage a school effectively. They provide an objective system for recording and aggregating information and supports the institution's strategic goals and direction. The administrative processes and the official procedures of school can be simplified by the means of management information systems. School records, the information about all the students, teachers and other school employees can efficiently be maintained by means of school management information systems. On the similar lines, the attendance records of the pupils and teachers can be maintained by means of attendance management system respectively. Further, the management information systems can effectively maintain the data pertaining to examination, facilities and assets management of the institutions. It makes possible, a more effective way of storage and distribution of information. Therefore, realization of the importance of management information systems in schools and its successful implementation is a necessity. The front end used is Asp .Net and back end used is Sql Server.

The main and important benefit of this proposed system is that it is very much user friendly and accurate. So the employees and the administrators feel so much comfortable to work with it.. It improves accuracy and it is compatible and platform independent. This makes the administrator who manages the school activities and can easily retrieve the information. The solution of this project, it can automatically generate the roll no. It does not grant the replication of data. It gives appropriate access to the authorized users depending on their permissions. It efficiently overcomes the delay in communication.

Key Words: attendance records, management system, educational organizations, e-format.

PRAGNAVANI

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ssdptphysics@gmail.com.

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Sri Sarada College for Women,
Tirunelveli – 627011.
drtratha.jl@gmail.com.

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Department of Commerce with Computer
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Sri Sarada College for Women,
Tirunelveli – 627011.
Saradacommerceca2006@gmail.com.

Dr. R. Muthulakshmi,
Associate Professor & Head,
Department of Commerce,
Sri Sarada College for Women,
Tirunelveli – 627011.
Saradatvl.bcom@gmail.com.

Dr. V. Sangeetha,
Assistant Professor,
Department of Commerce with Computer
Applications,
Sri Sarada College for Women,
Tirunelveli – 627011.
Saradacommerceca2006@gmail.com.

मानवानाम् धर्मा

Sr.Mayil

Department of Sanskrit, Sri Sarada College for Women, Tirunelveli.627 011.

Emaul: sisterm19@gmail.com

प्रस्तावना:

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तादृशोऽयमनुप्रश्नो यत्र धर्मः सुदुर्लभः |

दुष्करः प्रतिसंख्यातुं तत्केनात्र व्यवस्यति ||

प्रभवार्थाय भूतानां धर्मप्रवचनं कृतम् |

यः स्यात्प्रभवसम्युक्तः स धर्म इति निश्चयः || (शान्ति पर्व -109-9-11)

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धारनाद् धर्म इत्याहुर्धर्मो धारयते प्रजाः|

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मीमांसदर्शने आचार्येण जैमिनिमुनिना धर्मलक्षणं निर्दिष्यते यत् “चोदनालक्षणोऽर्थो” धर्मः इति | ये गुणाः असमानमानवान् पशुपक्षिकीटादयेभ्यः पृथक् कुर्वन्ति तेषामेव सामान धर्म इति | भर्तृहरिणा उक्तम्-

अहारनिद्राभयमैथुनञ्च सामान्यमेतत् पशुभिः नाराणाम् |

धर्मो हि तेषामधिको विशेषो धर्मेण हीनाः पशुभिः : समानाः||

प्रातः कालतः रात्रिः पर्यन्तं तथा मरणपर्यन्तं,शास्त्र अनुसारेण रागद्वेषविना यत् क्रियते सः धर्मः | येतानि चिन्तनानि वाक्यानि, क्रियाः समाजस्य व्युत्पादकार्थम् उपक्रियन्ते तानि ‘धर्म’ इति पदेन नियोज्यन्ते |

धार्मानुसरेणेव वायुः साकरः ,पृथिवी जननम्, मरणम् च सर्वम् चलन्ति | कामं, क्रोधं , मोहं, मतं, मात्सर्यं लोपं विना जीवनम् एव धर्मम् | धरति लोकान् अनेन इति | अस्माकं शरीरम् एव धर्मस्य प्रथमं साधनम् | किमर्थम् चेत् भगवान् अस्माकं शरीरे वासं करोति | अस्माकं तिरुक्कुरल् अरं इति अधिकारे अपि अनेके धर्मविषयाः सन्ति |

धर्मस्य प्रक्रिया : -

अस्माकं सम्सारे सर्वेषां समस्यानाम् उपायः धर्मः एव । भगवता मनुना उच्यते-

अकामस्य क्रिया काचिद्दृश्यते नेह कर्हिचित् ।

यद्यदि कुरुते किञ्चित् तत्तत्कामस्य चेष्टीतम्।

कामः एव मनुस्यानाम् कर्मणः कारणम् । मनुष्याः किम् इच्छन्ति? लोकायत् सुखम् एवं इच्छन्ति । कामसुत्रे वात्स्यायनः अर्थस्य विषयान् बहू वदति । मनुष्याः लोकायत् सुखम् इच्छन्ति चेत् अनन्तरम् क्रोधः, मोहः, लोभः, मदः, मात्सर्यः, च इति सर्वम् आगच्छन्ति ।

महाभरते भीष्मः वदति यत् यदा मानवः धर्म- मार्गम् त्यक्त्वा अन्य मार्गम् अनुस्रति तदा सर्वं विनाशं भवति । अतः त्रिवर्ग doctrine अनुसरणीयः इति वदति ।

पुरुषार्थम्

पुरुषैः अर्थियते प्रार्थयते इति पुरुषार्थः। चतुर्विधं फलं सीत्यर्थं पुरुषार्थः ।

पुरुष अभिलाष विषयः

त्रिविधदुः खात्यन्तनिवृत्तिः

सुख अवाप्तिः दुःखपरिहारः

(सर्वतन्त्रसिद्धान्तपदार्थ लक्षणसंग्रहः)

धर्म अर्थः कामः मोक्ष इति पुरुषार्थः चतुर्विधः। पुरुषार्थचतुष्टये धर्मस्य श्रेष्ठत्वं सर्वैः स्वीक्रियते । चतुर्वर्गस्यैव काममोक्षाणां पुरुषार्थानां मूलं धर्मः। धर्मपालनं ब्रह्मचर्याश्रमे मुख्यतया विहितम् । गृहस्थाश्रमे यत् यत् कर्माणि क्रियन्ते तानि कार्याणि धर्मोपायेन करणीयम् । धर्मः रक्षितो रक्षति । यः धर्महानिं करोति धर्मोऽपि तं नाशयति । भगवता मनुना उच्यते-

धर्मार्थावुच्यते श्रेयः कामार्थो धर्म एव च ।

अर्थ एवेह वा श्रेयस्त्रिवर्ग इति तु स्थितिः ॥

परित्यजेदर्थकामौ यौ स्यातां धर्मवर्जितौ । (मनु .2-224 & IV -176)

धर्मो धारयते प्रजाः

किम् करणीयम् किम् अकरणीयम् इति विषये अवधारकरूपं शास्त्रं धर्म इति उच्यते । सम्सारे धर्म एव प्रजानां धारकः । धर्म एव पाठयतिः -“उदारचरितानाम् तु वसुधैव कुटुम्बकम्” । परदुः खनिवारणं करुणाद्रवत्वं च धर्मं संगृह्यते ।

अयम् निजः परो वेति गणना लघुचेतसाम् ।

उदारचरितानां तु वसुधैव कुटुम्बकम् ॥

(शा.व.273)

परदुः खानिवारणं करुणाद्रवत्वं च धर्मं संगृह्यते यथा उच्यते- ‘न च धर्मो दयापरः’।

राजधर्माः

राजधर्मा राज्ञः आशक्ति स्वधर्म विषये वदन्ति | अत्रिसम्हितायां राजानां पञ्चविध समान्यः धर्मः प्रक्रियते-

दुष्टस्य दण्डः सुजनस्य पूजा न्यायेन कोषस्व च सम्प्रवधिद |
अपक्षपातोऽर्थेषु राष्ट्ररक्षा पच्यैव यज्ञाः कथिता नुपाणाम् ||

कौटिल्येन अर्थशास्त्रे कथ्यते च-

प्रजासुखे सुखम् राजः प्रजानाम् च हिते हितम् |
नात्मप्रियं हितं राज्ञः प्रजानां तु प्रियं हितम्||

महाभरते कथ्यते- “धर्माय राजा भवति न कामकरणाय तु”

रक्षणा विषये भगवता मनुना कथ्यते-

यथा सर्वाणि भूतानि धरा धारयते समम् |
तथा सर्वाणि भूतानि बिभ्रतः पार्थिवं व्रतम् ||

स्त्रीणां धर्माः

अथर्ववेदे स्त्रीगुणानामपि वर्णनम् प्राप्यते | तत्र स्त्रीगुणा वर्णयते यत् सा तेजोवती, कुलपा, पतिहितकारिणी, मुदुभाषिणी, सरला, अक्रोधना, पतिव्रता, आक्काकारणी, प्रसन्नचित्ता च स्यात् | सुसन्तानोत्पत्त्या राष्ट्रहितसम्पादनमपि स्त्रीणाम् कर्तव्यम् | सा पतिव्रता स्यात् न च पत्युः विरोधम् आचरेत्|

शतपथब्राह्मणादिषु ग्रन्थेषु स्त्री सावित्री रूपेण गोरवास्पदं प्रतिपाद्यते| स्त्रिणाम् पतिरेव गतिः पतिवर्तमानुसरणं तासां कर्तव्यम्|

छात्राणां धर्माः

छात्राणाम् अध्ययनम् एव प्रमुखं कर्म | पञ्चविंशति- वर्षाणियावद् ब्रह्मचर्याश्रमकालो वित्याध्ययनकालश्च | विद्याध्ययनकाले सदगुणेषु अभिरुचिः आवश्यकी | तस्मिन् विषयान्तर-व्याक्षेपस्तेषाम् अध्ययनम् सर्वविधाम् उन्नितिं च निरुणद्धि |

सत्यम् एतद् यद् गुणार्जनम् विद्याग्रहणं चारित्रिकोन्नतिश्च छात्राणां प्रमुखं कर्तव्यम् | गुरु- भक्तिः, श्रद्धा, अनुशासनं च छात्रेषु परमावश्यकम्

छात्राणां श्रद्धया व्यवहारेणा च प्रसन्ना भूत्वा गुरवः तेभ्यः अन्ते आशिषः ददति | ये छात्राः ‘गुरुर्ब्रह्मा गुरुर्विष्णुः गुरुर्देवो महेश्वरः’ इति मत्वा स्वजीवनं यापयन्ति ते एव गुरोः, आशिषा महत्कार्यं

कुर्वन्ति | छात्राणाम् इदमेव कर्तव्यमस्ति यत् स्व मातृपितृणां गुरुजनानं च आज्ञा पालनीया तेषां सर्वेषां सदैव आदरः कर्तव्यः | तेषाम् पुनीतं कर्तव्यम् यत् अन्यानि सर्वाणि कार्याणि विहाय केवलम् अध्ययने खलु रतः भवितव्यः | वस्तुतः छात्राणाम् जीवनम् यदि शुद्धं सुनियोजितं सफलं च भवेत् तर्हि राष्ट्रस्योन्नतिः निश्चिता एव |

उपसम्हारः

अन्ते कोऽपि कापि अस्माभिः सह न आगच्छति | तस्य जीवन काले कानि कानि कार्याणि करोति तदेव आगच्छति | मनुना कथ्यते-

नामुत्र हि सहायार्थं पिता माता च तिष्ठतः |
 न पुत्रदारं न जातिधर्मस्तिष्ठति केवलः ||
 एकः प्रजायते जन्तुरेक एव प्रलीयते |
 एकोऽनुभुङ्गते सुकृतमेक एव च दुष्कृतम् ||
 मृतं शरीरमुत्सृज्य काष्ठलोष्टसमं क्षितौ |
 विमुखा बान्धवा यन्ति धर्मस्तमनुगच्छति ||
 तस्माद्धर्म सहायार्थं नित्यं सञ्चिनुयाच्छनैः |
 धर्मण हि सहायेन तमस्तरति दुस्तरम् || (मनुस्मृति 239-242)

न धर्मात् परमं मित्रम् | सम्पदि विपदि सुखे दुःखे चाजस्त्रम् साहाय्याचरणेन धर्मः परमः सुहृत् | उच्यते च-

एक एव सुहृद् धर्मो निधनेऽप्यनुयाति यः |
 शरीरेण समं नाशं सर्वमन्यत्तु गच्छति ||

एवम् अवलोक्यते यद् जीवनम् धर्मस्य सर्वदा सर्वथा चानिवार्यत्वं वर्तते | तस्याश्रयणेनैव ऐहिकम् आमुष्मिकं च सुखमवाप्यते | धर्मे जीवनरक्षकः, सुखशान्तिसंधायकः, सत्कर्मप्रेरकः, दुःखनिरोधकश्चेति सततम् आश्रयणीयः |

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Ecofeminism In Sylvia Plath's Poem "I am Vertical"

Meenakshi M.S.S

Department of English

Sri Sarada College for Women, Tirunelveli 627 011.

Email: mssmeenakshi95@gmail.com

Abstract: *Literature is a word derived from the Latin word 'litteratura' meaning 'writing formed with letters'. According to James Ellis, Literature is the garden of wisdom. Roberto Bolano utters that Literature is a vast forest and the masterpieces are the lakes, the towering trees or strange trees, the lovely, eloquent flowers, the hidden caves, but a forest is also made up of ordinary trees, patches of grass, puddles, clinging vines, mushrooms, and little wildflowers. Literature records the thoughts and feelings of great minds which influence the society directly or indirectly as a mirror.*

Keywords:- *litteratura, towering trees, eloquent flowers,*

Literature is a word derived from the Latin word 'litteratura' meaning 'writing formed with letters'. According to James Ellis, Literature is the garden of wisdom. Roberto Bolano utters that Literature is a vast forest and the masterpieces are the lakes, the towering trees or strange trees, the lovely, eloquent flowers, the hidden caves, but a forest is also made up of ordinary trees, patches of grass, puddles, clinging vines, mushrooms, and little wildflowers[1] Literature records the thoughts and feelings of great minds which influence the society directly or indirectly as a mirror.

American literature is literature written or produced in the United States and its preceding colonies. American poetry, the poetry of the United States, arose first as efforts by colonists to add their voices to English poetry in the 17th century, well before the constitutional unification of the thirteen colonies.

Ralph Waldo Emerson, Henry David Thoreau, Edgar Allan Poe, Walt Whitman, Emily Dickinson and Sylvia Plath are some of the American poets. Among them Sylvia Plath is an extraordinary architect of American poetry. "American Isis: The Life and Art of Sylvia Plath" by Carl Rollyson claims, "Sylvia Plath is the Marilyn Monroe of modern literature" [2].

Sylvia Plath was an American poet, novelist, and short-story writer. She was born in Boston on 27 October 1932. Her mother, Aurelia Schober Plath was a second-generation American of Austrian descent, and her father, Otto Plath was from Grabow, Germany. Plath's father was an entomologist and a professor of biology at Boston University who authored a book about bumblebees.

When she was eight-year-old, Plath published her first poem in the Boston Herald's children's section. Over the next few years, Plath published multiple poems in regional magazines and newspapers. In 1950, Plath attended Smith College and excelled academically. She died on 11 February 1963.

The Collected Poems published in 1981 which was edited and introduced by Ted Hughes. The collection contains poetry written by her from 1956 until her death. Plath was awarded the *Pulitzer Prize* for poetry, posthumously. The volume encompasses four collections of poetry: *The Colossus*, *Ariel*, *Crossing the Water*, and *Winter Trees*.

Iam Vertical is one of the poems in the collection. *Iam Vertical* is beautifully weaved by using various poetic devices which speaks about the self-deprecating life of Sylvia Plath. The poem was designed by Sylvia Plath in an ecofeminist perspective.

Ecofeminism is a term that links feminism with ecology. This movement seeks to eradicate all forms of social injustice, not just injustice against women and the environment. The term is believed to have been coined by the French writer Françoise d'Eaubonne in her book *Le Féminisme ou la Mort* (1974).

This paper is an attempt to the detail study on Ecofeminism in Sylvia Plath's *Iam Vertical*. In the poem, *Iam Vertical*, Sylvia Plath portrayed her unpleasant life by describing the pleasant beautiful view of nature.

The first line of the poem is very stylistic and directly opposite to the title. "But I would rather be horizontal" is the first line of the poem. The first line suggests the paradoxical expression of Sylvia Plath in this poem. The title of the poem *Iam Vertical* gives the meaning 'standing up'. In contrary, the word 'horizontal' in the first line gives the meaning 'lying down'. Here the line strongly suggests the poet's yearning to go away from the world eternally.

The poem contains only two stanzas but it depicts beautifully the inner feelings of a woman who suffers cruelty under the patriarchal society indirectly through the description of nature by the author. The first stanza of the poem, which depicts the craving of a woman for affection as well as her value in the society, strangles our heart with gulping pity for the woman.

In the first stanza, she describes about a tree which is rooted in the soil, sucks up the minerals and motherly love from the soil in the following lines:

I am not a tree with my root in the soil
Sucking up minerals and motherly love
So that each March I may gleam into leaf,
Nor am I the beauty of a garden bed

She compares her life with the beautiful blossoming tree. The first stanza clearly depicts her envy of nature. She is longing for love and care which is revealed in this stanza. She envies that a tree stands vertically and very pleasantly in the garden can sprout new and fresh leaves in March. The tree is admired by everyone who comes to the garden. She feels that she cannot find out such a pleasure in her life. She wants to interact with the people around her as well as the nature. Her gloomy and melancholic life has no fruit of love. She is suppressed by her own father in her real life. She is also not contented with her marriage life with Ted Hughes[3].

The end of the stanza focuses on the immortality of nature. She says, "Compared with me, a tree is immortal". She wants to livelong like a tree and she wants to startle like the flower head. This kind of emotion in her heart reveals through her expression in the following lines:

Unknowing I must soon unpetal.
Compared with me, a tree is immortal
And a flower-head not tall, but more startling,
And I want the one's longevity and the other's daring.

The seventh line paradoxically uses metaphor as the narrator imagines herself as a flower bed. She is using empathetic imagination to put herself in the place of a garden bed that is too ignorant to its own transience. This stanza clearly portrays her fear for death. She wants to possess everything around her. The stanza very clearly depicts the pathetic conflict in the poet's mind. It reflects the very nature of the human life. Every human must cross this crucial conflict in making decisions in their life. Ambiguous situation in life must be handled very carefully by subjugating the emotional thoughts and by holding up the hopeful spirit. She feels very bad that she cannot gain hope and confident in her long journey of life. This leads her to yearn very badly for her death.

