

KNOWLEDGE MANAGEMENT: AN ANNITE APPROACH

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Abstract : "I really do believe that education, despite this massive potential in transforming human lives, has not received the kind of attention that people should have given to it."

- Amartya Sen.

A well designed education system and meticulously deliberated teaching learning process that include knowledge management as the key aspect is successful in delivering to the society. Therefore the main function of educational institution is the Knowledge Management. Through the application of creative thinking, Knowledge Management in educational institution can be separately designed at different levels like administrative, research, teaching and learning processes, student support system and other available human resources. The application of the Knowledge Management systems and its principles lead us to more flexibility in teaching and learning processes, access to different resource, establishment of the quality assurance mechanism, effective communication network, an amalgamation between the students and faculty knowledge and improvement in quality of research activities. However, Knowledge Management in education faces some challenges. This paper aims to examine the Knowledge management approaches applied at St. Ann's College of Education and the challenges faced in process. The essential concepts, theories and practices of knowledge management have been explored and the feasibility of applying a few strategies of Knowledge Management to college of education. It articulates the application of St. Ann's approach at individual, group and organisational levels to manage knowledge, and describes how culture, knowledge strategies and processes and information technology supported the implementation of Knowledge Management. Further the paper describes how KM processes initiated innovation, individual learning, collective learning and collaborative work. This managing of knowledge as a resource helped to fill the existing knowledge gap to a great extent. KM strategies can be divided into two categories: codification for knowledge storing; and interpersonal interactive knowledge sharing (Hansen et al. 1999; Zack 1999). This study focuses on strategies that were effective for both knowledge storing and Knowledge sharing at St. Ann's College of Education.

Key words: Knowledge strategies, Innovation, Information technology, Lesson study, Research.

I. INTRODUCTION

Knowledge is anything that support Survival and Sustains life under all circumstances. The institution envisages to create new knowledge through experimenting and research, make knowledge more accessible and usable, create a culture of knowledge sharing and identify the missing knowledge and strategies. Our knowledge building is focused on the four dimensions of factual knowledge, conceptual knowledge, procedural knowledge and metacognitive knowledge. The rate at which knowledge is cumulating and its assimilation are not on par with each other, therefore Knowledge management becomes a mandatory aspect for any institution. Davenport and Prusak (1998) provide a comprehensive definition of knowledge:

Knowledge is a fluid mix of framed experience, values, contextual information, and expert insight that provides a framework for evaluating and incorporating new experiences and information. It originates and is applied in the minds of knowers. In organizations, it often becomes embedded not only in documents or repositories but also in organizational routines, processes, practices, and norms.

Knowledge exists in two forms: explicit and tacit which are interdependent. It's tacit knowledge that emerges in the form of explicit knowledge which is found in an organization's policies, manuals, and institutional documents such as the mission, vision and value statements and is easily codified, stored and transferred (Gao, Meng, & Clarke, 2008; Kidwell, Vander-Linde, & Johnson, 2000). Tacit knowledge is personal and hidden in the mind. It is created and validated by personal experience, contextualized in specific situations, influenced by personal values, and cannot be easily communicated or transferred (Cardoso, Meireles, & Ferreira Peralta, 2012; Kidwell et al., 2000; Nonaka, 1994; Polanyi 1966). It is the management of this knowledge, specifically tacit knowledge, that promises to deliver huge returns for organizations and occupations that learn use it effectively (Kidwell et al., 2000).

This paper attempts at understanding the management of the tacit and explicit knowledge under the four domains of knowledge; factual knowledge, conceptual knowledge, procedural knowledge and metacognitive knowledge. Knowledge creation refers to the continuous modification transformation and rediscovering of ideas of different kinds of knowledge. This unfolds as the individual interact with nature and circumstances and context and learn. It is the creation of new ideas, which contributes to the growth of an institution.