She wants to finish her life in this world because she feels that she is not worthy to live in this world. She personified every inch of nature in order to show that she is worthless in comparing to that blossoming and odour giving tree and flower. The tree is rooted vertically and very strongly in the soil. She feels that she cannot stand as strong as the tree. It also reveals as a woman she strives for her identity because she is dominated by her father. It may also reveal her unhappy marriage life. The poet is uprooted from her mother's home. She finds it difficult to stand very firmly in the family where she is again rooted. She cannot find peacefulness in her new life. So she decides to leave the world.

The second stanza depicts her desire to be one with the nature and her sense of inferiority. Here again the trees and flowers are depicted by the poet. She feels that she is not noticed by anyone who surrounds her. The trees and flowers are spreading their cool odour in air. She feels that she is not worthy to spread happiness to her surrounding just like the flower. So she is not paid any attention by anyone who surrounds her. She is longing for love throughout her life. Her disappointment in gaining love from her surrounding leads her to the conflict of taking wrong decision in her life. The following stanza depicts beautifully the pleasant atmosphere of nature as well as the unpleasant life of the author.

Tonight, in the infinitesimal light of the stars,
The trees and the flowers have been strewing their cool odors.
I walk among them, but none of them

In the second stanza, the poet confesses that she is admired by everyone only after her death. In this stanza, the narrator describes that she lies down and let herself

converse with the starry sky. She says that she might be useful only as a fertilizer to the trees after her death and only after she decomposes. She utters,

And I shall be useful when I lie down finally:
Then the trees may touch me for once, and the flowers have time for
me.

She says that she is not noticed by the trees and the flowers while she is alive. She can convert herself as minerals to the trees after her death. It will help the trees and the flowers to spend their precious time to suck her as a fertilizer for their nourishment[4]. This leads us to look back the first stanza in which she describes the tree which has taken minerals from the mother earth to nourish. Here poet conveys that her motherly love will be revealed only after her death to her loved ones in her life.

The second stanza describes a universal idea of human nature. People never try to understand the loved one while they are alive. They used to feel after their entrance into the eternal life that they have missed a worthy person. The poet is suggesting the idea of death when she mentions she "lies down finally," therefore lying horizontal compared to the plants. When the poet personifies the flowers and trees, saying that they do not notice her, she is showing us that the thoughts of the plants dwindle at night.

The tree is used to symbolize a prospering life, for trees are known for their lifespan and durability. The flowerbed is used to represent daintiness and beauty, since flowers are credited for their range of colors and daintiness. Plath uses these symbols as a representation of what she doesn't have, proving how she feels she is useless in the eyes of the flowers and trees.

In the end, Plath's poem *I am Vertical* uses literary devices such as personification and symbolism to express her feelings on her value in the world.

A continuous introspective study of herself may have been stimulated by her sense of rootlessness at the death of the father, a painful experience that led to a feeling of abandonment and alienation from the world. Plath's obsession with the tree and the root suggests that she was entangled in the chaos of the unconscious (symbolically represented by roots) and never realized the kind of harmonious self signified by the full-grown tree. Sylvia Plath tries to explain that the force of women resides in nature. One of the reasons why this confessional poetry is considered as feminist literature is because of its "self-defining confessional mode". Sylvia Plath depicts the wealthy nature in this poem. By the beauty of her imagination, she indirectly inserts her feminist views. This poem is the very perfect example of Ecofeminism.

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On Split Domination Number of Graphs

Kamali S, Ramalakshmi K and Ammani S

Department of Mathematics

Sri Sarada College for Women, Tirunelveli 627 011.

Email : Email:lakshmi19maths@gmail.com,amshappy.av@gmail.com

Abstract: For a connected graph G , a set of vertices D in G is called a split dominating set if D is both dominating and the induced sub graph $V - D$ is disconnected. The minimum cardinality of a split dominating set of G is its split domination number and is denoted by $\gamma_s(G)$. In this paper, split domination number of some special graphs were found.

Keywords: Domination, split domination and split domination number.

Introduction

The concept of domination in graphs was introduced by Ore and Berge [6]. Let $G = (V, E)$ be a finite undirected graph with neither loops nor multiple edges. A subset D of $V(G)$ is a dominating set of G if every vertex in $V - D$ is adjacent to atleast one vertex in D . The minimum cardinality of a dominating set of G is called the domination number of G and is denoted by $\gamma(G)$. The concept of split domination in graphs was introduced by V. R Kulli & B. Janakiram [5]. A dominating set D of a graph $G = (V, E)$ is a split dominating set if the induced sub graph $V \setminus D$ is disconnected. The split domination number $\gamma_s(G)$ of G is the minimum cardinality of a split dominating set. They defined the split dominating set, the split domination number and also obtained several results regarding the split domination number of some standard graphs[4]. Motivated by these results, split domination number of some special graphs is obtained in this paper.

The **Friendship graph** T_n is a set of n triangles having a common central vertex[1]. The **Jelly fish graph** $J(m, n)$ is obtained from a 4-cycle v_1, v_2, v_3, v_4 by joining v_1 and v_3 with an edge and appending m pendant edges to v_2 and n pendant edges to v_4 [2]. The **Jewel graph** J_n is a graph with the vertex set $V(J_n) = \{u, v, x, y, u_i / 1 \leq i \leq n\}$ and the edge set $E(J_n) = \{ux, uy, xy, xv, uu_i, vu_i / 1 \leq i \leq n\}$. A **Fan graph** obtained by joining all vertices of a path P_n to a further vertex, called the centre. Thus, F_n contains $n+1$ vertices say $\{c, v_1, v_2, v_3, \dots, v_n\}$ and $(2n-1)$ edges, say $cv_i, 1 \leq i \leq n$, and $vv_{i+1}, 1 \leq i \leq n-1$. The graph $A(m, n)$ is obtained by attaching m pendant edges to the n vertices of the cycle C_n is called **Actinia graph**[3]. The **Ladder graph** L_n is a planar undirected graph with $2n$ vertices and $3n-2$ edges. The ladder graph can be obtained as the Cartesian product of two path graphs, one of which has only one edge: $L_n = P_n \times P_2$.

Split Domination Number of Some Special Graphs

Theorem: 2.1

For the Friendship graph, $\gamma_s(T_n) = 1$.

Proof:

Let $V(T_n) = \{v, v_1, u_1, v_2, u_2, \dots, v_n, u_n\}$ and v be the central vertex of T_n .

Here, $S = \{v\}$ is the unique minimum split dominating set of T_n and $|S| = 1$.

Therefore, $\gamma_s(T_n) = 1$.

Theorem: 2.2

For the jellyfish graph, $\gamma_s(J_{m,n}) = 2$.

Proof :

Let $V(J_{m,n}) = \{x, y, u, v\} \cup \{x_i/i = 1, 2, 3, \dots, m\} \cup \{y_j/j = 1, 2, 3, \dots, n\}$ and $E(J_{m,n}) = \{xu, xv, yu, yv, uv\} \cup \{x x_i/i = 1, 2, 3, \dots, m\} \cup \{y y_j/j = 1, 2, 3, \dots, n\}$

Consider the set $S = \{x, y\}$. It is a dominating set of $J_{m,n}$ also $\langle V-S \rangle$ is disconnected.

Therefore, S is the unique minimum split dominating set of $J_{m,n}$ and $|S| = 2$.

Hence, $\gamma_s(J_{m,n}) = 2$.

Theorem: 2.3

For the Jewel graph, $\gamma_s(J_n) = 2$

Proof:

Let $V(J_n) = \{x, y, u, v\} \cup \{u_i/i = 1, 2, 3, \dots, n\}$ and

$E(J_n) = \{xu, xv, yu, yv, xy\} \cup \{u u_i/i = 1, 2, 3, \dots, n\}$.

Consider the set $S = \{u, v\}$. It is a unique minimum dominating set of J_n also $\langle V-S \rangle$ is disconnected. Therefore, S is the unique minimum split dominating set of J_n and $|S| = 2$. Hence, $\gamma_s(J_n) = 2$.

Theorem: 2.4

For the fan graph, $\gamma_s(F_n) = 2$.

Proof :

Let $V(F_n) = \{v\} \cup \{v_i/i = 1, 2, 3, \dots, n\}$ and $E(F_n) = \{v v_i/i = 1, 2, 3, \dots, n\}$

$\cup \{v_i v_{i+1}/i = 1, 2, 3, \dots, n-1\}$

Let v be the vertex of degree n .

Here, $\{v\}$ be the unique minimum dominating set of F_n . But $\langle V-S \rangle$ is a path P_n which is connected. Consider the set $S = \{v\} \cup \{v_i\}$ for any $i = 2, 3, \dots, n-1$ which is a dominating set also $\langle V-S \rangle$ is disconnected. Therefore, S is the unique minimum split dominating set if F_n and $|S| = 2$. Hence, $\gamma_s(F_n) = 2$.

Theorem: 2.5

$$\text{For ladder graph, } \gamma_s(L_n) = \begin{cases} 2k & \text{where } n = 3k \\ 2k + 1 & \text{where } n = 3k + 1. \\ 2k + 2 & \text{where } n = 3k + 2 \end{cases}$$

Proof:

Let $V(P_2) = \{u_1, u_2\}$ and $V(P_n) = \{v_1, v_2, \dots, v_n\}$.

Then

$$V(L_n) = V(P_2 \times P_n) = \{(u_1, v_1), (u_1, v_2), \dots, (u_1, v_n), (u_2, v_1), (u_2, v_2), \dots, (u_2, v_n)\}.$$

Case (i): Let $n = 3k$, $k = 1, 2, \dots$

Here $S = \{(u_1, v_2), (u_2, v_2), (u_1, v_5), (u_2, v_5), \dots, (u_1, v_{n-1}), (u_2, v_{n-1})\}$ is the dominating set of L_n and $|S| = 2 \frac{n}{3} = 2 \frac{3k}{3} = 2k$. Also, the sub graph $\langle V-S \rangle$ is disconnected. Therefore, S is the minimum split dominating set of L_n . Therefore, $\gamma_s(L_n) = 2k$ where $n=3k$.

Case (ii): Let $n = 3k + 1$, $k = 1, 2, \dots$

Here, $S_1 = \{(u_1, v_2), (u_2, v_2), (u_1, v_5), (u_2, v_5), \dots, (u_1, v_{n-2}), (u_2, v_{n-2}), (u_1, v_n)\}$,

$$S_2 = \{(u_1, v_2), (u_2, v_2), (u_1, v_5), (u_2, v_5), \dots, (u_1, v_{n-2}), (u_2, v_{n-2}), (u_2, v_n)\}$$

are the dominating sets of L_n .

$$\begin{aligned} \text{Then } |S_1| = |S_2| &= 2 \frac{(n-1)}{3} + 1 = 2 \frac{(3k+1-1)}{3} + 1 \\ &= 2 \frac{3k}{3} + 1 \\ &= 2k + 1 \end{aligned}$$

If we remove S_1 or S_2 then the induced sub graph is disconnected. Therefore, S_1 and S_2 are the minimum split dominating set of L_n . Therefore, $\gamma_s(L_n) = 2k + 1$ where $n=3k+1$.

Case (iii): Let $n = 3k + 2$, $k = 1, 2, \dots$

Here,

$S = \{(u_1, v_2), (u_2, v_2), (u_1, v_5), (u_2, v_5), \dots, (u_1, v_{n-3}), (u_2, v_{n-3}), (u_1, v_n), (u_2, v_n)\}$ is the dominating set of L_n . Then, $|S| = 2 \frac{(n-2)}{3} + 2 = 2 \frac{(3k+2-2)}{3} + 2 = 2 \frac{3k}{3} + 2 = 2k + 2$.

Also, the sub graph $\langle V-S \rangle$ is disconnected. Therefore, S is the minimum split dominating set of L_n . Therefore $\gamma_s(L_n) = 2k + 2$ where $n=3k+2$.

Hence from the three cases, we get the result.

Theorem: 2.6

For the Actinia graph, $\gamma_s(A(m, n)) = n$.

Proof :

Let $V(A(m, n)) = \{v_i / i = 1, 2, \dots, n\} \cup \{u_{ij} / i = 1, 2, \dots, n \text{ and } j = 1, 2, \dots, m\}$ and $E(A(m, n)) = \{v_i v_{i+1} / i = 1, 2, 3, \dots, n\} \cup \{v_n v_1\} \cup \{v_i u_{ij} / i = 1, 2, \dots, n \text{ and } j = 1, 2, \dots, m\}$.

Here, $S = \{v_i\}$ where $i = 1$ to n and $S_1 = \{u_{ij}\}$ where $i = 1$ to $n, j = 1$ to m are the dominating sets of $A(m, n)$.

Also, $|S| = n$ and $|S_1| = mn$. Here $\langle V-S \rangle$ is a cycle C_n which is connected. But $\langle V-S \rangle$ is a disconnected graph. Therefore, S is the unique minimum split dominating set of $A_{n, n}$.

Here, $|S| = n$. Therefore, $\gamma_s(A(m, n)) = n$.

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A Comparative Study on the Carbohydrate Content in various Food Grains

Muthu Sankarshwari A, Raja Rajeswari V* and Rajeswari S

Department of Chemistry,
Sri Sarada College for Women, Tirunelveli-627011
Email : *vrrajimkumar@gmail.com

Abstract: Carbohydrates perform numerous roles in living organisms; they are an important source of energy. The body uses carbohydrates to make glucose which is the fuel that gives it energy and helps keep everything going. However, excess carbohydrate consumption has negative health effects. So it is important to find out the carbohydrate content of various food. In this paper we have extracted carbohydrate from various food grains, determined the carbohydrate content.

Key words: carbohydrate, food grains, Anthrone method,

Introduction

Carbohydrates are polyhydroxy alcohol with potentially active carbonyl group which may be aldehyde or keto group. Carbohydrates can be classified on the basis of carbon atom present in the carbohydrates. Carbohydrates are classified into four types: monosaccharides, disaccharides, oligosaccharides, polysaccharides.

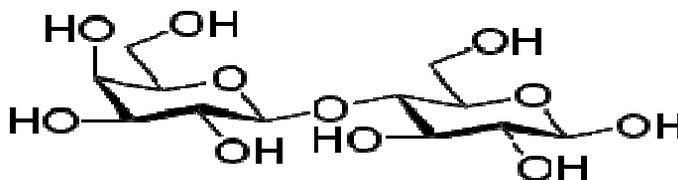


Figure 1: Structure of carbohydrate

Monosaccharides cannot be hydrolyzed further into simpler form of carbohydrates. Monosaccharides are easily absorbed in intestines. All other types of carbohydrates like disaccharides and polysaccharides are not absorbed directly. All disaccharides and polysaccharides are ultimately converted to monosaccharides. Monosaccharides are important in the body especially glucose, fructose and galactose. Glucose is the most important carbohydrate in human body (Paulsen H et al, 1968). Glucose is formed from the hydrolysis of complex carbohydrates including starch, dextrin. Glucose is found in the blood and provides energy to the body. Glucose is also formed from breakdown of glycogen in the body. Fructose is a reducing sugar and forms osazone crystals. Fructose is found in fruit and is also found in honey. Fructose can be obtained in the body by action of sucrase on sucrose. Galactose is also a reducing sugar and forms rod shaped crystals [1].

Disaccharides consist of two sugars that are linked by a glycosidic linkage. This glycosidic linkage is formed by a condensation reaction that takes place between the

two sugars units, resulting in the loss of a hydrogen atom from one monosaccharide and a hydroxyl group from the other. Disaccharides are broken down into two monosaccharide, in the small intestine during the process of digestion [2].

Polysaccharides cannot be directly utilized by the body. They must first be broken down into monosaccharide, the only sugar form the body can use. Polysaccharides contain up to 60,000 simple carbohydrate molecules. Polysaccharides are polymeric carbohydrate structures, formed of repeating units (either mono- or disaccharides) joined together by glycosidic bonds. Unlike other saccharides, polysaccharides tend to not have a sweet taste. Some examples of polysaccharides include starch, cellulose and glycogen.

Functions of Carbohydrates

Plants produce carbohydrates by photosynthesis. In most animals, carbohydrates are the quickly accessible reservoir of energy. The main function of carbohydrates is to provide energy, but they also play an important role in the structure and function of the body organs and nerve cells. Disaccharides are broken down by their respective enzymes like lactase, maltase and sucrose [3]. Starch is hydrolyzed by amylase. If glucose is in excess it can be converted to glycogen, two sites are in body where glucose is stored like muscle and liver. Liver glycogen maintains blood glucose level while muscle glycogen does not maintain blood glucose. Liver lacks enzyme glucose 6 phosphatase that converts glucose 6 phosphate to glucose [4]. The brain needs to use glucose as an energy source, since it cannot use fat for this purpose. It is for this reason that the level of glucose in the blood must be constantly maintained above the minimum level. Sources of glucose are dietary carbohydrates and glycogen. Many hormones regulate the blood glucose level.

Food Sources



Figure 2: Carbohydrate rich foods

Vegetables, fruits, whole grains, milk, and milk products are the major food sources of carbohydrates. Grains and certain vegetables including corn and potatoes are rich in

starch, whereas sweet potatoes are mostly sucrose, not starch. Fruits and dark-green vegetables contain little or no starch but provide sugars and dietary fiber [5]. Each type of carbohydrate has important health benefits; so one should eat a variety of these foods to get enough of both. Whole grains are a good source of fiber and nutrients [5]. Whole grains refer to grains that have all of the parts of the grain seed (sometimes called the kernel). These parts of the kernel are called the bran, the germ, and the endosperm.

If the whole grain has been cracked, crushed, or flaked (as in cracked whole grain bread or flake cereal), then the whole grain must still have about the same proportions of bran, germ, and endosperm to be called a whole grain. When whole grains are processed, some of the dietary fiber and other important nutrients are removed. A processed grain is called a "refined" grain. Some refined grain products have key nutrients, such as folic acid and iron, which were removed during the initial processing and added back. These are called enriched grains. White rice and white bread are enriched grain products. Some enriched grain foods have extra nutrients added. These are called fortified grains [6].