Knowledge creation is the formation innovative ideas that develop into new concepts. This occurs through interactions between explicit and tacit knowledge in people's minds. Explicit knowledge is information that is visible and obvious and easy to find. Users understand the value, comprehend, apply and use this type of explicit knowledge. Tacit knowledge is hidden in the perception of the people. It is very difficult to document like explicit knowledge, thus it is not easy to share with another person orally or in writing. Knowledge creation management is the process of sharing, creating, using, and managing an organization's knowledge and information. It is a multidisciplinary approach to making the best use of knowledge or information.

Knowledge documentation is one of the important activities in developing a repository of knowledge. It includes knowledge elicitation from different sources such as domain experts, books, maps and real-world observations, followed by a process of analysing, structuring and recording knowledge. Three phases of documentation include: (1) documenting concepts and facts in hierarchies, (2) documenting separate inferences which integrate knowledge documented in hierarchies, and (3) documenting the strategy or sequence of the inferences to be made. The method facilitates clear and scientific documentation process that addresses factual, conceptual and procedural knowledge. Also, the method provides a quick insight into knowledge of a knowledge source and simplified text for dissemination.

Knowledge sharing is an activity through which knowledge disseminates from the point of evolution to where it needs to be applied. Educational institutions have always recognized that knowledge constitutes a valuable intangible asset that requires an effective way of transaction and assessment to bring out the tacit knowledge. Knowledge sharing activities are generally supported by knowledge management systems. Effective communication of ideas and knowledge through not only technology but through working in teams, mentoring the juniors etc. There are many factors that affect the sharing of knowledge in an institution, such as institutional culture, trust, and incentives. The sharing of knowledge constitutes a major challenge in the field of knowledge management because very few are comfortable sharing knowledge. Knowledge constitutes a valuable, intangible asset for creating and sustaining any institution. This paper understands the knowledge management system at St. Ann's College of Education and identifies the lacunae existing. Further, recommends possible solutions to overcome them.

Review of Literature: A remarkable number of studies have been identified in knowledge management in varied fields but it has been recently realized that the concept may be applied to education specifically in higher education. A few of the studies have been identified that formed the basis of the topic.

Annansingh, Fenio; Howell, Kerry E.; Liu, Shaofeng; Baptista Nunes, Miguel V (2018) The paper concluded by purporting that by developing an understanding of the risks and opportunities of sharing higher education, institutions will continue to grow, regenerate and develop knowledge. The results highlighted the plethora of risks and opportunities resulting from KS. These were further grouped into the political, social and organisational culture. Veer Ramjeawon, Poonam; Rowley, Jennifer (2017) in a study on Knowledge management in higher education identified that none of the universities had a knowledge management strategy. Moreover, more barriers than enablers to knowledge management were identified. Barriers included: a lack of policies and reward mechanisms, resources, data, funding and time for research, coupled with frequent leadership changes, a lack of a knowledge-sharing culture and research repositories and weak industry--academia linkages. Lehman, Dwayne W. (2017) envisaged Creating and sustaining a knowledge-sharing community involves establishing knowledge leaders in organizations that exhibit the ideals, beliefs and principles of the profession, allocating opportunities for research administration professionals to communicate and share, utilizing dynamic information systems, and establishing metrics for knowledge management initiatives. Ololube, Nwachukwu Prince; Agbor, Comfort Nkogho; Major, Nanighe Baldwin; Agabi, Chinyere O.; Wali, Worlu I. (2016) recommends that higher education in Nigeria must become proactive, liberal, constructive and down to the business of research, teaching and learning using components of IT to enhance KM. This learned academic discourse has implication for higher education management and administration, policy making, and the government. Namdev Dhamdhare, Sangeeta (2015) in a study envisaged that generated information and knowledge is to be compiled at a central place and disseminated among the society for further growth. It is observed that the generated knowledge in the academic institute is not stored or captured properly. Most of the studies are focused on the existing facts. This paper attempts at accessing the effectiveness of the existing approach and possibilities for improvement.

Research questions:

1. What are the knowledge management strategies employed at the institution?
2. Which of the strategies are effective in knowledge management?
3. How does the technology help in dissemination of knowledge?