Low-carbohydrate diets are associated with increased mortality, and they can miss out on the health benefits afforded by high-quality carbohydrate including grain legumes or pulses, fruits and vegetables [7]. Disadvantages of the carbohydrate diet might include halitosis, headache and constipation and in general the potential adverse effects of carbohydrate-restricted diets are under-researched, particularly for more serious possible risks such as for bone health and cancer treatment [8]. Since carbohydrate is a good source of energy, and it is necessary to know the amount of carbohydrate present in the food grains [9].

In this work we have extracted the carbohydrate from the following food grains such as (Thinai, Wheat, Pigeon peas, Chick peas, Kidney beans, Rice, Brown rice) and the carbohydrate content in food the grains estimated by Anthrone method then it was compared with various food grains.

Experimental Method

Materials

Glucose, Distilled water & Food grains (Thinai, Wheat, Pigeon peas, Chick peas, Kidney beans, Rice, Brown rice)

Method

Anthrone method is a rapid and convenient method for determination of hexoses. It is simple injective to interference and gives a reliable index of the total carbohydrates in sample. Into a series of test tubes different aliquots of working standard glucose solution (0.2-1.0 ml) was pipetted out and the volume was made up to 1 ml of distilled water. A blank was prepared by making 1ml of distilled water. To each test tube 4 ml of anthrone reagent was added and mixed well. The test tubes were kept in a boiling water bath for 10 mins. Then the test tubes were cooled at room temperature and

optical density were measured at 670 nm against the reagent blank. A standard graph was drawn by plotting concentration of glucose on x-axis from that the amount of optical density y-axis from that the amount of glucose present in the given unknown solution was calculated.

Result and Discussion

The following table represents the amount of carbohydrate content present in the food grains (Thinai, Wheat, Pigeon peas, Chick peas, Kidney beans, Rice, Brown rice).

S. No	Food Products (0.1 g)	Optical Density	Carbohydrate Content (mg)
1.	Quinoa	1.63	20.5
2.	Wheat	1.58	19.0
3.	Pigeon peas	1.48	16.0
4.	Chick peas	1.30	10.5
5.	Kidney beans	1.20	7.5
6.	Rice	1.13	5.5
7.	Brown rice	1.10	4.5

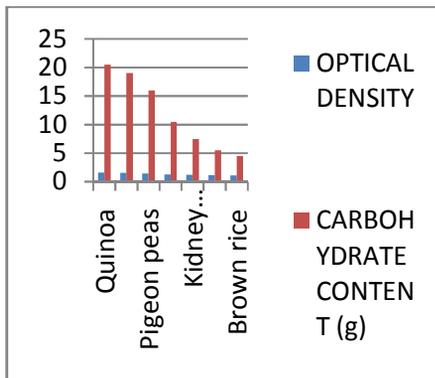


Figure 2: Carbohydrate content in various food grains

Conclusion

In our present investigation we have taken a source of grain as 0.1g and estimate the amount of carbohydrates and also compared the carbohydrate content in various food grains from Table:1 Thinai(20.5), Wheat(19.0), Pigeon peas(16.0), Chick peas(10.5), Kidney beans(7.5), Rice(5.5), Brown rice(4.5). From the values obtained we came to found that grain quinoa (20.5) contains the higher carbohydrate content. And the grain rice (5.5) contains the lower amount of carbohydrate. Cereal foods should continue to be reduced to help people to lower their overall sodium intake. Legume and pulse consumption is a usual and beneficial part of the human diet and contributory to health.

High and low intake of carbohydrates lead to deficiency diseases and so people are advisable to take proper amount of carbohydrate in their diet. In this project we also conclude that the pulses contain a higher amount of carbohydrates compared to cereals. For future study, the amount of carbohydrate present in various brands of rice can be estimated.

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Preparation Methods, Properties and Applications of Nanomaterials

Kanaga V

Department of Physics,

Sri Sarada College for Women, Tirunelveli-627011

E-mail: kanagavelu1997@gmail.com

***Abstract:** Nanotechnology is an emerging technology with applications in several scientific and research fields, such as information and communication technology, electronics, energy, biology, medical technology, etc. The term nanotechnology comes from the combination of two words: the Greek numerical prefix nano referring to a billionth and the word technology. Nanotechnology is an emerging technology with applications in several scientific and research fields, such as information and communication technology, electronics, energy, biology, medical technology, etc.*

***Key words:** Nanotechnology, energy, emerging technology*

Introduction

Nanotechnology is an emerging technology with applications in several scientific and research fields, such as information and communication technology, electronics, energy, biology, medical technology, etc. The term nanotechnology comes from the combination of two words: the Greek numerical prefix nano referring to a billionth and the word technology. Technology is generally considered to be at a size below $0.1\mu\text{m}$ or 100nm (a nanometer is one billionth of a meter, 10^{-9} m). Nanoscale science (or nanoscience) studies the phenomena, properties, and responses of materials at atomic, molecular, and macromolecular scales, and in general at sizes between 1 and 100nm . In this scale, and especially below 5nm , the properties of matter differ significantly from that at a larger particulate scale. Nanotechnology is then the design, the manipulation, the building, the production and application, by controlling the shape and size, the properties-responses and functionality of structures, and devices and systems of the order or less than 100 nm . Nanotechnology is considered an emerging technology due to the possibility to advance well-established products and to create new products with totally new characteristics and functions with enormous potential in a wide range of applications. In addition to various industrial uses, great innovations are foreseen in information and communication technology, in biology and biotechnology, in medicine and medical technology, in metrology, etc.

Methods and Principles of Nanotechnology

Size Dependence

Electrons are confined in all three dimensions causing matter to behave completely different in terms of its optical and electronic properties. When the dimension of a material approaches the electron wavelength in one or more dimensions, quantum mechanical characteristics of the electrons that are not manifest in the bulk material can start to contribute too even dominate the physical properties of the material . Besides

quantum size effects, the nanomaterials behavior is different due to surface effects which dominate as nanocrystal size decreases. Reducing the size of a crystal from 30 to 3nm, the number of atoms on its surface increases from 5% to 50% beginning to perturb the periodicity of the “infinite” lattice[1]. In that sense, atoms at the surface have fewer direct neighbors than atoms in the bulk and as a result they are less stabilized than bulk atoms . The origin of the quantum size effects strongly depends on the type of bonding in the crystal.

Metal NPs

For metals, the electron mean free path(MFP) determine the thermal and electrical conductivity and affects the color of the metal. For most of the metals, MFP is of the order of 5–50nm. Reducing further this threshold, the electrons begin to scatter off the crystal surface, and the resistivity of the particles increases[2]. For very small metal particles, the conduction and valence bands begin to break down into discrete levels. For gold particles, this causes a change in color from red to orange at sizes around 1.5nm.

Quantum Dots

In a bulk semiconductor electrons can freely move within an area from a few nanometers to a few hundred of nanometers as defined by the Bohr radius. Thus continuous conduction and valence energy bands exist which are separated by an energy gap. Contrary, in a quantum dot, where excitons can not move freely, discrete atomic like states with energies that are determined by the quantum dot radius appear. The effect of quantum confinement has a great technological interest from semiconductors and optoelectronics to biological applications.

Nanotechnology imitates nature

Different methods for the synthesis of nanoengineered materials and devices can accommodate precursors from solid, liquid, or gas phases and encompass a tremendously varied set of experimental techniques. A detailed presentation of these is beyond the scope of this review. In general, however, most synthetic methods can be classified into two main approaches: “top-down” and “bottom-up” approaches and combinations. “Top-down” (photolithography, micro contact printing) techniques begin with a macroscopic material or group of materials and incorporate smaller-scale details into them, whereas “bottom-up” (organic-synthesis, self-assembly) approaches begin by designing and synthesizing custom-made molecules that have the ability to self-assemble or self-organize into higher order mesoscale and macroscale structures. Bottom-up approach aims to guide the assembly of atomic and molecular constituents into organized surface structures through processes inherent in the manipulated system. One example of the bottom-up approach is self-assembly. Self-assembly is the fundamental principle which generates structural organization on all scales from molecules to galaxies. It is a method of integration in which the components spontaneously assemble, until a stable structure of minimum energy is reached.

Nano in Energy and Clean Energy

Energy is one of the most challenging needs of humanity, and is highest on the list of priorities and requisites for human welfare. According to the International Energy Agency (IEA), World's primary energy demand will increase by 36% between 2008 and 2035. Electricity demand is expected to grow by 2.2% per year. Between 2008 and 2035. Taking in account the CO₂ emissions and the global climate change impact on life and the health of the planet renewable energy sources will have to play a central role in moving the world onto a more secure, reliable, and sustainable energy path. Solar energy is the most abundant, inexhaustible and clean of all the renewable energy resources till date. The power from sun intercepted by the earth is about 1.81011 MW, which is many times larger than the present rate of all the energy consumption. The performance of conventional solar cells is approaching a plateau; only incremental improvements have been accomplished in the last decade despite dedicated R&D effort[3]. Tandem solar cells based on III-V materials have achieved the highest efficiencies of any present photovoltaic device exceeding 40% recently However, the cost of these devices is very high. Limiting their application to space applications. The efficiencies reached with commercial solar cell modules are significantly lower than those of the best laboratory cells due to losses incurred during scale up. The typical size of "champion laboratory cells" is in the square centimeter range or even below, facilitating the collection of photocurrent.

Nanotechnology Tools: Nanometrology The great development in Nanotechnology has given birth to the need of knowing of the dimensions that characterize its nanostructure. This lead to the appearance of a new scientific field called Nanometrology. Nanometrology is the science and practice of measurement of functionally important, mostly dimensional parameters and components with at least one critical dimension which is smaller than 100nm. Success in nanomanufacturing of devices will rely on new nanometrologies needed to measure basic materials properties including their sensitivities to environmental conditions and their variations, to control the nanofabrication processes and materials functionalities, and to explore failure mechanisms. In order to study and explore the complex nanosystems, highly sophisticated experimental, theoretical, and modeling tools are required. Especially, the visualization, characterization, and manipulation of materials and devices require sophisticated imaging and quantitative techniques with spatial and temporal resolutions on the order of 10⁶ and below to the molecular level. In addition, these techniques are critical for understanding the relationship and interface between nanoscopic and mesoscopic/macroscopic scales, a particularly important objective for biological and medical applications[4]. The need for better characterization at the nanoscale derives from the correlation between the macroscopic functional properties with the nanoscale structural characteristics of nanomaterials which is a prerequisite for the development of emerging low-cost manufacturing technological fields such as organic electronics. These include organic solar cells (OPVs), organic light emitting diodes (OLEDs) and organic field-effect transistors (OFETs), and others. Insights on the nanomorphology as well as

the conduction mechanisms at the various interfaces that exist in these multilayered devices are crucial for the development of the plastic electronic technology and the construction of better products. Examples of important tools available at the moment include highly focused synchrotron X-ray sources and related techniques that provide detailed molecular structural information by directly probing the atomic arrangement of atoms; scanning probe microscopy that allow three-dimensional-type topographical atomic and molecular views or optical responses of nanoscale structures.

Future Perspectives

Consequently, today's suite of metrology tools has been designed to meet the needs of exploratory nanoscale research. New techniques, tools, instruments and infrastructure will be needed to support a successful nanomanufacturing industry. The currently available metrology tools are also beginning to reach the limits of resolution and accuracy and are not expected to meet future requirements for nanotechnology or nanomanufacturing. This combination over comes the difficulties that originate from low signal since the Raman systems have limit in lateral resolution of 300m and require high laser power for surface investigation because the measured Raman intensity is six orders of magnitude lower than the excitation power. Thus, TERS is a promising technique and we can see it in the near future to be used for probing the chemical analysis of very small areas and for the imaging of nanostructures and biomolecules such as proteins. New approaches have to be developed and existing ones based on XPS, X-ray absorption spectroscopy, SPM and SIMS have to be improved in terms of better spectral and spatial resolution, better contrast and better sensitivity or elements and molecular species. Ideally new methods should have capabilities to work in situ, at ambient air and/or in liquid surroundings. However, clever new approaches need to be developed. For this, it is required to understand the fundamental mechanisms by which the probes of the nanometrology measuring systems interact with the materials and objects that are being measured. Finally, even with the vast array of current tools available, the important question is whether or not they are providing the required information or reams of inconsequential data. Revolutionary approaches to the nanometrology needed may be required in the near future and therefore, revolutionary and not just evolutionary instrumentation and metrology are needed.

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A Brief Study About Service Models of Cloud Computing

Ramalakshmi S

Department of Computer Science,

Sri Sarada College for Women, Tirunelveli – 627011

Email-Id : rams1979@gmail.com.

***Abstract:** Cloud computing is the important and rapid developing technology in the present scenario. Storing data in the remote server instead of computers hard disk and can also access and retrieve the data anywhere at any time. Data stored and maintained in virtual servers by third party service providers. Amazon (AWS), IBM clouds, Google are some of the leading cloud service providers. Cloud computing refers storing and accessing data, programs and user information via the Internet .Cloud it is just a metaphor for the word Internet. Cloud computing providing a new path way for storing the data and retrieving it anywhere, any time. Here we are going to briefly discuss about service models of the cloud.*

***Keywords:** remote server, cloud computing, retrieving.*

Introduction

Cloud computing is the important and rapid developing technology in the present scenario. Storing data in the remote server instead of computers hard disk and can also access and retrieve the data anywhere at any time. Data stored and maintained in virtual servers by third party service providers. Amazon (AWS), IBM clouds, Google are some of the leading cloud service providers.[1].Cloud computing refers storing and accessing data, programs and user information via the Internet .Cloud it is just a metaphor for the word Internet. Cloud computing providing a new path way for storing the data and retrieving it anywhere, any time. Here we are going to briefly discuss about service models of the cloud.

Service Models of Cloud Computing

Service models of cloud means and advocates "everything as a service" (with the acronyms **EaaS** or **XaaS**, or simply **aas**), cloud-computing providers offer their "services" according to different models, of which the three standard models per **NIST** are Infrastructure as a Service (IaaS), Platform as a Service (PaaS), and Software as a Service (SaaS). These models offer increasing abstraction; they are thus often portrayed as a *layers* in a stack: infrastructure-, platform- and software-as-a-service, but these need not be related. For example, one can provide SaaS implemented on physical machines (bare metal), without using underlying PaaS or IaaS layers, and conversely one can run a program on IaaS and access it directly, without wrapping it as SaaS.

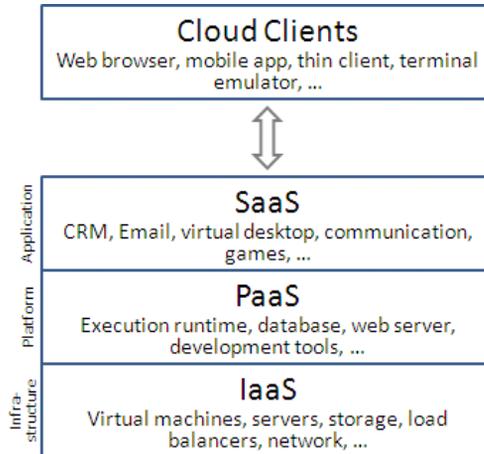


Figure 1: Architecture of cloud service models.

SAAS : Software As A Service

Cloud application services, or Software as a Service (SaaS), represent the largest cloud market and are still growing quickly. SaaS uses the web to deliver applications that are managed by a third-party vendor and whose interface is accessed on the clients' side. Most SaaS applications can be run directly from a web browser without any downloads or installations required, although some require plugins. Because of the web delivery model, SaaS eliminates the need to install and run applications on individual computers. With SaaS, it's easy for enterprises to streamline their maintenance and support, because everything can be managed by vendors: applications, runtime, data, middleware, OSes, virtualization, servers, storage and networking[2].

SaaS Examples: Google Apps, Salesforce, Workday.PAAS: Platform as a Service

Cloud platform services, or Platform as a Service (PaaS), are used for applications, and other development, while providing cloud components to software. What developers gain with PaaS is a framework they can build upon to develop or customize applications [3].PaaS makes the development, testing, and deployment of applications quick, simple, and cost-effective. With this technology, enterprise operations, or a third-party provider, can manage OSes, virtualization, servers, storage, networking, and the PaaS software itself. Developers, however, manage the applications. Enterprise PaaS provides line-of-business software developers a self-service portal for managing computing infrastructure from centralized IT operations and the platforms that are installed on top of the hardware. The enterprise PaaS can be delivered through a hybrid model that uses both public IaaS and on-premise infrastructure or as a pure private PaaS that only uses the latter.

Enterprise PAAS Examples: Apprenda. IAAS : Infrastructure As A Service

Cloud infrastructure services, known as Infrastructure as a Service (IaaS), are self-service models for accessing, monitoring, and managing remote datacenter

infrastructures, such as compute (virtualized or bare metal), storage, networking, and networking services (e.g. firewalls). Instead of having to purchase hardware outright, users can purchase IaaS based on consumption, similar to electricity or other utility billing. Compared to SaaS and PaaS, IaaS users are responsible for managing applications, data, runtime, middleware, and OSes. Providers still manage virtualization, servers, hard drives, storage, and networking[4]. Many IaaS providers now offer databases, messaging queues, and other services above the virtualization layer as well. Some tech analysts draw a distinction here and use the IaaS moniker for these other options. What users gain with IaaS is infrastructure on top of which they can install any required platform. Users are responsible for updating these if new versions are released.

IAAS Examples: Amazon Web Services (AWS), Google Compute Engine (GCE).

Conclusion

The goal of cloud computing is to allow users to take benefit from all of these technologies, without the need for deep knowledge about or expertise with each one of them. The cloud aims to cut costs, and helps the users focus on their core business instead of being impeded by IT obstacles. Cloud computing adopts concepts from Service-oriented Architecture (SOA) that can help the user break these problems into services that can be integrated to provide a solution. In the above article we briefly discuss about the services provides by cloud computing.

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Analysis of Face Identification using Object Segmentation Method

BalaPrabha T*, Karthiga K and Radha jeyalakshmi T*****

Department of Computer Applications

Sri Sarada College for Women, Tirunelveli-627011

E-mail: * balaprabhaselva@gmail.com, ** karthiga.thersa@gmail.com,

*** drtradha.jl@gmail.com

***Abstract:** Face recognition has become a popular area of research in computer vision, it is typically used in network security systems and access control systems but it is also useful in other multimedia information processing areas. One of its application is criminal face identification. Criminal record generally contains personal information about particular person along with the photograph. To identify any criminal we need some identification regarding particular person or Persons, which are given by eyewitnesses. Based on the details given by the eyewitnesses, the further investigation would be carried out. In most cases the quality and resolution of the recorded image segments is poor and hard to identify a face. In this paper, we have classified image processing operations into three categories; low, medium and high level to process and analyze a given face. This paper presents better results than conventional methods in userelating to the face recognition process that are used in criminal identification.*

***Keywords:** Face Identification, image processing, Biometrics, Face clippings.*

Introduction

Image processing is a method to perform some operations on an image, in order to get an enhanced image or to extract some useful information from it. It is a type of signal processing in which input is an image and output may be image or characteristics/features associated with that image. It is a subfield of signals and systems but focus particularly on images. Image processing is often viewed as arbitrarily manipulating an image to achieve an aesthetic standard or to support a preferred reality. However, image processing is more accurately defined as a means of translation between the human visual system and digital imaging devices.[1,2].The human visual system does not perceive the world in the same manner as digital detectors, with display devices imposing additional noise and bandwidth restrictions. Salient differences between the human and digital detectors will be shown, along with some basic processing steps for achieving translation. Image processing must be approached in a manner consistent with the scientific method so that others may reproduce, and validate, one's results. This includes recording and reporting processing actions, and applying similar treatments to adequate control images.

Image processing basically includes the following three steps:

- Importing the image via image acquisition tools;
- Analyzing and manipulating the image;
- Output in which result can be altered image or report that is based on image analysis.

Image Types: There are several ways of encoding the information in an image.

1. Binary image
 2. Grayscale image
 3. Indexed image
 4. True color or RGB image
- **BINARY IMAGE:** In a binary image, each pixel assumes one of only two discrete values: 1 or 0. A binary image is stored as a logical array. By convention, this documentation uses the variable name BW to refer to binary images[3].
 - **GRAYSCALE IMAGE:** Grayscale images are often the result of measuring the intensity of light at each pixel in a single band of the electromagnetic spectrum (e.g. infrared, visible light, ultraviolet, etc.), and in such cases they are monochromatic proper when only a given frequency is captured.
 - **INDEXED IMAGES:** Indexed color is a technique to manage digital images' colors in a limited fashion, in order to save computer memory and file storage, while speeding up display refresh and file transfers. It is a form of vector quantization compression.
 - **TRUE COLOR OR RGB IMAGE:** True-color, the rendition of an object's natural colors through an image. True Color is, use of a 24-bit color depth to display an RGB image. True color, a scale used to determine the color of water after all suspended material has been filtered out. Image processing Applications
 - **COLOR PROCESSING:** Color processing includes processing of colored images and different color spaces that are used. For example RGB color model, YCbCr, HSV. It also involves studying transmission, storage, and encoding of these color images.

Pattern Recognition

Pattern recognition involves study from image processing and from various other fields that includes machine learning (a branch of artificial intelligence)[5]. In pattern recognition, image processing is used for identifying the objects in an image and then machine learning is used to train the system for the change in pattern.

An over view of face identification

The project titled “**ANALYSIS OF FACE IDENTIFICATION USING OBJECT SEGMENTATION METHOD**” is mainly used to identify any criminal need some identification regarding person, which are given by eyewitnesses. The clues are develop an image by using the image that can be stored in database and then compare it with the images already to have. To identify any criminals must have a record that generally contains name, age, location, previous crime, gender, photo, etc[6].

The primary task at hand is, given still or video images require the identification of the one or more segmented and extracted from the scene, where upon it can be identified and matched. The images are segmented by using “**Object Segmentation Algorithm**”[7].

The word “image is defined as” an analogous representation of a being or thing.” The image or monochrome image such as black and white paragraph is represented as two-dimensional light intensity function $f(x, y)$ where x and y denotes spatial co-ordinates.

This project is aimed to identify the criminals in any investigation department. Here the technique is used to already store some images of the criminals in our database along with his details and that images are segmented into many slices say eyes, hairs, lips, nose, etc.

These images are again stored in another database record so to identify any criminals, eyewitnesses will see the images or slices that appear on the screen by using it develop the face, which may or may not be matched with our images[8]. If any image is matched then to predict that he/she is only the criminal. Thus using this project it provides a very friendly environment for both operator and eyewitness to easily design any face can identify criminals very easy.

Modules

- Add Image
- Clip Image
- Construct Image

Identification

A module is a small part of our project. This plays a very important role in the project and in coding concepts. In Software Engineering concept we treat it has a small part of a system but whereas in our programming language it is a small part of the program, which we also called as function in, some cases which constitute the main program[9].

Importance of modules in any software development side is we can easily understand what the system we are developing and what its main uses are. At the time of project we may create many modules and finally we combine them to form a system.

Add Image

Add Image is a module that is considered with adding image along with the complete details of the person of whom we are taking image. In this we add Image by importing from the Internet and store them in our system and database. This module is mainly considered for adding details of the criminals like name, age, alias name, gender, location, state, Arrested Date, etc[10]. At the time of the adding image we give some

criminal id to that particular person, so that it can be easily added to the database with any duplication of the data.

Clip Image

This modules main function is to divide the images into different pieces such as hairs, forehead, eyes, nose and lips and store them in the database and also creates the files onto our system.



Construct Image

This module based on the eyewitnesses we are going to construct the images. The witness will give us instruction by looking onto the screen on which there will be the parts of the images like eyes, hairs etc[11].

Identification

This module contains the interface to take the image from above module and it compares or searches with the images already there in the database[12]. If any image is matched then we identify him/her as the criminal else we add that new image again to the database.

Operation

Identify the images by its color, shape, objects to find the analysis the face.

Conclusion

The purpose of face identification system is to identify criminals. In past years this process is carried out by humans. This process gives the exact image of the criminal but it is very difficult to identify the criminal details and also it requires much amount of human burden.

The main aim of our project is to overcome the drawbacks of human based system by using the machine based face identification process. In this process we store the details of criminal into the database along with his photo or image. Then we make the image into different clips containing hair, forehead, eyes, nose, lips and chin and store these clips into the database. When any crime occurs we compare the details given by the eyewitness with the clips already stored in the database and we will identify the criminal. This project can be extended to adjust the gaps between the clips after construction of the image to be a perfect photograph using Image processing Techniques.

Future Enhancement

Identification can be done in many ways like fingerprint, eyes, DNA etc..

It can also be deployed vaults and lockers in banks for access control verification and identification of authentic users.

In all government and private offices this system can be deployed for identification, verification and attendance.

To implemented Mobile Application.

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A Study on Consumer Perspectives towards the Environment and Green Products in Tirunelveli City

*Manjula G and **Kamala

PG and Research Department of commerce

Sri Sarada college for women, Tirunelveli-627011

Email : * manjulaganapathi1994@gmail.com **69kamalaanna@gmail.com

***Abstract:** Green products are products which are bio-degradable, non –toxic and eco – friendly. Majority of the products are made up of glasses, cans or papers. Green products are products which are bio-degradable, non –toxic and eco – friendly. Majority of the products are made up of glasses, cans or papers. Promotion of these green products attempts to influence green consumer behavior and stimulate green product purchase.*

***Keywords:** Green products, non –toxic ,eco friendly*

Introduction

Green products are products which are bio-degradable, non –toxic and eco – friendly. Majority of the products are made up of glasses, cans or papers. Overtime, the rates of environmental issues have increased and it's has raised the people's concerns. This concern then made the demands of green products increased and has led to the emergence of “new marketing philosophy” known as green marketing. Companies have attempted to respond to the growing environmental concern of consumers with the introduction of variety of green products. Promotion of these green products attempts to influence green consumer behavior and stimulate green product purchase. Gurnert's study only examined a single product line (organic food) and thus there appears to be a need for further research in this area, which compasses the range of green product lines available to the customers.

Review of Literature

Elangovan, A. (2006) In their paper entitled has tried to identify the environmentally conscious consumers and study their attitude, behavior and perception towards environment friendly carry packages[1]. The research has also focused on analyzing the discrepancy between attitude and behavior of the ecological concerned consumers and has also suggested measures to reduce solid waste thereby reducing negative impacts on environment. The results of the study has suggested that there is a strong sense of environmental awareness and concerns, there is an attitude – behavior discrepancy due to cultural and market conditions.

Labbai, M. (2007)¹⁸In this paper entitled, the concept of corporate social responsibility (CSR) and ethics in marketing[2]. This paper has highlighted three aspects namely : i) To what extent the academicians in the B- Schools are imparting to their budding marketing managers, the importance of social responsibility and ethics in their marketing subject ii) How far the practicing marketing managers in India giving importance to ethical aspects and iii) To what extent MNC s operating in the developing

countries like India taking care of the ethical and social responsibility aspects while operating their business. It has also given an account of some MNC s in India that have adopted CSR so as to have a sustainable market development and growth not only in their countries but also in the most countries.

Objectives

- To assess the awareness of consumers regarding green products.
- To analyze the attitude and behavior of Indian consumers towards green products.
- To understand the issue and challenges of green marketing practices.
- To identify the factors influences the customer persuasion to buy green products.

Scope of the study

Green marketing is a form of remodeling the existing methodology and modifying the production process in order to seek an appropriate fit between currently practiced procedures and ecological marketing[3]. It is a type of environmental marketing that eliminates all the causes that pollute the surroundings,thereby making it unfit for human living. There are ongoing debates since the last five years over green marketing, across the globe. Major concerns are regarding energy star levels for the products available in the market[4]. Many studies reveal that consumer concern about the environment has steadily increased all over the world in the past two decades. These studies are mainly carried out in highly developed countries which are major contributors to environmental degradation.

Collection of Data

The primary data have been collected directly from the customers of green product t hroughquestionnaire. Secondary data have been collected from standard books, articles magazines, encyclopedia and internet.

- **Primary Data:** The study mainly based upon the primary data. Interview scheduled method is used to collect the data from the respondents, Sample sizes of 225 respondents have been appended in the research report.
- **Secondary Data:** To substantiate and to support the primary data required particular have been gathered by referring the reputed journals, magazines standard newspaper and books. Some of the information has been gathered from authorized web sources.

Tools for Analysis

Apart from the necessary tables, charts, graphs and like ,suitable statistical tools are applied for analysis and interpretation.

- Percentage Analysis
- Chi-square test

- Garratt ranking

Period of the Study

The period of the study in ranging from December 2018 to April 2019

Table 1

Factors	Gender	No. of Respondents	percentage
Age (years)	Below 25	20	20
	25-35	25	25
	35-45	30	30
	45- 55	15	15
	Above 55	10	10
	Total	100	100
Gender	Male	60	60
	Female	40	40
	Total	100	100
Educational qualification	HSC	5	5
	Graduates	20	20
	Post graduates	25	25
	Professionals	35	35
	Others	15	15
	Total	100	100
Monthly income (rupees)	Below 25,000	25	25
	25,000-35,000	35	35
	35,000-40,000	21	21
	Above 45,000	19	19
	Total	100	100

Table 1 shows that out of 100 respondents 60 percentage are male, Next 30 percentage are under age group 35-45 years ,Next 35 percentage are under monthly income of Rs 25,000-35,000.Next 35 percentage of the respondents are professionals.

Table 2

Chi Square between Gender of the respondents and Their frequency level of buying Green Product:

Null hypothesis: There is no significant relationship between gender of the respondents and their frequency level of buying green product.

In order to find the relationship between the gender of the respondents and their frequency level of buying green product. Chi square test is used and the result of the test is shown in the following table.

Table 2

Gender of the respondents and Their frequency level of buying Green Product: (CHI – SQUARE TEST)

Factor	Calculated X ² Value	Table Value	D.F	Level of significance	Remarks
Frequency level of buying green product	0.281	6.721	4	5 percent	Significant

Inference

It is established from the above table that the calculated chi-square value is less than the table value therefore the result is significant at 5 percent level of significance. Hence the hypothesis the “Gender of the respondents and their frequency level of buying green product” does not holds well. From the analysis it is concluded that there is no significant relationship between gender of the respondents and their frequency level of buying green product. Hence null hypothesis is accepted.

Findings

- The sources and awareness of green products Tv obtains first mark.
- Purchase green products if they are easily available obtains first mark.
- The response of people about the performance of the product, who have already used the green product obtains first rank.
- Prefer to buy products made or packaged in recycled materials obtains first rank.

Suggestions

This study was conducted to investigate the relationship between the variables that affect customers’ buying behavior for green products, to examine the factors that affect consumer’s buying behavior for green products ,to identify the price levels consumers prefer to pay for green products, in the district and in summary, to explore the impact of consumers buying behaviour towards the marketing of green products in Tirunelveli. The results provide reasonable support to all hypothesized relationships. It also identifies that while consumers have positive behaviour towards purchasing green products, when it comes to actual purchase, price, environmental concerns and quality are still the key factors influencing their purchase decisions.

Conclusion

One thing is being irritated is that current consumption levels are too high and are unsustainable. Hence there is a need for green marketing for shift in the consumer’s behavior and attitude towards more environmental friendly life styles.

Consumers are willing to pay a little extra towards green products, organization are taking notice of the demand and behavior and attitude of the customers. They also prefer promotional campaign which products the environment and distribution channels which are not causing environmental pollution.

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A Study on Role of Green Marketing and its Impact on Consumers in Tirunelveli District

Aruna Devi A* and Thangapappa M**

PG and Research Department of commerce

Sri Sarada college for women, Tirunelveli-627011

Email: *a.arunadevi@ymail.com **pappa20@gmail.com

***Abstract:** Green Marketing products that are presumed to be environmentally safe. It incorporates a broad range of activities including product modification; changes to the production process, sustainable packaging, as well as modifying advertising other similar terms used are environmental marketing and ecological marketing. Green marketing refers to the process of selling products and/or services based on their environmental benefits. Green marketing involves developing and promoting products and services that satisfy . Most of such studies however, remain conspicuously missing in the context of developing economies like India.*

***Keywords:** Green marketing, modification, ecological marketing ,environmental benefits.*

Introduction

Green Marketing products that are presumed to be environmentally safe. It incorporates a broad range of activities including product modification; changes to the production process, sustainable packaging, as well as modifying advertising other similar terms used are environmental marketing and ecological marketing[1]. Green marketing refers to the process of selling products and/or services based on their environmental benefits. Green marketing involves developing and promoting products and services that satisfy customers want and need for quality, performance affordable pricing and convenience without having a detrimental input on the environment[2]. Most of such studies however, remain conspicuously missing in the context of developing economies like India. A specific dimension of traditional marketing, green marketing contains the same ingredients of traditional marketing. Product, price, promotion, and place[3,4].To gain a competitive advantage in the changing world firms are following the demand trend of customers and make improvement of this development over time. The green marketing concept could be operational zed by using the following marketing.

Objectives

1. To analyse the socio economic profile of the customers.
2. To identify the green producing recently used.
3. To create level of awareness about the ecological process and environmental sustainable green marketing process.
4. To identify main reason to make pay more green product.
5. To know the relationship of green consumption behavior with consumer demographics.
6. To offer suggestions to avoid plastic products.

Period of the Study

The respondent provides particular relating to impact on green product in the period December 2018 to March 2019.

Research Methodology

This section describes the methodology which includes collection of data, construction of questionnaire and framework of analysis.

Tools for Analysis

A part from the necessary tables charts and like suitable statistical tools are applied for analysis and interpretation.

- Percentage Analysis
- Five point scale
- Chi-square test
- Mean score
- Garrett ranking

Review of Literature

Francoise L.Simoni¹ (1995) in their articles entitled the author looks at the green marketing from more than the exchange and need satisfaction and insists on ultimate or eternal effect of the consumptions. The consumption is not a physical activity like animals but links delivering quality of life to the human beings. In his opinion the goal of marketing system should be to maximize life quality which mens not only quality and quantity of products and services but also quality of environment.

Yogita Sharma.A², August (2011) the paper is about consumer durables and retailing. It suggest the communication has to be stronger from corporate as according the study the claim is made that consumers are willing to pay as the basic like of the consumers is to prefer the clean environment.

Analysis And interpretation of Data

Table-1: Socio Economic Profile

Gender	No of Respondent	Percentage
Male	81	54
Female	69	46
Total	150	100
Age wise		
Below 20	53	35
21-30	48	32
31-40	27	18
Above 40	22	15
Total	150	150

Monthly income		
Below 10000	33	22
10000-20000	52	35
20000-30000	31	21
Above 40000	34	23
Total	150	100
Educational qualification		
School level	32	21
Degree	51	34
Diploma	38	25
Others	29	19
Total	150	100

Source: primary data

Table 1 shows that out of 100 respondents 54 percentage of the respondents are male, Next 35 percentage of the respondents are under age group of Below 20, Next 35 percentage of the respondents are under monthly income of Rs 10000-20000. Next 34 percentage of the respondents are degree.

Gender of the Respondents and their Satisfaction level of Savings

H_01 –There is no significant association between gender of the respondents and their satisfaction level of savings

Table-2

		level of saving satisfied				Total
		Monthl	Quarterly	Half yearly	Yearly	
Gender	Male	13	15	36	17	81
	Female	11	11	35	12	69
Total		24	26	71	29	150
Chi-Square Tests						
		Value	Df	Asymp. Sig. (2-sided)		
Pearson Chi-Square		6.101	3	.281		

Source: Computed Data

The value of chi-square is 6.101 (d.f = 3) and associated significant value is 0.281 (which is greater than 0.05). Therefore, the null hypothesis is accepted. Hence there is no significance association between gender of the respondents and their frequency level of saving satisfied. So it can be concluded that respondents' frequency level of saving satisfied is not vary according to gender wise. From the above cross table clearly explained that male and female respondents' frequency level of visiting market outlet in a year is nearly same.

Test to compare the satisfaction level on Green Marketing according to Genderwise

H₀₂– There is no significant Mean rank difference between gender of the respondents and their satisfaction level on green marketing.