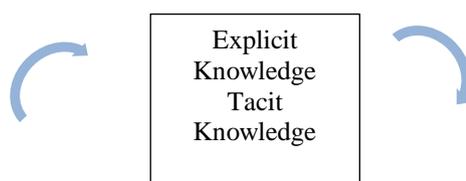
Objectives:

1. To identify and analyze knowledge management strategies at St. Ann's College of Education.
2. To understand the process of implementing tacit and explicit knowledge management strategies.
3. To analyze the role of technology in knowledge creating, knowledge documentation and knowledge sharing.

Methodology: A survey method was employed to understand the perceptions of students with respect to the strategies regarding knowledge creation, knowledge documentation and knowledge sharing. A questionnaire was developed to collect information about how effective were different knowledge management strategies with respect to the institutional climate, curricular aspects and assessment strategies. The questionnaire was sent through google forms to fifty randomly selected students from both B.Ed and M.Ed pursuing semester IV at St. Ann's College of Education. A descriptive analysis was done.

Knowledge management approach: The knowledge management approach is developed based on strategies that focus on factual knowledge, conceptual knowledge, procedural knowledge and metacognitive knowledge taking into consideration both tacit and explicit. All the four dimensions require unique strategies of knowledge management which have been implemented following an iterative approach. The administrative structure, the designing of the curriculum, the assessment technique have evolved over time through knowledge management. The approach was continuously experimented and each of the elements updated.