Table-3: Mann Whitney U Test to Compare the (Gender wise) Groups' Scores of satisfaction level on green marketing

Variables	Gender	Mean Rank	Sum of Ranks	Mann-Whitney U	Wilcoxon W	Z	Asymp. Sig. (2-tailed)
Satisfaction	Male	95.08	10272.00	7489.00	10272.00	4.383	.018
	Female	55.47	7382.00				

Source: Computed Data

For Satisfaction level, An examination of the findings in the above table reveals the results of Mann Whitney U test for the satisfaction level influences to the respondents in the Male and Female groups show no statistical difference ($Z = 4.383$; $p = 0.018 > 0.05$). The rank average of the male group respondents was 95.08, while the respondents in the female group had a score rank average of 55.47. The close rank averages of the groups' score on satisfaction level influence indicate that the both male and female respondents are relatively same level influenced by satisfaction level availability in the store.

Findings

- It is inferred that majority 37 percent of the respondents are above 41 years of age.
- It is inferred that majority 65 percent of the respondents are female.
- It is that majority 28 percent of the respondents are professionals.
- It is inferred that majority 29 percent of the respondents are government employee.
- It is that majority 61 percent of the respondents are living in nuclear family.

Suggestions

- All the marketing units pay attention for good packaging. They accept that poor packaging is one of the causes of product failure in the market. It is necessary to set the packaging standard to implement accordingly for better protection and promotion of a product.
- Companies should try to manufacture green products as consumers awareness is increasing with time and it will help in betterment of business.
- Cost should be reduced to increase green products as consumers awareness is increasing with time and it will help in betterment of business.
- Cost should be reduced to increase green product reach to the people with lower income.
- Quality should be maintained because consumers believe that green product quality is more than the normal goods.

Conclusion

Green marketing is a new experience and has greatly impact the lives of consumers in its short time of existence. The aim of this study, by analyzing the impact of environmental awareness, green product features, green product prices, green product advertisement and consumers on purchasing behaviors of consumers, is to determine whether there is significant relationship between them and if there is, to reveal direction and level of this relationship and hence to give advices to companies producing environment-friendly products. These relate to the implementation of green products and ethics, with this in mind the research has been successful in terms of outlining benefits and existing awareness of sustainable and therefore the role of green marketing.

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A Study on Customer Attitude towards Paperless Internet Banking in Tirunelveli City

Kamala N* and Ponmalar P**

PG and Research Department of Commerce

Sri Sarada College For Women, Tirunelveli-627011

Email : * 69kamalaanna@gmail.com ** ponmalarssc@gmail.com

***Abstract:** Internet banking is the term used for new age banking system. Internet banking is also called as online banking and it is an outgrowth of PC banking. Internet banking uses the internet as the delivery channel by which to conduct banking activity. The efficiency of the banking operation as well providing more convenience to customers. Without even interacting with the bankers, customers transact from one corner of the country to another corner.*

***Keywords:-** internet, banking operation, online banking, customer*

Introduction

Internet banking is the term used for new age banking system. Internet banking is also called as online banking and it is an outgrowth of PC banking[1]. Internet banking uses the internet as the delivery channel by which to conduct banking activity, for example, transferring funds, paying bills, viewing checking and savings accounts balances, paying mortgages and purchasing financial instruments and certificates of deposits. Internet banking is a result of explored possibility to use internet application in one of the various domains of commerce[2]. It is difficult to infer whether the internet tool has been applied for convenience of bankers or for the customer's convenience. But ultimately it contributes in increasing the efficiency of the banking operation as well providing more convenience to customers. Without even interacting with the bankers, customers transact from one corner of the country to another corner..

Objectives of the Study

1. To know the schemes offered by banks with regard to internet banking.
2. To analyse the attitude of the customers using internet banking.
3. To study the customer profile of banks in Tirunelveli branch.
4. To examine the satisfaction of the respondents towards technology based banking services.
5. To analyse the problems faced by the customers using the mobile banking.
6. To offer suggestions related to internet banking.

Period of Study

The period of the study ranging from July 2017 to November 2017.

Research Methodology

This section describes the methodology which includes construction of questionnaire, collection of data, and frame work of analysis.

Scope of the Study

The study has been made to analyse the perception of customer in making use of the Electronic Development applied in banks in Tirunelveli City. It also highlights the problems that occur due to the use of electronic advancements. It makes an attempt to study the influence of various factors on the attitude of customers towards electronic developments.

Tools for Analysis

Apart from the necessary tables, charts, graphs and like, suitable statistical tools are applied for analysis and interpretation.

- Chi square test
- Mann Whitney U Test
- Percentage analysis
- Weighted average
- Kruskal-Wallis

Review of Literature

P. Siva Rama Prasad (2005) in this article entitled “ Is ATM Cost Effective ?” attempted to discuss the Technology and Its Implication on banks, It conclude that reduction of Cost is Profit and hence Automated Teller Machine is a Cost Control Device to the Commercial Banks[3].

Rajesh Kumar Srivastava (India) (2007) in his article entitled “ Customers Perception on Usage of Internet Banking” focused on the issues like customer’s perception about internet banking and how to improve the usage rate. The study revealed that education, gender and income play an important role in the usage of internet banking[4].

Analysis and Interpretation

Table-1: Socio economic profile

Gender	No of Respondent	Percentage
Female	127	41
Male	183	59
Total	310	100
Age wise		
Below 20 years	51	16
21-30 years	104	34
31-40 years	81	26
Above 40 years	74	24
Total	310	100
Monthly income		
Below Rs 20000	51	16

Rs 20001-30000	79	25
Rs 30001-40000	83	27
Above Rs 40000	97	31
Total	310	100
Educational qualification		
Hsc/Diploma	28	9
Graduate	97	31
Post Graduate	102	33
Others	83	27
Total	310	100

Source: primary data

Table 1 shows that out of 310 respondents 59 percentage of the respondents are male, and 34 percentage of the respondents are under age group 21-30 years, 31 percentage of the respondents are under monthly income of Above Rs 40,000 and 33 percentage of the respondents are post graduate.

Gender of the respondents and frequency level of using internet banking

Ho1- There is no significant association between gender of the respondents and their frequency level of using internet banking.

Table- 2

		Frequency level of using internet banking				Total
		Always	Often	sometimes	Rarely	
Gender	Male	76	50	30	27	183
	Female	20	31	30	46	127
Total		96	81	60	73	310
Chi- square Tests						
		Value		Df		Asymp.sig(2sided)
Pearson Chi- Square		18.372		3		.002

Source: Computed data

The value of chi-square is 18.372(d.f =3) and associated significant value is .002 (Which is smaller than 0.05). Therefore, the null hypothesis is rejected. Hence there is significance association between gender of the respondents and their frequency level of using internet banking. So it can be concluded that respondents frequency level of using internet banking vary according to gender wise.

From the above cross table clearly explained that male and female respondents frequency level of using internet banking is not same

Test to compare the satisfaction level of using internet banking

According to Gender

H_0 - There is no significant Mean rank difference between gender of the respondents and their satisfaction level on E banking services.

Table-3: Mann Whitney U Test to compare the (gender wise) Groups of satisfaction level on e-banking services

Variables	Gender	Mean Rank	Sum of Ranks	Mann Whitney U	Wilcoxon W	Z	Asymp. Sig.(2-tailed)
	Male	156.04	32110.00	11185.00	321100.00	1.344	.418
	Female	154.36	31450.00				

Source : Computed data

For satisfaction level of using internet banking, an examination of the findings in the above table reveals the results of Mann Whitney U test for the internet Banking influences to the respondents in the male and female groups show no statistical difference ($Z=1.344$; $p=.418 > 0.05$). The rank average of the male group respondents was 156.04, while the respondents in the female group had a score rank average of 154.36. The close rank averages of the groups score on satisfaction influence indicate that the both male and female respondents are relatively same level of influence in internet banking services.

Findings

- Majority of the respondents are male.
- Majority 34 percent respondent are belongs to the age group 21 to 30 years.
- Majority 33 percent respondent are qualified in PG level.
- Majority 31 percent of the respondents are fall under the income level ranging from above Rs. 40,000.
- The null hypothesis is rejected. Hence there is significance association between gender of the respondent and their frequency level of using internet banking.
- There is no significant mean rank difference between gender of the respondents and their satisfaction level on e.banking services.

Suggestion

1. It is high time banks should take necessary steps.
2. The government should help the banker to know more about the internet banking.
3. The safety system with regard to mobile banking should be improved.

4. The attitudinal change in the bank staff towards providing good customer service is essential.
5. Customer awareness can be created through various programmes such as seminar, cultural programmes and the like.

Conclusion

This study has been provided comprehensive information about attitude of customers towards paperless internet banking services. If these suggestion are adhered to, the flourish and impart quality of such services. Its concluded from the results of the study that the usage of telebanking and internet banking are perceived as important and the use of there are services are associated with socio economic and demographic characteristics of the respondents. Though most of the customers prefer manual banking over internet banking, the customer tend to use internet banking and adoption of internet banking service.

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A Study on Customer Preference on Small Cars with Special Reference to Maruti Suzuki in Tirunelveli City

Aruna Devi A* and Supriya P**

PG and Research Department of Commerce

Sri Sarada College for Women, Tirunelveli-627011

Email Id: * a.arunadevi@gmail.com, ** supriyabalraj93@gmail.com

***Abstract:** The transport facilities are well- developed of these cars are very essential transport mode to travel from one place to another place. Because of rapid industrial growth, the standard of living of the people in enhance. so they are showing their status through one of these ways like having car. In this modern world ,transport plays a vital role. Road transport plays a larger role in the recent years. . With higher volumes of production of all models of vehicles in the year ahead, road transport assumed still greater importance in meeting the present and future demand on road. Of these cars is a very essential transport mode to travel from one place to another place. Maruti Suzuki companies now recognize that the new global economy has changed things forever.*

***Keywords:** transport, rapid , demand, global economy*

Introduction

The transports facilities are well- developed of these cars are very essential transport mode to travel from one place to another place. Because of repaid industrial growth, the standard of living of the people in enhance. so they are showing their status through one of these ways like having car. In this modern world ,transport plays a vital role. Road transport plays a larger role in the recent years[3]. The user prefers this because of its availability, adoptability to individual needs, door to door services and reliability. At present 80 percent of passengers move by roads. Road transport has been very useful which connects rail way stations, and other important places. With higher volumes of production of all models of vehicles in the year ahead, road transport assumed still greater importance in meeting the present and future demand on road. Of these cars is a very essential transport mode to travel from one place to another place[4]. Maruti Suzuki companies now recognize that the new global economy has changed things forever[5,6].

Objectives

1. To study the socio – economic status of the consumer towards cars.
2. To know about demographic profile of the customer towards Maruti Suzuki swift cars.
3. To examine the factors influencing the customer to buy Maruti Suzuki swift cars.
4. To study about consumer preference on brand.
5. To study out the reasons for the choice of cars.

Scope of the Study

The scope of the study is to get the first-hand knowledge on the customer satisfaction towards Maruti Suzuki swift cars in Tirunelveli city only. Now a days, car has become a necessity and forms a part of life of the middle class people, therefore, there is a significant scope to examine the perception and purchase behavior of the customer of Maruti cars.

The study will also highlight the emerging trends in the growth of Maruti car marketing and the major problems faced by the manufacturers as well as dealers in the global competitive era with numerous models with high-tech cars. The study will also help Maruti car manufacturer.

Period of the Study

The period of the study is ranging from July 2017 to November 2017.

Tools for Analysis

- Chi-square
- Percentage analysis

Review of Literature

Malhotra (2013)¹, In his article entitled compared customer satisfaction of small passenger car owners in special reference to Maruti Hyundai. The result of study shows that the product and service quality affect the level of customer satisfaction, which can be different as per the brand[1].

Akhila and Thayyullathi (2015)², in their article entitled on customer satisfaction toward Maruti Suzuki in Coimbatore found that majority of the respondents were using SUV (support utility vehicle) type cars. They found that Maruti Suzuki cars were the best and fast moving brands. There was an increasing trend because of easy handling, safety and high performance, which makes the advanced technologies to adopt new models[

Data Collection

Primary Data

The primary data have been collected directly from customers of Maruti Suzuki company through questionnaire. Sample size of 100 respondents have been appended in the research report.

Secondary Data

The main source of information for secondary data was collected from old records and the websites books, journals, newspaper, magazines etc.

Analysis and Interpretation

Table-1: Socio Economic Profile

Gender	No of Respondent	Percentage
Female	60	60
Male	40	40
Total	100	100
Age wise		
Below 25 years	20	20
25-35 years	25	25
35-45 years	30	30
45-55 years	15	15
Above 55 years	10	10
Total	100	100
Monthly income		
Below Rs 25000	25	25
Rs 25000-35000	35	35
Rs 35000-45000	21	21
Above Rs 45000	19	19
Total	100	100
Educational qualification		
Hsc	5	5
Graduate	10	10
Post Graduate	15	15
Professionals	40	40
Others	30	30
Total	100	100

Source: primary data

Table 1 shows that out of 100 respondents 100percentage of the respondents are female, Next 30 percentage of the respondents are under age group 35-45 years, Next 35 percentage of the respondents are under monthly income of Rs 25000-35000. Next 40 percentage of the respondents are professionals.

Agewise Classification of the Respondents and Maruti Suzuki Car

H_0 1 –There is no significant association between age wise classification of the respondents and Maruti Suzuki cars.

Table 3

		OPINION FOR MARUTI SUZUKI CAR					
		Technical fault	facilities	Design	price	Milege	total
Age Wise Classification	Below 25 yrs	4	2	3	6	5	20
	25-35 yrs	5	3	4	4	8	25
	35-45 yrs	6	2	5	2	15	30
	45-55 yrs	7	2	6	1	0	15
	Above 55 yrs	3	1	2	2	2	10
Total		25	10	20	15	30	100
Chi-Square Tests							
Pearson Chi-Square		Calculated Value		Df	Asymp. Sig. (2-sided) Table Value		
		19.53		16	26.296		

The value of chi-square is 19.53(d.f = 16) and associated significant value is 26.296. Therefore, the null hypothesis is accepted. Hence there is significant association between age wise classification. But there is significant difference between age group for satisfaction level on Maruti car.

Findings

- Majority of the respondents are Male
- Majority of the respondents are age group between 35- 45 years
- Majority of the respondents are monthly income ranges between 25,000-35,000
- 40 percent of the respondents are education in postgraduate.
- The null hypothesis is accepted.

Suggestion

- In this connection following suggestion are offered to understand the behavior of consumer for buying of a car.
- Passenger car manufacturers should develop a strong presence in the fast growing urban markets with a range of value of money products.
- The unique thing is that, the basic psyche of the Indian consumer had not changed.
- All the services should be customer oriented. In passenger car segment, customer should be the focal point.

- This is all the more necessary on account of stiff and growing competition among car manufacturers and dealers and rising public expectations and awareness.

Conclusion

Maruti Suzuki swift is the most preferred brand by the majority of the customer. It is going to pose great challenges to other small cars in india. Maruti Suzuki is the major player in the car segment and the authorized dealers of the Maruti Suzuki companies have initiated many steps to increase the sales. The present study made an attempt to understand the factors influencing buying decision of the customer. Most of the customers are satisfied with the mileage and fuel efficiency of the car and they preferred Maruti suzuki swift.

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A Study on Performance Appraisal in Hrm

Pon Malar P* and Manjula G**

PG and Research Department of Commerce

Sri Sarada College for Women, Tirunelveli-627011

E-mail: * ponmalarssc@gmail.com, ** manjulaganapathi1994@gmail.com

***Abstract:** In this study the operative function in the human resource department are analyzed with the contribution of employees and their opinion about the function performed by the employees and their opinion about the function performed by the HR Department in Wipro Infrastructure Engineering Pvt Ltd, Chennai. . The employees in the organization are directly interviewed and related data's where collected through the questionnaire. The data's are analyzed through the percentage analysis and chi-square method. From these inference were drawn, based on the inference it is found that most of the respondents fells that the performance appraisal system done by the organization is comfortable and satisfactory. From the study it is found that they are enriching their knowledge with appraisal system and necessary findings are made and suggestions were given. Within a short period of time the employees are aware about the various policies are implemented by the company and also it gain goodwill in the minds of employees. Is suggested that the company should introduce new methods to provide good services promptly and efficiently at the time of employees' measures. Thus the study is mainly focus on performance of the employee among executives, and their opinion efficiently and effectively.*

***Keywords:** HRM, Organizations, Performance appraisal.*

Introduction

Performance appraisal is an integral part of HRM and HRM deals with personnel is people. "People" is the important and valuable resource that every organization or institution has in the form of its employees. Dynamic people can build dynamic organization. Effective employees can contribute to the effectiveness of the organization. HRM has multiple goals, which include employee's competency development, employee motivation development and organization development. Employees require a variety of competencies, knowledge, attitude, skills in technical area; Managerial areas, behavioural and human relations areas and conceptual area to perform different tasks or functions required by their jobs. HRM aim at constantly the competency requirements of different individual to perform the job assigned to them, effectively and provides opportunities for developing these competencies. As HRM deals with humans it is necessary to keep a check on their performance after regular interval of time given jobs, it is necessary to corrective actions term or there is need to appraisal their performance. The process of appraising for doing their work effectively is known as performance appraisal system.

Review of Literature

Stonich (1984) also argued that performance measurement in an organization should be in tune with its structure and culture. Since the nature of the enterprises in which each industry is engaged varies, its organizational type, business policy, internal and external environment are also usually different. The purpose of this study is to

conduct a direct comparative analysis of performance appraisal system in the service and manufacturing industries[1].

Cleveland, Murphy, and Williams (1989) argued that there is a relationship between organizational characteristics and the uses of a performance appraisal system[2].

Ilgem, Barnes-Farrell, and McKellin (1993) concluded, from their extensive review of the literature since the 1980s about performance appraisal, that there are four aspects that need to be considered. In practice performance appraisal systems cover a wide range of these aspects, and seldom have exactly the same nature and functions. In order to integrate findings in the area, Chu (2002) proposed a comprehensive framework including six categories, namely, appraisal purposes, appraises personnel, appraisal criteria, appraisal methods, appraisal timings, and appraisal feedback. This study will adopt this framework to compare performance appraisal systems in the service and manufacturing industries[3].

ALFORD AND BEATTY says, "It is the evaluation or appraisal of the relative worth to the company of a man's service on the job".[4].