Annite Approach



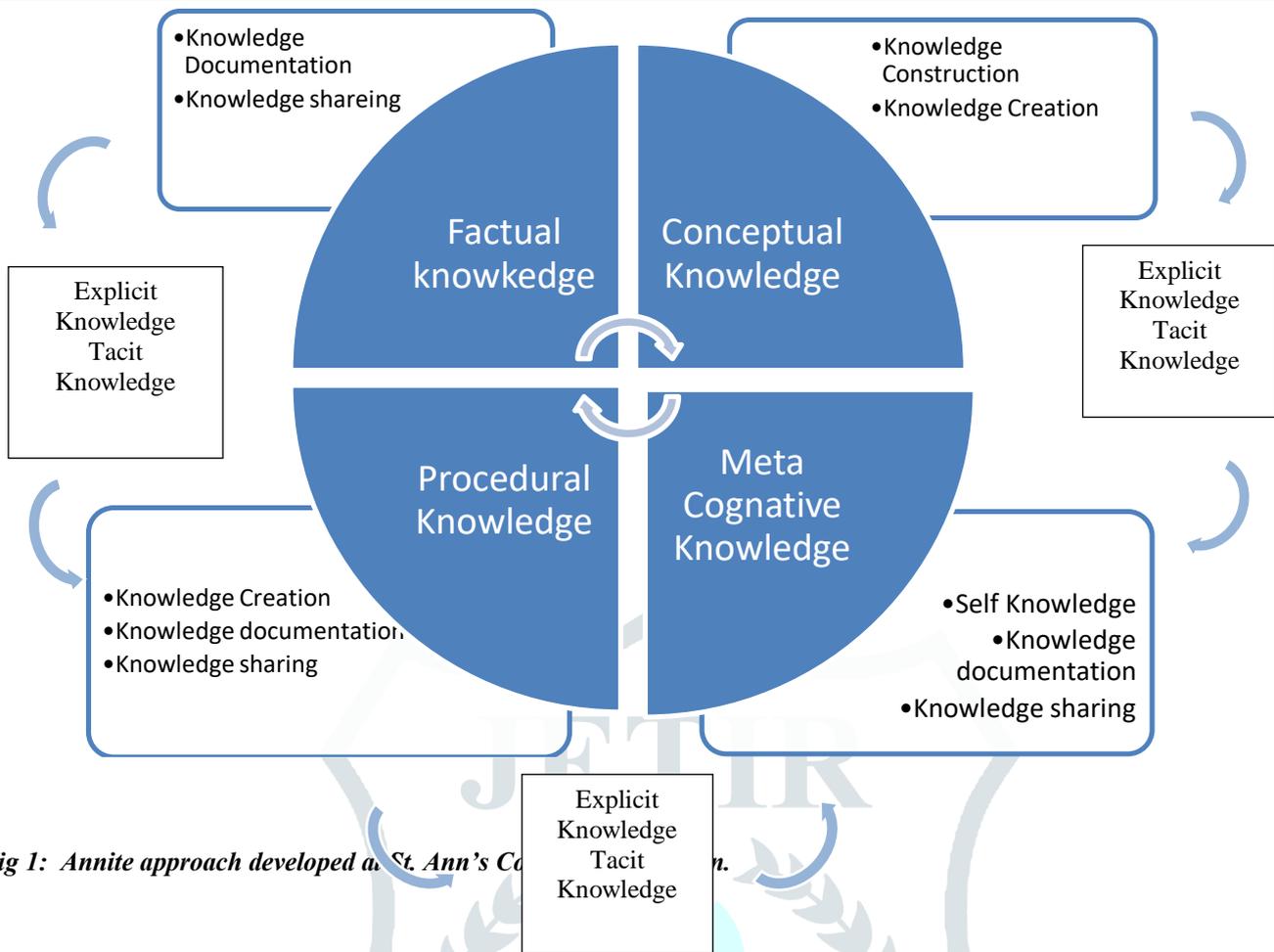


Fig 1: Annite approach developed at St. Ann's Co. School, Bangalore.

Knowledge Management strategies:

Curriculum:Curriculum is designed to give a lot of scope for reflection. Papers such as understanding the self, Thought provoking assignments, Seminars followed by discussions, projects, lesson research required documentation of basic facts and conceptualisation. Presentations and discussions have not only clarified concepts but also interwoven to concept maps with multiple perspective. The application of concept with interdisciplinary input lead to the procedural knowledge. The instruction design generated and implemented in classroom context are created and unique. The documentation through use of technology is also well conceived.

The curriculum is designed adequately to promote

42 responses

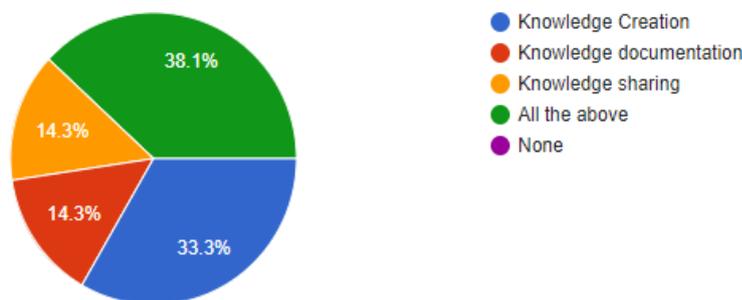


Fig No:2, Graph showing student's perception on curriculum design.

In the fig.no:2, The survey results indicate thirty eight percent feel that the curriculum designed is associated with all the three areas of knowledge management. Thirty three percent have responded as, there is only knowledge creation. The documentation and sharing need to be strengthened. Probably all practical aspects could be group activity and sharing of knowledge is facilitated. If the tacit knowledge is to be converted to explicit emphasis on reflection and ideation is to be encouraged. Application of design thinking strategies to process of education could be a solution.

Thought provoking assignments facilitated

42 responses

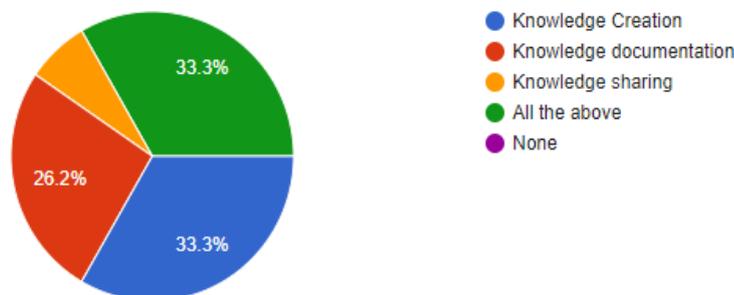


Fig no: 3 Graph showing student’s perception on assignment.