FLIPPER says, "Performance Appraisal is a systematic, periodic and so far as humanly possible and impartial rating of employee's excellence of matters pertaining to his potentialities for a better job". Performance appraisal has been defined in many ways. The simplest way to understand the meaning of performance appraisal is as follows: "A regular and continuous evaluation of the quality, quantity and style of the performance along with the assessment of the factors influencing the performance and behavior of an individual,,s called performance appraisal"[5].

Objectives of the Study

- ❖ To identify the actual performance of the employees and performance standards used in performance appraisal program.
- ❖ To create and maintain a satisfactory level of performance.
- ❖ To identify the awareness level of performance appraisal technique among the employees.
- ❖ To maintain records in order to determine compensation packages wage structure, salaries raises etc.
- ❖ To identify the strength and weakness of employee to place right men on right job.
- ❖ To maintain and assess the potential present in a person for further growth and development.
- ❖ To provide feedback to employees regarding their performance and related status.
- ❖ To review and retain the promotional and other training programmers.

Methods of Performance Appraisal

With the evolution and development of the appraisal system, a number of methods or techniques of performance appraisal have been developed. The importance of these among them are presented.

- ❖ **Traditional Methods**
- ❖ **Modern Methods**

Traditional Methods

- a) Graphic Rating Scales
- b) Ranking Method
- c) Paired Comparison Method
- d) Forced distribution Method
- e) Checklist Method
 - i. Simple checklist
 - ii. Weighted Checklist
 - iii. Critical Incident Method
 - iv. Psychological Appraisal
 - v. Results Method
 - vi. Productivity Measures

Modern Methods

- a) Behaviorally Anchored Rating Scales
- b) Assessment Center
- c) Human Resources Accounting
- d) Management by Objectives
- e) Behavior Observation Scales
- f) Essay or free form Appraisal
- g) Group Appraisal
- h) Confidential Reports
- i) Balance Score Card

Several ways of Performance Appraisal

Performance appraisals are useful for the organizations in several ways including:

- ❖ Professional development (identifying strengths and weaknesses in performance, implementing strategies for improvement)
- ❖ Determining organizational training and development needs.
- ❖ Making and validating administrative decisions (e.g., pay, promotion, placement, and termination)
- ❖ Identifying systemic factors that are barriers to, or facilitators of, effective performance.

- ❖ Some workers can find performance appraisals to be threatening or intimidating. However, with good Design and planning, performance appraisals can be rewarding and constructive for workers and managers / supervisors. When performance appraisals are clearly linked with recognition and
- ❖ Rewards, there are also likely to be benefits for workers" motivation, productivity and retention

Five Steps of Approach to Conducting a Performance Appraisal

The following five-step approach to conducting a systematic performance appraisal is recommended:

1. Identify key performance criteria
2. Develop appraisal measures
3. Collect performance information from different sources
4. Conduct an appraisal interview
5. Evaluate the appraisal process.

Using performance appraisal to address workforce development challenges

Regular performance appraisals provide a useful opportunity to conduct a "check-up" on various workforce development issues that may impact on workers" effectiveness and wellbeing. Performance appraisals can be used to:

- ✓ Recognize, reward and support effective performance
- ✓ Develop and reward effective teamwork
- ✓ Identify and manage issues likely to impact on retention
- ✓ Monitor and support workers" wellbeing.

Primary Data

Primary data is known as data collected for the first time through field survey. Such data are collected with specific set objectives. Primary data always reveals the cross section picture of anything studied. This is needed in research to study the effect or impact any policy.

Secondary Data

Secondary data refers to the information or facts already collected. Such data are collected with the objectives of understanding the past status of any variable data collected and reported by some source is accessed and used for the objectives of the study. The secondary data were collected from: Magazine,Books, Journals,Records maintained by HR department, Company websites.

Analysis of Data

Table-1: Socio Economic Profile

Gender	No of Respondents	Percentage
Male	50	67
Female	25	33
Total	75	100
Age	No of Respondents	Percentage
Below 25 years	5	7
26-30 years	20	27
31-35 years	17	22
36-40 years	18	24
Above 40 years	15	20
Total	75	100
Education	No of Respondents	Percentage
SSLC	8	11
HSC	10	13
UG	12	16
PG	22	29
DIPLOMA	23	31
Total	75	100
Monthly Income	No of Respondents	Percentage
Below 5000	18	24
5001-10000	13	17
10001-15000	24	32
Above 15000	20	27
Total	75	100
	No of Respondents	Percentage
Married	45	60
Unmarried	30	40
Total	75	100

Source: Primary data

From above table shows that out of 75 respondents, 67 percent of the respondent are male and 33 percent of the respondent are female. 7 percent of respondents are below 25 years, 27 percent of the respondents are 26-30 years, 22 percent of the respondents are 31-35 years, 24 percent of the respondents are 36-40years, 20 percent of the respondents are above 40 years.

Table-2

Factors	NX5	NX4	NX3	NX2	NX1	Total	Wgt/Avg	Rank
Ranking method	100	60	54	20	12	246	16.40	I
Checklist method	75	80	33	32	13	233	15.53	III
Graphic rating scale	50	48	48	34	20	200	13.33	V
Result method	90	64	60	18	12	244	16.27	II
Productivity measures	60	48	30	46	18	202	13.47	IV

Source: Computed data

From the above table Ranking method got first rank, next the Result method got second rank, then the Checklist method got third rank, and Productivity measures got fourth rank, finally Graphic rating scale got fifth rank.

Findings

- 67% of the respondents are male.
- 27% of the respondents age group laid down 26-30.
- 32% of the respondents were laid on between rs.10001-15000 monthly income.
- The majority of the respondents are diploma level.
- Ranking method scored first rank.

Conclusion

Human resources are the vital source of every organization. Every employee in an organization increases the productivity and goodwill of every company. An employee, being an individual is treated as assets in the organization. So the organization should mainly emphasis performance appraisal techniques and its development programme. Both the appraiser and appraise should realize the principle and use the tool of appraisal system in a constructive way for the prosperity of the organization. The performance appraisal technique prevailing in the organization is fair. Employees are satisfied with the present performance appraisal system that is a traditional one. As many new appraisal techniques are emerged, the organization can implement modern technique which would be more effective. The welfare measure of organization is at par with the company policies and has brought a great sense of involvement in work among the employees of the organization.

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The Impact of Human Resource Management on the Competitiveness of Transport Companies –A study

Chandra M

PG and Research Department of Commerce
Sri sarada college for women, Tirunelveli -627011
Email : chandrarohini93@gmail.com

***Abstract:** The human resource management has impact on competitiveness of transport companies. According to the human resource management, Competitive advantage and competitive analysis concepts, evaluated modern human resource management models and theories of the relationship between companies and the allocation of human resources and competitiveness. The paper describes the KTC transport sector companies operating in human resource managements research processes.*

***Keywords:** human resources, strategic management, transport companies, service facility.*

Introduction

The term “human resources” is used both – in business environment and in reference to people working in organizations. Human resources (employees) are the most important assets and valuable resources in company’s performance. Employees are important, since their knowledge, experience and skills increase the value of an organization in the market.[1].The definition of human resource management is inseparable from the term “management”. Management is thus understood as organizing, planning, supervising, controlling, etc. Management pertains to internal company’s affairs. The aim of the article is to analyses the impact of human resource management in the pursuit of competitive advantage in transport service market[2,].

Scope

Human resource management in an organization is a strategic, consistent and comprehensive approach towards company’s human resource management and training[3]. Human resource management can also be defined as practical work with people encompassing employee performance analysis, planning the needs of the labor force and candidate recruitment, candidate selection, new employee orientation and training, wage and salary administration, Educating employee commitments, as well as creating a fair and safe work environment.[4]. Human resource management – is a coordinated approach to managing people that seeks to integrate the various personnel activities so that they are compatible with each other. The provided definitions of human resource management enable to distinguish the so-called “hard” and “soft” cases of human resource management.[5].“Soft” approach to human resource management is used to increase employees’ loyalty, quality and flexibility. “Hard” approach to human resource management emphasizes a strategy in which human resources are distributed in order to obtain business results[6].

Objectives of the Study

- To analyses the concept of human resource management, as well as strategic human resource management models.
- To analyses the impact of human resource management on the competitive advantage.
- To provide research results on the impacts of human resource management strategy in the pursuit of competitive advantage in transport sector.

Method of Data Collection

This study is based upon the analysis of two types of data sources available data collection i.e.

1. Primary data was collected from 75 respondents from KTC transport in Tirunelveli district and the tools like percentage analysis and rank were used to analysis the data which is collected from the respondents.
2. Then secondary data from many articles and journals related to competitiveness in Human resource management and from the websites related to the same.

Table-1: Socio Economic Profile

Gender	No of Respondents	Percentage
Male	75	100
Female	NIL	NIL
Total	75	100
Age	No of Respondents	Percentage
Below 25 years	5	7
26-30 years	20	27
31-35 years	17	22
36-40 years	18	24
Above 40 years	15	20
Total	75	100
Education	No of Respondents	Percentage
SSLC	8	11
HSC	10	13
UG	12	16
PG	22	29
DIPLOMA	23	31
Total	75	100
Monthly Income	No of Respondents	Percentage
Below 5000	18	24
5001-10000	13	17
10001-15000	24	32
Above 15000	20	27
Total	75	100
Marital Status	No of Respondents	Percentage
Married	45	60
Unmarried	30	40
Total	75	100

Source: Primary data

From above table shows that out of 75 respondents, 67 percent of the respondent are male and 33 percent of the respondent are female. 7 percent of respondents are below 25 years, 27 percent of the respondents are 26-30 years, 22 percent of the respondents are 31-35 years, 24 percent of the respondents are 36-40years, 20 percent of the respondents are above 40 years.

Table-4: Ranking

Particulars	Total	Mean score	Rank
Service facility	572	143	I
Aware of transport	434	108.5	IV
Society safety	565	141.25	II
competitiveness	546	136.5	III

From the above table service facility scored first rank. Next society safety second rank. Next competitiveness scored third rank. And next aware of transport scored fourth rank.

Findings

The finding of the present revealed the following.

- Majority of the respondents are Male.
- The Majority of the respondents were lied on between above 15000 monthly income.
- Majority of the respondents were lied on age between 26-30 years.
- Service facility scored first rank.

Suggestion

In service training increases employee's knowledge of the job responsibilities, promotes high morale, aids to perform effectively and demonstrate the ability for future professional growth, the sum total of which results in an increment in both quantity and quality of library services. Hence, public library professionals of all cadres should also be encouraged to participate in continuing education program like short-term courses, workshops, and training program. The technology oriented aspects must be given priority over traditional and outmoded subjects while conducting training programs. This would be highly motivating and conducive to increase their efficiency.

Conclusion

The role of human resource management determines organizations' performance results and its position in the market, i.e. it enables to achieve greater income and take a good position in the market. Models of strategic human resource management are oriented towards personnel activities. In all models of strategic human resource management, employees are the main link between organization's strategy and its implementation results. A systematic approach towards management system is

required in order to understand the impact of human resource management on the competitive advantage. Additionally, attention should be paid to internal and external factors. Research have shown that executives of transport companies understand the importance of strategic human resource management, however, inability of the same executives to manage the existing human capital poses certain difficulties to remain in the competitive market. In accordance with the obtained results, it is possible to claim, that all employees should participate in the establishment and implementation of company's strategy. Employees should work together as a team and thus ensure company's success and personal well-being. In order to eliminate problems, certain measures should be taken: to improve general economic situation; to reduce bureaucracy and bribery; to perfect the overall efficiency of transport system, etc.

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HRM Practices in Indian Banking –An Over View

Senthilrajaprabha R

Department of Commerce

Sri Saradha College for Women, Tirunelveli-627011

Email: prabhasaravanan.s@gmail.com

***Abstract:** The Indian economy had undergone significant policy shifts in the early 1990s. This new model of economic reforms included LPG i.e, Liberalization, Privatization and Globalization. Liberalization also deals with the working style of the people and hence organizations needed the HRM practices in an effort to ensure their survival in a highly competitive environment HR practices are proposed to enhance effectiveness and efficiency in different organizations and to retain talented workforce in the Organization for a longer period of time. The existing business environment requires companies as well as their HR teams to think creatively and come up with the new approaches to survive the downturn and bind the employees together. So we can say that there is a do or die situation. Innovative approaches would motivate the employees in different sectors especially the Indian Banking Sector to utilize their set of skills and knowledge through discretionary effort realizing Bank's business strategy. This approach to HRM is likely to contribute to improved economic performance of the firm as well as the economy as a whole. This paper tries to focus on the HR practices in Indian Banking sector remarkably different from the manufacturing and other service sector companies.*

***Keywords:** Innovative HR practices, organizational commitment.*

Introduction

Human resource management (HRM) is the strategic and coherent approach to the management of an organization's most valued assets – the people working there who individually and collectively contribute to the achievement of the objective of the business[1]. HRM means employing people, developing their capacities, utilizing, maintaining and compensating their services in tune with the job and organizational requirement.

Features of HRM

Its features include:

- Organizational management
- Personnel administration
- Manpower management
- Industrial management

Functions of HRM

The Human Resources Management (HRM) function includes a variety of activities, and key among them is deciding what staffing needs to have and whether to use independent contractors or hire employees to fill these needs, recruiting and training the best employees, ensuring they are high performers, dealing with performance issues, and ensuring your personnel and management practices conform to various regulations.

Activities also include managing your approach to employee benefits and compensation, employee records and personnel policies. Usually small businesses (for – profit or non profit) have to carry out these activities themselves because they can't yet afford part- or full – time help.[2]. However, they should always ensure that employees have – and are aware of – personnel policies which conform to current regulations. These policies are often in the form of employee manuals, which all employees have.

Note that some people distinguish a difference between HRM (a major management activity) and HRD (Human Resource Development, a profession). Those people might include HRM in HRD, explaining that HRD includes the broader range of activities to develop personnel inside of organizations, including, e.g., Career development, training, organization development, etc.

There is a long –standing argument about where HR-related functions should be organized into large organizations, e.g., “should HR be in the Organization Development department or the other way around?”

The HRM function and HRD profession have undergone major changes over the past 20-30 years. Many years ago, large organizations looked to the “Personnel Department, “mostly to manage the paper work around hiring and paying people. More recently, organizations consider the “HR Department” as playing an important role in staffing, training and helping to manage people so that people and the organization are performing at maximum capability in a highly fulfilling manner[3].

Human resource management involves several processes. Together they are supposed to achieve the above mentioned goal. These processes can be performed in an HR department, but some tasks can also be outsourced or performed by line-managers or other departments.[4]. When effectively integrated they provide significant economic benefit to the company.

- ✓ Workforce planning
- ✓ Recruitment (sometimes separated into attraction and selection)
- ✓ Induction, Orientation and On boarding
- ✓ Skills management
- ✓ Training and development
- ✓ Personnel administration
- ✓ Compensation in wage or salary
- ✓ Time management
- ✓ Travel management (sometimes assigned to accounting rather than HRM)
- ✓ Payroll (sometimes assigned to accounting rather than HRM)
- ✓ Employee benefits administration
- ✓ Personnel cost planning
- ✓ Performance appraisal
- ✓ Labour relations

Objectives of Human Resource Management

According to the Indian Institute of Personnel Management, "Personnel Management aims to achieve both efficiency and justice neither of which can be pursued successfully without the other. It seeks to bring together and develop into an effective organization the men and women who make up an enterprise, enabling each to make up an enterprise, enabling each to make his or her own best contribution to its success both as an individual and as a member of a working group. It seeks to provide fair terms and conditions of employment and satisfying work for those employed".

The general objective of personnel (or) human resource management is to contribute towards the realization of the organizational goals. The specific objectives of personnel management may be listed as follows:

- a. To achieve and maintain good human relationships within the organization.
- b. To enable each person to make his maximum personal contribution to the effective working of the organization.
- c. To ensure respect for human personality and the well-being of each individual.
- d. To ensure maximum individual development of personnel.
- e. To ensure satisfaction of various needs of individuals for achieving their maximum contribution towards organizational goals.

Significance of the Study

The HRM is a growing concept. It has tremendous relevance to service sector like banking. Human input is the single largest input that goes in the banking industry. The level of efficiency/production of this input gets reflected in the quality of service offered by banks to its customers, as also in its ultimate growth, productivity and profitability. Hence, the banks today lay great stress on HRM functions.

HRM in Banking

The banking sector has grown from a few institutions primarily involved in deposit acceptance and trade finance into a complex multi player markets where large number of commercial banks, financial institutions and specialized banks are operating with various products and activities. The banking has become a complex activity within the financial market linked directly and indirectly with an over-all national growth and its impact as an integral part of regional segment of a global banking environment[5].

Almost every bank and financial institution is involved in various functions in a day's job and thus requires a highly effective team and appropriate manpower to run the show. Corporate goals are translate into viable realities and profits only with human element that play their due role in achieving the desired results. Thus even the high automation would require proper man behind the machine to make things happen. This idea has been realized by top management in progressive banks.

Banking requires multi layer manpower for its various requirements of professionals and support staff. The range may require reasonably educated security guards on the one end and a highly educated and trained professional as head of corporate finance at the other.[6].Managing this educated, skilful and trustworthy work force is not an easy job. A few of the current challenges faced by the banking industry in terms of human resource management may be the following:

- **Effective work force:** A time – consuming job is to hunt the right talent. Higher the professional value of the vacancy, tougher is the search. Banks are keenly interested to fill up two types of breads of professionals. Ones who are outstanding professionals with high job hopping attitude – these are those who are keenly picked-up, trained and are somehow retained to be developed as future management within the bank.
- **Right people:** The most difficult problem across the banking sector is to retain the right people. The growth of retail banking and other services has put pressure on HR managers in banks to engage more professionals within shorter span of time thereby attracting manpower in other banks on attractive packages has made the job market very competing.
- **Compensation:** How much to pay to the right employee and how much to the outstanding performer. Banks have traditionally followed pay scales with predetermined increments, salary slabs, bonuses and time-based fringe benefits like car and house advance, gratuity, pension, etc., The situation is not the same anymore. An increment of Rs.600-700 per annum is no more a source of attraction for a professional anymore. A waiting period of 3-5 years in each cadre haunts the incumbents who strongly believe in immediate compensation. There are examples to this. Thanks to the car financing modalities car is no more fantasy item any more. A freshly hired professional requires a brand new car or car loan on resuming office quite contrary to his previous breed of bankers who would wait for the job seniority to qualify for a car loan.
- **Job satisfaction:** Everybody in the bank wants to work in the preferential department, preferential location, city of his own choice and boss of his liking. An administrative deviation from any of these results in lowered job satisfaction. Although hiring is normally based on regional requirement matching the area of activity with that of employee's nativity yet other elements like appointment in the department of choice and preference makes the job of HR manger quite challenging.
- **Morale boosting:** What has long been overlooked is the morale boosting of the employees by the banks. Human beings even if satisfied of material wellbeing need to be appraised and encouraged constantly. Now banks have realized this need and have taken necessary steps to keep their work force motivated through proper encouragement like man of the month awards, repeat get-togethers,

conferences, sports events, dinners, sponsored travel, etc., This is the way employees create a feeling of belongingness.