The assignments have thirty three percent supporting adequate knowledge management in *fig no:3*. As the assignments are thought provoking same fraction of students felt it was only knowledge creation. The knowledge sharing element require improvement. The two possibilities are assignments could be posted on blogs and a peer evaluation of assignment could be

Seminars presentation followed by discussions initiated the process of

40 responses

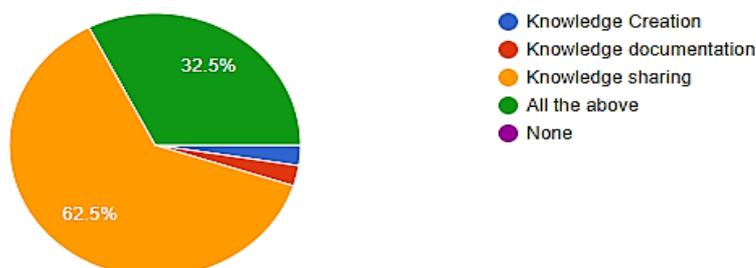


Fig no: 4 Graph showing student’s perception on seminars.

initiated.

The survey results in *fig no:4* clearly indicate students perceive seminars to be predominately knowledge sharing. Knowledge creation and documentation need to be strengthened. Therefore, seminar topics need to be more challenging and application based with higher order thinking emphasized. This could enhance knowledge creation. Seminars give scope for the students to incorporate their own

Technology supported teaching learning process strengthened

43 responses

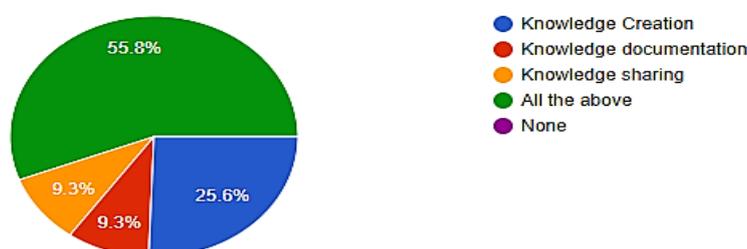


Fig no: 5 Graph showing student’s perception on technology supported teaching learning.

According to *fig no:5* , fifty five percent of the students felt technology supported teaching learning process strengthened the process of knowledge management. More technological intervention is required to documentation and sharing. All assignment and seminars can be submitted online made accessible to all through common mail.

Internship Programme: The preparation for the internship programmes starts with rigorous peer teaching session and innovative teaching session. These sessions emphasize on construction of procedural knowledge and rubrics development followed by self-reflection documented through reflective journal. The process of instructional designing and the technicalities of applying in classroom context supported with technology requires an interdisciplinary approach that helps in knowledge creation.

Internship at different levels and different institution(special schools) enhanced

43 responses

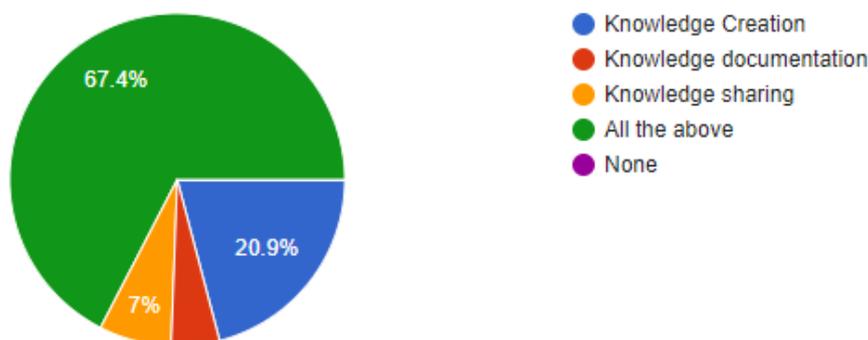


Fig no: 6 Graph showing student perception on Internship.

In *fig no: 6* Sixty seven percent of the students felt adequate management of knowledge. Seven percent were of the idea that it focuses on documentation and sharing, emphasis on originality and creativity could help improving knowledge creation. The process of documentation and sharing could be technology supported.

Co-curricular aspects:

The co-curricular events organised by the college also contributed to

43 responses

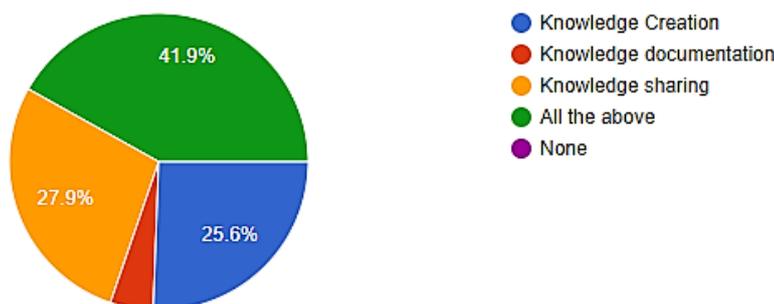


Fig no: 7 Graph showing student perception on co-curricular aspects.

In the *fig no : 7* Forty one percent of the student’s perceived participation and organization of co-curricular events is associated with knowledge management. Twenty five percent thought it to be a creative activity and since most of them are group activity twenty seven percent felt it is only sharing. Recording of the co-curricular activities such as music, dance, drama, debate, elocution etc. may pave way for better knowledge management.

Assessment and Evaluation: The emphasis is on assessment for learning. The process of knowledge creation and documentation through application based question demanding higher order thinking. Open book evaluation are a great source of knowledge creation.

Specifically designed assessment and evaluation aids in

43 responses

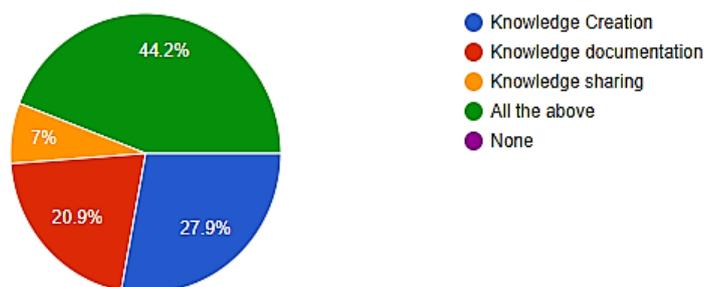


Fig no: 8 Graph showing student perception on assessment and evaluation.

As continuous comprehensive evaluation is implemented, test that are predominantly written, open book evaluation, assessment also includes presentations, teaching and documentation. AllThe presentation are a channel to share knowledge. These include facts, concepts and perceptions. Questions that require creation of knowledge such as concept mapping, designing of instruction could be included. All assessments can be forwarded for peer evaluated too.

Portfolio & Reflective Journal: Reflection at all levels and all activities with individual benchmark are encouraged. Reflective journal is reflection of once own teaching and identification of potential. Portfolio developed documents the artifacts created by every individual. Metacognitive knowledge or the knowledge of self to a very significant extent influences the knowledge management. The documentation helps the institution to design strategies in resonance with the aspirations of the students. It's a recording of what is hidden thought process of the learner.

Documenting reflective journal, designing and developing portfolio enhances understanding of self through

43 responses

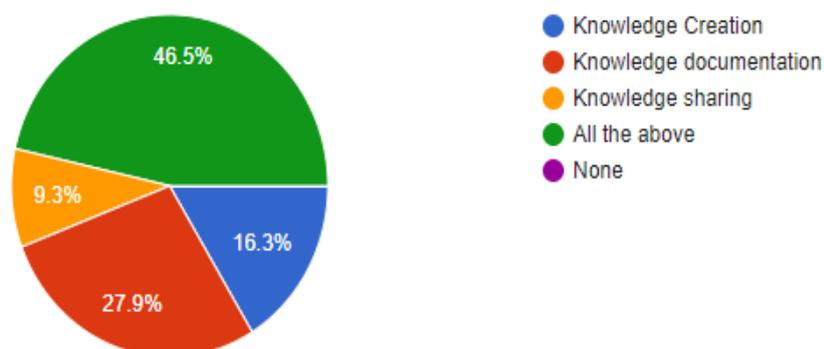


Fig. no: 9Graph showing students' perception on reflective journal and portfolio.