Challenges faced by Banking Industry

Here are some of the challenges that the HR function in India faces:

- The first and the most important challenge that HR function in India faces is to convert the abundant population into useful human resource.
- Training and development of human resource to match ever changing industry demands requires HR to develop new and innovative ideas that suit individual as well as the Bank's criteria.
- Employee motivation and satisfaction is another area of concern for the HR today. In order to reduce the attrition rate, HR needs to realize that monetary needs are not the only motivational drivers for an individual but a sense of belongingness must be imbibed in employees.
- With the increase in number of job options available nowadays, the HR function of an organization must take care that they hire those people who believe in long-term commitment to the organization. The HR then must take up the challenge of retaining them by developing retention techniques like Holiday plans fun-at-work etc.
- The growing importance that companies are nowadays giving to cost cutting has posed HR with the challenge to minimize expenditure on HR not compromising on the productivity.
- Since right-sizing or we can say delayering has been a growing trend in Indian organization, the HR now faces the problem of retaining the key employees of an organization and letting go those that do not suit its future requirements.
- HR also faces the challenge of creating a balanced organization that originates from mergers and acquisitions.
- With the rising MNC's, HR needs to focus on issues such as cross-cultural or Expatriates training, so that problems that can arise because of differences in international professional values can be minimized.

How the Banking Sector is meeting HR Challenges?

By Managing Human Resource: Considering the above HR challenges which our Indian banking industry is facing, we can manage the human resources by proper Planning like

- Hiring the right person for the right job through written tests and Personal interviews.
- Retaining and Developing them

- Managing the employees by conducting exit interviews(VRS)

Performance Management: Banking service is one sector where a great degree of attention is being paid to performance appraisal system. Several of the nationalized banks have changed their performance appraisal system or are in the process of changing them.

Systems/Process: The effectiveness of any efficient HR system/ process is that it should be objective and transparent. These traits are essential for the manpower to repose trust in the organization's systems/ processes. No HR function can be effective if it does not enjoy the trust and confidence of its constituents.

Effective Communication: It has an incredible impact on the productivity of Human Resource Management (HRM) because without it there are frustrated employees, confusion at the workplace and unhappy customers at the end. The first most function of effective communication in HRM is to empower the employees. With the proper information, a rewards system and effective policies in place, employees feel empowered and motivated to do their jobs to the best of their ability.

MANAGING SEPARATION: In recent years, with the high levels of attrition in the service sector, it has become imperative for firms to have a structured separation plan for orderly exits of employees. Employee separations must be handled in a professional and mature manner and though attrition is a fact that concerns everyone in the industry, once an employee decides to leave, the separation must be as smooth as possible.

SHORT TERM EMPLOYEE BENEFITS: In State Bank of India the undiscounted amount of short- term employee benefits, such as medical benefits, casual leave etc. which are expected to be paid in exchange for the services rendered by employees are recognized during the period when the employee renders the service. The Bank operates a Provident Fund scheme. All eligible employees are entitled to receive benefits under the Bank's Provident Fund scheme. The Bank contributes monthly at determined rate (currently 10% of employee's basic pay plus eligible allowance).

Conclusion

The core function of HR in banking industry is to facilitate the performance improvement among its people. Factors such as skills, attitudes and knowledge of personnel, play a critical role in determining the competitiveness within the organization or the industry. The quality of human resources indicates the ability of banks to deliver the value to clients or customers.

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The Effectiveness of Multimedia Teaching of Physics Among Higher Secondary School Students

Uma Kamalavathi M

Sri Sarada College of Physical Education for Women, Salem-636016

Email : mduma@ymail.com

***Abstract:** Education is a light that shows the mankind the right direction to surge. The purpose of education is not just making a student literate but adds rationale thinking, knowledgeable and self sufficiency In recent decades, the use of information and communication technologies (ICT) for educational purposes has increased, and the spread of network technologies has caused e-learning practices to evolve significantly It makes it easy for instructors to incorporate multimedia into their teaching*

***Keywords:** Information and communication technology, network, right direction, teaching.*

Introduction

Education is a light that shows the mankind the right direction to surge. The purpose of education is not just making a student literate but adds rationale thinking, knowledgeable and self sufficiency. When there is a willingness to change, there is hope for progress in any field. Creativity can be developed and innovation benefits both students and teachers. In recent decades, the use of information and communication technologies (ICT) for educational purposes has increased, and the spread of network technologies has caused e-learning practices to evolve significantly.

One of the most important uses of technology is that it makes it easy for instructors to incorporate multimedia into their teaching. There are a number of different models of learning styles. One of the most popular identifies visual, auditory, and kinesthetic as the three ways in which people take in information. We know from experience that students respond well to the use of images to stimulate their interest in a subject (Kahiigi et al., 2008).

Multimedia

Multimedia, is the combination of various digital media types such as text, images, audio and video, into an integrated multi-sensory interactive application or presentation to convey information to an audience. Traditional educational approaches have resulted in a mismatch between what is taught to the students and what the industry needs. As such, many institutions are moving towards problem based learning as a solution to producing graduates who are creative; think critically and analytically, to solve problems (Garavan, 1997).

Rationale for the Study

The wheel of success in the part of education revolves around the ability of the teacher to communicate effectively, transfer the knowledge of information and causing

behavioral modification. Multimedia play a vital role in the secret of successful teaching or education lies in successful communication and beyond uncertainties.

Though very little empirical research has been conducted to examine the extent of technology utilization in teaching and also the researcher is motivated by the staff members while teaching the significance of innovative method of teaching during the class hours. Hence, the researcher is intended to take this paper focus on using multimedia technology as an innovative teaching and learning strategy in learning.

Objectives

1. To design and develop multimedia for the selected content in XI Physics.
2. To find out the effectiveness of multimedia in physics teaching.
3. To find out the pre and post-test scores traditional group students.
4. To find out the pre and post-test scores of multimedia group students.

Hypotheses of the Study

1. There was no significant difference between the means of the traditional and multimedia teaching group students in their gain scores.
2. There was no significant difference between the pre and post test scores of traditional teaching group students.
3. There was no significant difference between the pre and post test scores of multimedia teaching group students.

Methodology

Population and Sample

To achieve the purpose of the study, fifty (n=50) plus one girls students were selected randomly from Senthil Murugan Girls Higher Secondary School, Tiruchendur as subjects by the investigator. The selected subjects were divided into two groups of twenty five students each.

Tools Used

For traditional teaching, the researcher used blackboard and chalk method as a tool. For multimedia teaching power point presentations, pictures and videos related to the subject matter through the computer is used as tool. For constructing the multimedia package, 2 units namely Mechanics of Solids and Fluids & Oscillations of XI standard Physics subject was selected by the researcher.

Collection of Data

Group I undergone traditional teaching program and group II undergone multimedia teaching program for two weeks of five days each. In traditional teaching, the subject matter was taught by the researcher with the help of black board and chalk. In multimedia teaching, the same subject matter was taught by the researcher with the help of computer by power point presentations, pictures and videos. The data were collected

from the pre and post test in the name of diagnostic and achievement examination just before and after the teaching program.

Statistical Technique

The collected data were statistically analyzed with dependent "t" test to find out the significant improvement between pre and post-test means and gain scores of both groups.

Analysis of Data

The data on selected variables were analyzed and the obtained results are presented in Table I and II. Mean values of pre and post test and gain scores among selected subjects are graphically represented in figure I and II.

Null Hypothesis 1

There was no significant difference between traditional and multimedia teaching group students in their gain scores.

Table I: The Mean difference between Traditional and Multimedia Group Students in their Gain Scores

Group (N =50)	N	Mean	S.D	Calculated 't' value	Remarks at 5% level
Traditional Teaching Group	25	20.60	11.91	2.89*	Significant
Multimedia Teaching Group	25	30.04	11.67		

*Significant at .05 level of confidence. (For df=48, at 5% level of significance the table value of 't' is 2.02)

Null Hypothesis 2

There was no significant difference between pre and post test means of traditional and multimedia teaching group students.

Table II: The Mean difference between Pre and Post Test Scores of the Traditional and Multimedia Teaching Group Students

Group (N = 50)	Traditional Teaching Group		Multimedia Teaching Group		Remarks at 5% level
	Mean	S.D	Mean	S.D	
Pre-test	46.72	13.05	47.65	11.40	Significant
Post-test	67.32	11.28	79.32	8.72	
Calculated 't' Value	8.65*		10.62*		

*Significant at .05 level of confidence. (for df =24, at 5% level of significance the table value of 't' is 2.06)

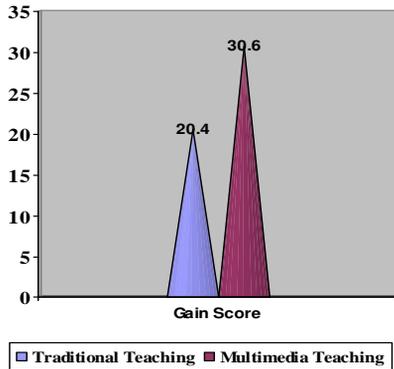


Figure I: The Mean Difference between Traditional and Multimedia Group Students in their Gain Scores

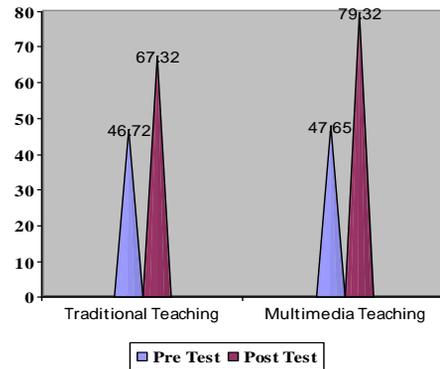


Figure II: The Mean Difference between the Pre and Post Test Scores of Traditional and Multimedia Group Students

Results and Discussion on Findings

The result of the study indicated that, there was a significant difference exists between the gain scores of traditional and multimedia teaching groups. Also there was a significant difference exists between the pre and post test scores of traditional and multimedia teaching groups. Hence the researcher's null hypotheses were rejected.

Because, any systematic and scientific training will produce desirable effect if administered for a specific period, in this study the systematic teaching program of traditional and multimedia method shows desirable effects on learning of physics among the XI students. However the multimedia teaching shows better improvement than the traditional method of teaching. The following studies support the results of the present study.

Spinelli (2001) found that students learning using technological tools were more active in their own learning than those who did not implement technology. Use of multimedia places an emphasis on active, student-centered learning rather than on passive, teacher-centered learning. Karakaya, Ainscough, & Chopoorian (2001) described that, visual images adding value to the teaching session no longer require clipart, but may use photographs, paintings, videos, and other highly tangible and depictive sources in their study.

Similarly, Dawson (2006) found that the use of technology helped to focus prospective teachers on student-learning outcomes in a study of pre-service teachers' use of technology,

Conclusions and Recommendations

From the result of the study and also inferred from the above literature, it was concluded that the information and communication technology (ICT) has made many innovations in the field of teaching and also made a drastic change from the old paradigm

of teaching and learning. The teacher need to achieve the interactive teaching and this changing role of education is inevitable with the introduction of multimedia technology.

Hence this study strongly recommended that, technology does not replace the teacher but the researchers and educators should incorporate technology into teaching. Multimedia package may be used for the effective method of teaching.

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வள்ளுவர் பேசும் பெண் பெயர் மையம்

பேரா. ப. அலிஸ்ராணி

தமிழ்த்துறை,

சாராள் தக்கர் கல்லூரி, திருநெல்வேலி.627 007

Email: alis79@gmail.com

முன்னுரை

பெண்கள் இன்று கல்வி கற்க ஆரம்பித்து விட்டார்கள். இவர்கள் ஆண்களுக்கு நிகராக அனைத்துத் துறைகளிலும் தடம் பதித்து வருகிறார்கள். இவர்களைப் பற்றிய பதிவுகள் அன்றைய இன்றைய இலக்கியப் படைப்புகளில் காண முடிகின்றது. இந்தப் பதிவுகள் நோம்றையிலான பதிவுகள் எதிர்மறையான பதிவுகள் என இரண்டு விதமான பதிவுகளாக உள்ளன. இலக்கியம் “பெண்ணியம்” என்ற சமூக அக்கறையின் வெளிப்பாடு பிரமித்து நிற்கும் காலமாகும்.

பெண்நிலை வாதம்

“பெண் நிலை வாதம்” என்ற கருத்தாக்கத்தை பெண் விடுதலையை மையப்படுத்துவதா அல்லது பெண் முன்னேற்றத்தை எடுத்துரைப்பதா அல்லது ஆண் சமூகத்திற்கு எதிராக கருத்துகளை உயர்த்துவதா எனப் பல்வேறு நிலைகளில் அணுக வேண்டிய நிலை உள்ளது.

வள்ளுவமும் பெண்நிலைவாதமும்

பெண்நிலைவாதம் சமீபத்திய காலங்களில் விவாதத் தளத்தில் பிரதியைக் கட்டுடைத்தல் என்ற நோக்கில் முன் வைக்கப்பட்டுள்ளது. பிரதியைக் கட்டுடைத்தலில் வள்ளுவரை விவாதப் பொருளாக்குவதே இவ்வாய்வின் நோக்கமாகும். இந்த வகையில் வள்ளுவம் பேசியுள்ள பெண் மையங்கள் பல. வள்ளுவர்,

பெண்ணின் பெருந்தக்க யாவுள கற்பென்னும்
திண்மையுண் டாகப் பெறின.

(குறள் : 54)

என்கிறார். இக்குறள் குறிப்பிடும் “கற்பு” என்ற சொல்லாலுக்குள் கற்பு என்பது பெண்ணுக்கு மட்டும் தானா? ஆண்களுக்கான கற்புநெறி ஏதேனும் வரையறுக்கப்பட்டுள்ளதா? என்பன போன்ற வினாக்கள் நிற்கின்றன. இத்தகைய வினாக்கள் அடிப்படையில் வள்ளுவரின் பிறக்கருத்துகளை நோக்க வேண்டியது அவசியாகின்றது. வள்ளுவரின் சொல் கருத்தாடல்களை பின்னை நவீனத்துவ “மறுவாசிப்பு முறை” அடிப்படையில் ஆராய்ந்து நோக்கும் போது பல எதிர்பாராத முடிவுகள் கிடைக்கின்றன.

திருக்குறள் அறத்துப்பாலில் ஆண், பெண் பெயர்ச்சொற்கள்

வரிசை எண்	ஆண் பெயர்கள்	பெண் பெயர்கள்
1	பகவன் (குறள் - 1)	தாயினும் (குறள் -52)
2	வாலறிவன் (குறள் - 2)	பெண்ணிற (குறள் - 54)
3	ஏகினான் (குறள் - 3)	தொழுதெழுவான் (குறள் - 55)
4	இலான் (குறள் -4)	சோர்விலார் (குறள் - 56)
5	இறைவன் (குறள் -5)	மகளிர் (குறள் - 57)
6	ஐந்தறிவிதத்தான் (குறள் - 6)	பெண்டிர் (குறள் - 58)
7	இல்லாததான் (குறள் - 7)	தாய் (குறள் - 69)
8	அந்தணன் (குறள் - 8)	செய்யான் (குறள் - 84)
9	எண் குணத்தான் (குறள் -9)	பிறன்பொருளான் (குறள் - 14)
10	இறைவன் (குறள் - 10)	பெண்மை (குறள் - 147)
11	காப்பான் (குறள் - 24)	பிறற்குரியான் (குறள் - 140)
12	இந்திரன் (குறள் - 25)	பிறன்உரையான் (குறள் - 150)
13	தெரிவான் (குறள் - 27)	செய்யவன் (குறள் - 167)
	திருக்குறள் அறத்துப்பாலில் ஆண், பெயர்ச்சொற்கள்	ஆண், பெயர்ச்சொற்கள்
14	ஊர்ந்தான் (குறள் - 37)	காதலன் (குறள் - 209)
15	ஒருவன் (குறள் -38)	செய்யான் (குறள் -210)
16	இல்வாழ்வான் (குறள் - 41)	உயிர்வாழ்வான் (குறள் - 214)
17	வாழ்பவன் (குறள் -47)	பேரறிவாளன் (குறள் -215)
18	கொண்டான் (குறள் -51)	நயனுடையான் (குறள் - 219)
19	கொழுநன் (குறள்- 55)	அ.தொருவன் (குறள் -220)
20	தந்தை (குறள் - 67)	அருளாதான் (குறள் - 249)
21	தனம்கன் (குறள் -69)	உண்பான் (குறள் -251)
22	மகன் தந்தை (குறள் -70)	கொல்லான் (குறள் - 260)
23	எவன் (குறள் - 79)	எவன்செய்யு (குறள் - 272)
24	ஓம்புவான் (குறள் - 83)	வேட்டுவன் (குறள் - 274)
25	மிசைவான்(குறள் - 85)	வேண்டுவான் (குறள் - 281)
26	பார்த்திருப்பான் (குறள் -86)	கொண்டவன் (குறள் - 307)
27	காண்பான் (குறள் - 99)	தானறிவான் (குறள் - 318)
28	உடையவன் (குறள் -112)	மேற்கொண்டொழுவான் (குறள் - 326)
29	தங்கியான் (குறள் -117)	நீங்கியான் (குறள் - 341)
30	அடங்கியான் (குறள் - 124)	அறுப்பான் (குறள் -346)
31	ஆற்றுவான் (குறள் -130)	புற்றற்றான் (குறள் - 350)
32	பார்ப்பான் (குறள் - 134)	ஒருவனை (குறள் -366)

33	அழுக்காறுடையான் (குறள்-135)	வகுத்தான் (குறள் - 377)
34	இல்இறப்பான் (குறள் - 145)	அன்பிலதன் (குறள் -77)
35	இல்வாழ்வான் (குறள் - 147)	பண்புடையன் (குறள் -95)
36	வேண்டாதான் (குறள் - 163)	அழுக்கறுப்பான் (குறள் -166)
37	நெஞ்சத்தான் (குறள் - 169)	உடையான் (குறள் - 167)
38	கண்நின்றான் (குறள் - 176)	குலனுடையான் (குறள் -223)
39	ஆறங்கூறான் (குறள் - 181)	சொல்லுவான் (குறள் - 191)
40	நெஞ்சத்தான் (குறள் - 185)	மகன் (குறள் - 196)
41	கூறுவான் (குறள் - 186)	உரைப்பான் (குறள் - 189)

ஆண்பெயர்ச்சொற்கள் அறுபத்தி ஒன்பதும் (69) பெண் பெயர்ச்சொற்கள் பதின்மூன்றும் (13) உள்ளன.