Reflective journal and portfolio are creative document intended to make tacit knowledge explicit. Fig No.9 indicate, forty six percent of students perceived that knowledge management strategy is adequate. Twenty seven percent who felt it is only documentation and nine percent felt it is only sharing. Reflection need to be focused upon. It's important to condition the mind to reflect that can contribute to creation of knowledge.

Research / Research projects: Problems related to education are taken up and systematically analysed based on innovative research methods for solutions. The research work are documented and published in the journals.

Seminar and conferences: Seminars, conferences and workshops are conducted for in-service teachers facilitate knowledge dissemination and updating knowledge.

Feedback: Rubrics are developed to take feedback regarding institutional climate and teaching learning environment. Identification and improvement in the system gave way for innovation. It helps to evaluate and reflect on the teaching learning process.

Organisational Climate: An organization's culture can be divided into three levels: artifacts, adopted beliefs and values, and basic underlying assumptions (Schein, 2010). The physical spaces of the institution preserves the aesthetic beauty of place with greenery around, the plants are classified and scientifically named. The efficiency of the human resources is satisfying according to the feedback. Artifacts such as the project reports, assignments, internship reports, instructional design, ICT based lessons are classified and preserved for reference in the IQAC that align with the explicit knowledge within an organization. Adopted beliefs and values can be seen in the organization's stated vision, mission and goals but also can be found in the documentation of the portfolio that reflect the dispositions.

The organisational climate inspires

42 responses

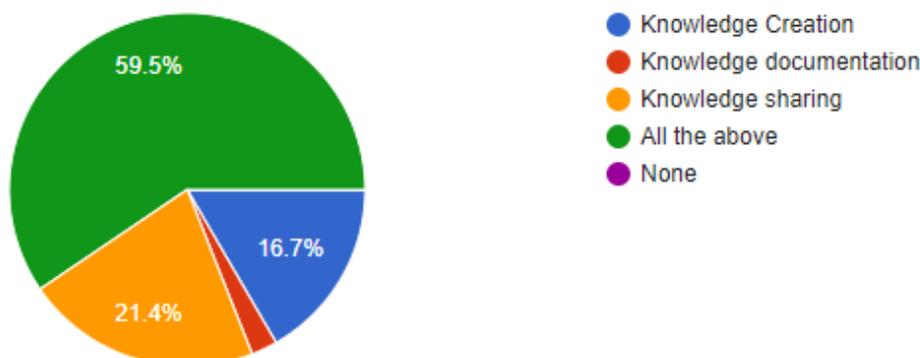


Fig no: 10 Graph showing student perception on organizational climate.

Fifty nine percent of the students are of the view that the organizational climate supports knowledge management in the fig.no 10. Twenty one percent feel that its only knowledge sharing that it support. Probably the creation of knowledge that is hidden within the system goes unknown to the students. The students can be oriented to the functioning of the complete institutional system regularly, such as the process of administration, designing and implementation of curriculum, evaluation, the statutory bodies, the funding agencies etc.

The vision and mission statements of the college is strategic in

42 responses

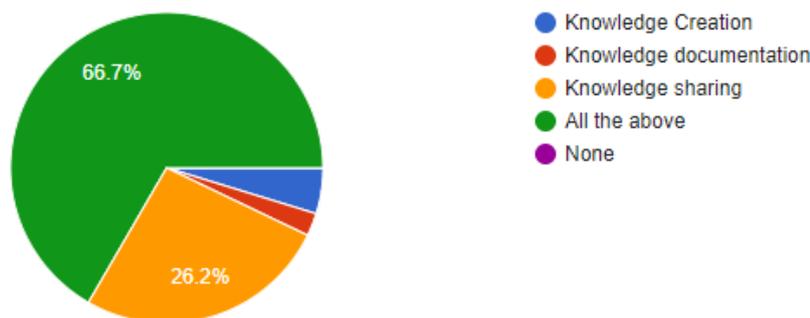


Fig no: 11 Graph showing student's perception regarding vision and mission.

In fig no:11 Sixty six percent of students perceive the fact that vision and mission is strategic in determining the curriculum or the run through of the programme which in turn paves way for knowledge management.

The administrative leadership interwoven into the system inspired

43 responses

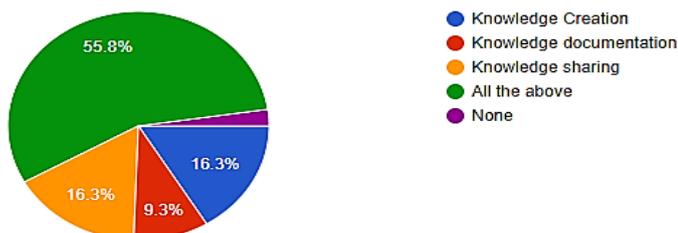


Fig no: 12 Graph showing student's perception regarding administrative leadership.

The academic leadership plays a vital role in knowledge management and can influence the staff and students. The fig no : 12 clearly shows fifty five percent perceive the fact that the leader of the institution inspires the process of knowledge management.

Effective utilization of human resources aids

43 responses

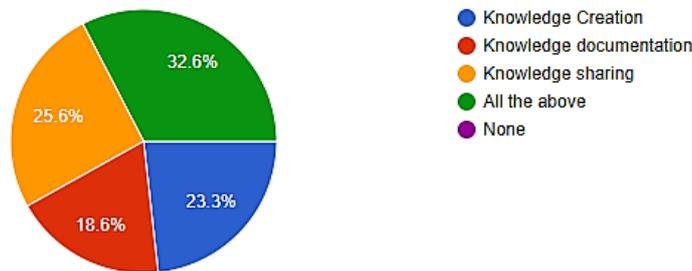


Fig no: 13 Graph showing student's perception regarding utilization of human resources.

Fig no: 13 indicate thirty two percent of the student feel effective utilization of human resources helped in knowledge management. Probably allotment of work requires a thorough analysis of the strength and weaknesses of the human resources so as to have an efficient mechanism for knowledge management.

Recording of lessons: Lessons are recorded in the virtual classroom. The recorded lessons designed with innovative methods of teaching are uploaded on the 'youtube' linked to the college website. This was an initiative taken to disseminate the new techniques, strategies and methods of teaching and learning. The soft copy of the recording are distributed to the cooperating schools.

Books & Journal: Books are published focusing on the pragmatic aspects evolving in the teaching learning process. Pedagogy and Praxis a journal is published annually including research articles and theoretical paper. A magazine is also published to disseminate creative thoughts of the students, making tacit knowledge explicit. Both journal and magazine are made available online.

Major Findings of the Study:

1. There are a number of knowledge management strategies existing in the system.
2. The perception of the knowledge management is average to above average in different areas.
3. There is a lot of scope for improvement in all the three areas i.e Knowledge creation, documentation and sharing.
3. New strategies have to be worked out for better conversion of tacit to explicit knowledge.
4. Technological intervention can greatly improve knowledge more accessible and usable.
5. Dissemination of organizational goals and practices can be improved upon.
6. Major challenge faced in education sector is originality and creativity.

Reccomendations:

1. Every institute requires a unique approach to knowledge management.
2. Education Institution require to strengthen their knowledge management strategies in a great way.
3. Educational Institutions should actively engage in research in knowledge management strategies to develop an efficient system.
4. Models to be developed to convert tacit knowledge to explicit knowledge.
5. Create knowledge sharing culture to experiment and learn.
6. Contribute to knowledge sharing and open access moment.
7. Collaboration of Educational Institutes and networking among other educational institutions.

Conclusion: Educational institution are the portals of evolving, documenting and delivering to create knowledge society. Thus, research based on stakeholders' requirements becomes the priority. To create global village, exchange of knowledge to benefit humanity needs to be a part of global endeavor. Encouraging the new generation to generate new innovative concepts for common good and disseminate through open access moment is the need of the hour. This is possible at institutional level only and attempts are required to trap the potential tacit knowledge and convert it to explicit knowledge. Only then will the process of knowledge management moment be initiated.

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