ஆண் பெயர்கள் - கருத்தமைவு

ஆண் பெயர்களில் ஆண்களை உயர்த்தி பேசும் பெயர்ச் சொற்றாடல்களையும் , தாழ்த்தி பேசும் பெயர்ச் சொற்றாடல்களையும் காண முடிகின்றது. அவற்றில் உயர்வுச் சார்ந்த ஆண் பெயர்கள் நாற்பத்திரண்டு (42) உள்ளன.

அவை:

வரிசை எண்	உயர்வு சார்ந்த ஆண்பெயர்கள்	பெயருக்கானப் பொருள்
1	பகவன்	இறைவன்
2	வாலறிவன்	இறைவன்
3	ஏகினான்	சென்றவன்
4	ஐந்தறிவத்தான்	ஐந்து பொறி வழியே எழு ஆசைகளை அகற்றியவன்
5	அந்தணன்	அருளாளன்
6	எண் குணத்தான்	எண் வகைப்பட்ட குணங்களை உடையவன்
7	இறைவன்	இறைவன்
8	காப்பான்	காப்பான்
9	இந்திரன்	காப்பான்
10	அ.தொருவன்	ஒருவன் (உதவுபவன்)
11	இறைவன் (குறள் 5,10)	இறைவன்
12	இல்வாழ்வான்	இல்லற நெறியில் வாழ்பவன்
13	இயல்பினான்	இயல்போடு கூடி வாழ்பவன்
14	வாழ்பவன்	நடத்துபவன்
15	தந்தை	தந்தை
16	தன்மகன்	தன்னுடைய மகன்
17	மகன்தந்தை	இவன் தந்தை
18	ஓம்புவான்	புறந்தருவான்
19	காண்பான்	அனுபவித்து அறிகின்றவன்
20	உடையவன்	நடுவு நிலைமையுடையவன்

21	தங்கியான்	தங்கினவன் (நேர்மை)
22	ஆற்றுவான்	வல்லவன்
23	பார்ப்பான்	அந்தணன்
24	உயிர் வாழ்வான்	உயிரோடு கூடி வாழ்பவன்
25	செய்யான்	செல்லாதவன் (தீமைக்கு)
26	பேரறிவாளன்	பேரிய அறிவினையுடையவன்
27	கொல்லான்	கொல்லாதவன்
28	வேண்டுவான்	இகழாது விரும்புவான்
29	மேற்கொண்டொழுகுவான்	இயல்பாய்க் கொண்டவன்
30	நீங்கியான்	நீங்கினான்
31	அறுப்பான்	களைந்தவன்
32	வகுத்தான்	தெய்வம் வகுத்த வகையான்
33	பண்புடையன்	பணிவு உடையவன்
34	குலனுடையான்	குடிப்பிறந்தான்
35	தெரிவான்	ஆராய்வான்
36	கொண்டான்	தன்னைக் கொண்டவன்
37	கொழுநன்	கணவன்
38	இல்வாழ்வான்	நற்பண்புடையவன்
39	கண் நின்றான்	பெருநெறியில் நிற்பவன்
40	அறங்கூறான்	ஒருவன் அறம் சார்ந்து பேசாதவன்
41	காதலன்	காதல் செய்தலுடையன்
42	தானறிவான்	அனுபவித்து அறிகின்றவன்

என்பன.

பெண் பெயர்கள் - கருத்தவை

பெண் பெயர்ச் சொற்றொடர்களிலும் உயர்வு சார்ந்து பெயர்களும், தாழ்வு சார்ந்த பெயர்களும் உள்ளன. உயர்வுச் சார்ந்த பெயர்கள் பத்து (10) உள்ளன.

அவை:

வரிசை எண்	உயர்வு சார்ந்த பெண் பெயர்கள்	பெயருக்கானப் பொருள்
1	பெண்ணிற	இல்லாள்
2	தொழுதொழுவாள்	கணவனை வணங்கும் இயல்புடையவள்
3	சோர்விலாள்	கடைப்பிடியுடையாள்
4	மகளிர்	பெண் (பெண்மை)
5	பெண்டிர்	பெண்கள் (நல்ல கணவன் பெற்றவள்)
6	தாய்	தாய்
7	செய்யாள்	திருகள்
8	பெண்மை	பெண் தன்மை
9	தாயினும்	தாய்
10	செய்யவள்	திருமகள்

என்பன இதைப் போன்று தாழ்வுச் சார்ந்த பெயர்கள் மூன்று (3) உள்ளன.

அவை

வரிசை எண்	தாழ்வுச் சார்ந்த பெண் பெயர்கள்	பெயருக்கானப் பொருள்
1	பிறன் பொருளாள்	பிறருக்குப் பொருளாற் தன்மையையுடையாள்
2	பிறர்க்குரியாள்	பிறனொருவனுக்கு உரிமையாகியாள்
3	பிறன் வரையாள்	பிறனெல்லைக் கண் நிற்பாள்.

என்பன.

மொழி என்பது ஆற்றல். வாழ்க்கைப் பயன்பாட்டுக் கருவி. படைப்பின் கட்டுமானம். திருக்குறள் என்ற இலக்கியப் பிரதியில் கட்டப்பட்டுள்ள பொருள் புனைவிற்கு பெரிதும் காரணமாக நிற்பது “சொல்லாடல்” எனும் மொழிப்புரிதலே ஆகும். இந்தப் படைப்புப் பிரதிக்குள் பெண்ணுக்கான புது இயங்குவெளி இல்லை. மொழி மனிதர்களையும் பொருட்களையும் மனத்திரையில் தோன்றச் செய்கிறது. அவ்வண்ணமே மறையவும் செய்கிறது. படைப்பிற்குள் “நான்” என்று பெண் பேச மொழி தளம் அமைத்தல் வேண்டும். இருத்தலைப் பதிவாக அது பெண்ணுக்கு இடமளிக்க வேண்டும் . திருக்குறள் அதற்கானத் தளமாக இல்லை.

படைப்பு மொழி வரம்பற்ற சுதந்திரத்தை ஒரு பாலினருக்கும், முடிவுற்ற மௌனத்தை இன்னொரு பாலினருக்கும் கொடையாக வழங்குதல் ஒடுக்குதலின் வெளிப்பாடன்றி வேறாக இருக்க வாய்ப்பில்லை. படைப்பு என்பது எழுதுபவரது ஆளுமையின் வெளிப்பாடு. காலம் என்ற சுவடியிலிருந்து படைப்பாளி விடுபட முடியாது. சொற்களடர்ந்த படைப்பிற்குள் மௌனமான மொழிகளும் பலதரப்பட்ட முடிவுக்குள் படைப்பை இட்டுச்செல்லும். இந்தப் பேசப்படாத சொற்கள் இருக்கும் வரை படைப்பின் புரிதலும் நீட்சிப் பெற்றுக் கொண்டே இருக்கும்.

முடிவுரை

அறத்துப்பாலில் ஆண், பெண் பெயர்ச் சொற்களை திருவள்ளுவர் பயன்படுத்தியுள்ளார். பெண் பெயர்ச் சொற்களை அதிகளவில் பயன்படுத்தவில்லை. இந்த பெயர்ச் சொற்கள் மௌனங்களாக விடப்பட்டுள்ள இடைவெளிகளாகும். இந்த இடைவெளிகள் படைப்பாளி ஆண் என்பதால் உருவாக்கப்பட்ட இடைவெளிகளாகும். உயர்வுச் சார்ந்த சொற்றாடலில் இறைவன் என்ற ஆண் பெயர்ச் சொற்றாடல் போன்று பெண் சொற்றாடல் எதையும் திருவள்ளுவர் தம் படைப்பில் கையாளவில்லை. ஆண் சொற்றாடல் அறுபத்தொன்பது (69) உள்ளது. பெண் சொற்றாடல் பதின்மூன்று (13) மட்டுமே உள்ளது. பெண்ணைச் சுட்டிக் காட்டுதல் என்ற முறையை மட்டுமே திருவள்ளுவர் பின்பற்றியுள்ளார். ஆண் மையம் மையப்படுத்தப்படுகிறது. ஆண் படைப்பாளியால் பெண் மையம் ஒதுக்கப்படுகிறது மறுக்கப்படுகிறது என்ற கருத்தாக்கங்களை இவ்வாய்வின் மூலம் பெற முடிகின்றது.

துணை நூல் பட்டியல்

[1] 1.திருக்குறள்

[2] 2.தொல்காப்பியம் – பொருளதிகாரம்

Online Event Management System

Bremavathy.G

Research Scholar,

Department of Computer Science,
Sri Sarada College for Women, Tirunelveli 627 011.

Email: brema98@gmail.com.

Extended Abstract

Booking an event manager is not a short term process. Event management system is based on book the hall for all the sorts of Function ranging from Wedding, Birthday party, Farewell and Anniversary Party. This project helps to reduce the manual work for managing the event, booking customer. The main objective of the project on event management system is to manage the details of event, decorations booking. To fulfill the requirements of user. To make the user experience of using this software is a pleasure one.

The title of the project is Online Event Management System. We can provide event equipments, decorations, food. The front end is Asp.net with Visual Basic.Net. The Back end used is Sql-Server. The aim is to automate its existing manual system by the help of computerized equipment and full-fledged computer software, fulfilling their requirements, so that their valuable data/information can be stored for a longer period with easy accessing and manipulation of the same. Basically the project describes how to manage for good performance and better services for the clients.

The application of the project is very useful. The customer can register himself and select event various decorations. The customer can view the decorations and filter the images of his/her choice. The user can also view the past event selection. This project allows you to choose your event place, decorations staying back at home, anywhere, anytime through online. This application is reduce as much as possible to avoid errors while entering the data. It also provide error message while entering invalid data. Event management system, as described above, can lead to error free secure, reliable and fast management system.

This project reduces inaccuracy, incorrect data and maintains the record of each customer. It also makes efficient and effective use of human resources and time resources. Also the feedbacks and enquiries of the customers are viewed and replied. In future it will manage all the details and send the message to the particular customer for their events.

Key words: event management, Asp.net, decorations, feedbacks, manual,

An overview of Branch Retinal Vein Occlusion using Segmentation Techniques

Prathiba J* , Ratha Jeyalakshmi T**

Research Scholar

Department of Computer Applications

Sri Sarada College for Women, Tirunelveli-627011.

Email-Id : * prabha98@gmail.com, ** drtradha.jl@gmail.com

Extended Abstract

The human eye is an organ that reacts to light and allows vision. Rod and cone cells in the retina allow conscious light perception and vision including color differentiation and the perception of depth. The human eye can differentiate between about 10 million colors and is possibly capable of detecting a single photon.

The eye is part of the sensory nervous system. The human eye is a very important diagnostic issue. Retinal vein occlusions occur when there is a blockage of veins carrying blood with needed oxygen and nutrients away from the nerve cells in the retina. Veins return oxygen-depleted blood back to the heart. The retina has one major artery and one major vein.

A blockage in the retina's main vein is referred to as a *central retinal vein occlusion* (CRVO), while a blockage in a smaller vein is called a *branch retinal vein occlusion* (BRVO). Retinal vein occlusion occurs in middle and old aged people with equal sex distribution. It is very difficult but important to detect and segment the retinal blood vessels to analyze the severity of the retinal diseases such as central retinal vein occlusion, central retinal artery occlusion, diabetic retinopathy, macular degeneration, retinal detachment and branch retinal vein occlusion.

The vein is called the central retinal vein. Central retinal vein occlusion (CRVO) is a blockage of this vein that causes the vein to leak blood and excess fluid into the retina. This fluid often collects in the area of the retina responsible for central vision called the macula. When the macula is affected, central vision may become blurry. It is obvious that a vast number of algorithms are developed for the precise recognition of retinal blood vessels and optical disc. Branch Retinal Vein Occlusion (BRVO) is one of the most common retinal diseases that could impair people's vision seriously if it is not timely diagnosed and treated. It causes a painless decrease in vision. A branch retinal vein occlusion (BRVO) refers to a blockage of the smaller retinal veins. This usually results in blurred vision, or a missing area of vision. Many people with a BRVO find that their vision gradually improves again over time, as the eye naturally heals itself.

Just like a stroke causes damage to other parts of the body when blood circulation fails, a retinal vein occlusion causes damage to the eye. When the blood flow to the retina is blocked, oxygen and nutrients cannot reach it, and a hemorrhage occurs. This condition usually occurs because of a hardening of the arteries, which then press on

the vein. People with certain medical conditions, like diabetes and high blood pressure, are more at risk of a retinal vein occlusion than others. Retinal vein occlusions are also most common in people over 60 years of age.

It is very important to identify the disease at earlier stage. In this research work level set method to segmentation an image for BRVO recognition is proposed. Fuzzy clustering is a form of clustering in which each data point can belong to more than one cluster. Using FCM the diseased part of the eye is easily identified.

Level-set methods (LSM) are a conceptual framework for using level sets as a tool for numerical analysis of surfaces and shapes. The advantage of the level-set model is that one can perform numerical computations involving curves and surfaces on a fixed Cartesian grid without having to parameterize these objects FCM result is considered as an initialization for the level set algorithm. Level set methods are highly effective in segmenting image, and region growing method gives the better segmented image by filling the points by aggregating the pixels in the segmentation image.

Level set can achieve high recognition accuracy. The accuracy of level set is over 97%.Experimental results demonstrate the efficiency method to detect branch retinal vein occlusion. In future it can be further developed to a large application in the health field by implementing new approaches by Deep Learning Algorithms.

Key Words: hemorrhage ,diagnostic, retinal vein occlusion, diabetic retinopathy, Cartesian grid.

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EDITORIAL ADVISORY BOARD

GLOBAL

Dr. Kannappan Ramu,
Professor,
Department of Chemistry and Biochemistry,
Stephenson Life Science Research Center,
101 Stephenson PKWY,
Norman, OK, USA 73019.
drkannappan11@gmail.com.

Prof.Muthukumar Kaliappan
Institute of Theoretical Physics,
Room - 1.144,
Goethe University – University of Frankfurt,
Frankfurt Am Main, 60325
Hessen, Germany.
Muthukumar.Kaliappan@gmail.com.

Dr.D.Gita Ponnuchami,
University of Phoenix,
Arizona, USA,
gitapon@gmail.com,

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ajaykumar62@yahoo.com.

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Tirunelveli – 627 012.
prof.brajasekaran@gmail.com.

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Professor and Head,
Department of Business Managemnet,
Kalasalingamuniversity,
Krishnan koil 626 126,
sakthivelrani@klu.ac.in.

STATE

Dr.R.Rajesh Kannan,
Scientist 'D',
Molecular and Nanomedicine Research Unit ,
Center for Nanoscience &
Nanotechnology(CNSNT),
Sathyabama University,.
Chennai-600119,Tamilnadu,India
rajeshnbt12@gmail.com.

Dr.T.Kathirvalavakumar,
Head,
Research Department of Computer Science,
VHNSN College,
Virudhunagar 626001.
kathirvalavakumar@yahoo.com.

Dr.R.Anitha,
Post Graduate Department of Commerce,
Sri Sarada Niketan College of Science for
Women,
Karur-639004.
rktssnck@gmail.com.

REGIONAL

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Assistant Professor,
Department of English,
Sadakathullah Appa College,
Tirunelveli-11,
hemaselvan11@gmail.com.

Dr.G.Mahadevan ,
Assistant Professor,
Department of Mathematics,
The Gandhigram Rural Institute –
Deemed University,
Gandhigram - 624 302,
Dindigul District, TAMIL NADU.
drgmaha2014@gmail.com.

Dr P.Sundaram,
Research Department of Economics,
Ayyanadar Janakiammal College,
Sivakasi-626124.
Sundaram.anjac@gmail.com

INSTITUTIONAL EDITORS

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Sri Sarada College for Women,
Tirunelveli-627 011.

Dr. M.Malarvizhi,
Principal,
Sri Sarada College for Women,
Tirunelveli – 627011,
srisaradatvl@gmail.com.

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Department of Tamil,
Sri Sarada College for Women,
Tirunelveli – 627011.
saradatvltamizh@gmail.com.

Dr.J. Umai Parvathy,
Associate Professor & Head,
Department of Physics,
Sri Sarada College for Women,
Tirunelveli – 627011.
ssdptphysics@gmail.com.

Dr .T. Ratha Jeyalakshmi,
Associate Professor & Director,
Department of Computer Applications,
Sri Sarada College for Women,
Tirunelveli – 627011.
drtratha.jl@gmail.com.

Dr. N. Kamala,
Associate Professor & Head,
Department of Commerce with Computer
Applications,
Sri Sarada College for Women,
Tirunelveli – 627011.
Saradacommerceca2006@gmail.com.

Dr. R. Muthulakshmi,
Associate Professor & Head,
Department of Commerce,
Sri Sarada College for Women,
Tirunelveli – 627011.
Saradatvl.bcom@gmail.com.

Dr. V. Sangeetha,
Assistant Professor,
Department of Commerce with Computer
Applications,
Sri Sarada College for Women,
Tirunelveli – 627011.
Saradacommerceca2006@gmail.com.